SCATTEREDNESS IN STUDENT'S THOUGHTS TOWARDS INTERNET USAGE IN EDUCATIONAL LIFE

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ABSTRACT

Today Web is great guide for students to gather detailed information regarding their education and research. In the searching on the Web works best with mature students, who can better assess the convenience of their search results. Students remain busy in real-time data collection in ways that were once unattainable, with the help of Internet. They can gather updated research data always by researchers at work, thereby using the same techniques and tools, evaluating the similar data and sharing their conclusions either online and offline. Students can carry out research using huge and geographically varied samples. The aim of this paper is to compare the variance, mean values and also to test scatteredness of students' thoughts towards the Internet usage on their locality and gender basis. To test statistically significant difference between scatteredness in students' thoughts towards the Internet usage f-test is applied. The research is conducted with a structured questionnaire according to five Point Likert-type scales. More than hundred samples are collected from students receiving education from various institutions located in Sirsa district.

Keywords: F-test, Variance, Mean, Scatteredness

I. INTRODUCTION

Information is the key to knowledge. Now days it is easy for common man to access global information with the initiation of Information Technology (IT). In general sense Information includes text in fax and e-newspapers, images in video and television broadcasting, voice in mobile, video conferencing and data in computers. All the information can be digitized, transported, stored, retrieved, modified and then distributed [1].

India is growing ICT country in the world. The growing technological enhancement increases the uses of internet in every domain. In the last few years, fast developments in information and communication technology such as the Internet have made significant and impressive impact on modern educational practice in India. The decisions have been taken by republic of India to integrate and assimilate technology in classroom teaching at all levels became much solid in the Indian education system after the introduction of Smart classes. The immense impact about Internet technology requires individuals to be more inventive rather than admit all circumstances without inquiring. India's own satellite system providing round the clock multipurpose services, nearly 100 per cent reach of radio, A satellite to cable and terrestrial system of television, with above 50 channels in different languages. Indian Government has started implementation a project of Computer education in the country. It was first pilot project for bring out Computer awareness and internet knowledge in Schools. At

initial stage only 250 schools include under this project and teaching practice courses were organized for the educators in the selected Resource Centers. The students' attitude is a most important interpreter to the recognition and authentic usage of Internet and computers in the educational institutions. To measure the thoughts of students regarding Internet Usage statistical test like f-test is appropriate. Statistical variance provides a way to compute the scatteredness in data and it shows how much it closes to the mean or any another expected value. Unlike range that only seems at the edges, the variance seems all the data points and then verify their distribution. Many of times during research and experiment, it gives priceless information about the data distribution which is the arc that provides us the rate of the occurrence of a particular data point in a research. It useful when we need to find frequency distribution when the data points are very huge and the outcomes can be treated to be unstable continuously instead of taking on isolated values. One post popular Frequency test is introduced to test the distribution of frequency of any given data items in sample which is known as F-test. It use in case of small sample size such as $n > 30$. To compare the means of two populations we can use t-test if we are unaware about population's standard deviations and sample size is limited ($n<30$). But to compare the variance of two populations we may use f-test. If calculated (F) value > observed value (F Critical one-tail), then we reject the null hypothesis otherwise accept. The variances of the two populations are unequal. Paul J. Lavrakas described that an F-test is any statistical hypothesis test whose test statistic assumes an F probability distribution. The F-test is frequently associated with analysis of variance (ANOVA) and is most commonly used to test the null hypothesis that the means of normally distributed groups are equal, although it can be used to test a variety of different hypotheses.). F-test is frequency test which can be used to determine whether two samples have different variances or not. The F-test was devised as an extension to the Z-test: F is equal to the squared value of t ($t^2 = F$). Although the F-test produces the same information as the Z-test when testing one independent variable with a non directional hypothesis, the F-test has a distinct advantage over the Z-test because multiple independent groups can easily be compared [5]. Aydin, D'Esposito & Gardner concluded that behavioral studies of the Internet indicate that it makes life easy, creates links between different communities and cultures, is a good way to connect people and find educational resources [1, 2]. Fallows observed that the Internet can be used for scholarly purposes, map or contact information, purchase of tickets for travel, communication through emails or chats, and entertainment such as games or audio and video files [3]. Nachmias, Mioduser, and Shemla (2000) found gender differences in the use of the Internet with a higher and more extensive usage for longer hours by males [4].Sanjay Dahiya and Chaman Verma concluded that majority of the urban and rural students have positive attitudes towards the usage of the Internet in college/ University. They have also found that male students have more positive opinion towards Internet as compared to female students. Similarly urban students won from rural students regarding [5, 6]. Hussain surveyed carried out in Pakistan's Virtual University with 387 undergraduate students in their final year of study concluded that over 90% of the students viewed learning through satellite TV and the Internet as advantageous, and student attitude towards e-learning were generally positive [8]. Omidinia, Masrom and Selamat identified student attitudes as a factor that determined how e-learning was adopted in Iran [9]. Selim stated users who were very familiar with web technologies and the skills needed to use computer and mobile devices for instruction developed positive attitudes. On the other hand, students who were not skilled in ICT became anxious about the use of computers, had lower expectations from educational technology, and they did not believe in the benefits of e-learning [10, 11]. Student attitudes towards e-learning have been identified as critical to the success of e-learning [12].

II. RESEARCH OBJECTIVES AND METHODOLOGY

2.1 Objectives and Hypotheses

Many of researchers are found that Internet plays a major role in success of student's life. Therefore, presently in various institutions Internet access has to be evaluated and there is need to know analyze the thought of students regarding Internet. This study sought to discover variances for student's attitude on readiness to adopt usage of Internet in their educational system in Sirsa district, Haryana. The following objectives are sets for research:

1.   To discover out the scatteredness in student's thoughts regarding Internet usage on gender basis.

2.   To discover out the scatteredness in student's thoughts regarding Internet usage on locality basis.

For achieving the above objectives two null hypotheses are made.

H01.   There is no significant difference between scatteredness in student's thoughts regarding Internet in relation to their gender.

H02   There is no significant difference between scatteredness in student's thoughts regarding Internet in relation to their locality.

$$\sigma_1^2 = \sigma_2^2 \qquad \Big\} \textbf{H01, H02}$$

2.2 Design and Methodology

The present study is conducted with a predefined structured questionnaire according to Psychometric Likert-type scale. A stratified random sampling is used to collect the samples from various colleges and university students. Questionnaire as survey is framed to analysis the student's thoughts towards internet in relation to gender and locality. They spent approximate 30 minutes to fill-up questionnaire.

2.2.1 Declaration of Variables

This paper is designed to find variances in students' thoughts towards Internet usage and to investigate their trend regarding it. We have considered the two independent and nineteen dependent variables in our study. In this paper Gender and locality is considered as independent variables and another nineteen (19) are dependent which are given below:

o   Internet is easy to learn and use.

o   Internet is necessary in College/University.

o   I use internet in my mobile.

o   I can connect to someone to remote area by use of Internet.

o   I feel Comfortable to search information on Internet.

o   Internet helps me to find JOB in remote area.

o   I can see examination result quickly on Internet.

o   Use of Internet is enhancing my standard of living.

o   I do not like Internet due to waste time & efforts.

o   I can find study material on Internet easily.

o   I use Internet in both in my home and in College/University.

o   I can use Internet for Online Payment.

o   Internet is source of entertainment.

o   Internet helps me to find e-book.

o   I use Internet once in a week.

o   Internet is hub of Useful information.

o   My Teacher should use Internet in his/her teaching.

o   I have never been frustrated with the Internet.

o   I used social websites, chatting, and surfing on Internet.

2.2.2 Identification of the Population

In present study respondents are included who are receiving their education from various public and private institutions in city. They are students of graduation or post graduation either in fields of arts or science. From table 1 it can see demographic characteristics of participated institutions.

Table-1: Demography of Participated Institutions

Name of Istitutions	N	%AGE
Govt. National College (Boys & Girls Wing)	**27**	**25.5**
Ch. Devi Lal University	**22**	**20.8**
Jcd Pg College of Education	**10**	**9.4**
Jcd Memorial College	**24**	**22.6**
Jcd Memorial College of Engineering	**15**	**14.2**
Jcd Institute of Business Management	**8**	**7.5**
Total	**106**	**100**

(Source: Authors)

2.2.3 Sampling

A stratified random sampling is used to collect 106 (One Hundred Six) samples from city. Sample space area covers various reputed intuitions as described as in Table 1. All the intuitions are either public or private. All students are from various streams and experiences (consisting of 52 (49.1%) male and 54 (50.9%) female students and 50 (47.2%) rural and 56 (52.8%) urban students as in Table-2). All the students are graduate, post graduate and research scholars. Participated intuitions are providing education in various domains like commerce, management, engineering, education, and science.

Table 2 (Distributions properties of Respondents)

Variables	Gender		Locality	
	Male	**Female**	**Rural**	**Urban**
Sample (N)	52	54	50	56
Respondent Percentage (%AGE)	49.1	50.9	47.2	52.8

(Source: Authors)

2.2.4 Sampling Tool

In present study questionnaire is designed for find out variances in students' thoughts towards Internet usage in educational system and in their social life. IAS is (Internet attitude scale) used in 5 point Likert format. This instrument consisted of 19- items self report scored on a 5 point Likert type scale (strongly disagree=1, disagree=2, undecided=3, agree=4, and strongly agree=5).

2.2.5 Statistical Methods

To find out the variances in thoughts of students towards Internet usage frequency test (F-test) is applied. Similarly to test an equality of all mean values of score one way Anova (single factor) test is applied. Both statistically tests are applied on the respondents' filled score by using Ms-excel 2007 In the analysis of data about demography of Locality wise and Gender wise participants of respondents' frequency (N) and percentage (%AGE) values is used as shown in table 2.

III. DATA ANALYSIS AND DISCUSSION

In present study respondents are asked to respond to nineteen (19), Likert-type statements dealing with their attitudes toward Internet usage in educational system. In this paper, statistical methods frequency, mean, f-test is used in order to test the scatteredness in the thoughts of respondents in relation to their gender basis. To test scatteredness of student's thoughts F-test is used. A predefined well structured questionnaire as survey is designed to get the thought of students towards internet usage.

Table 3 (F-Test Scatteredness of Student's Thoughts Regarding Internet Usage on Gender Basis at Significant Level 0.05)

	BOYS	GIRLS
Mean	4.0203	3.6683
Variance (σ^2)	1.1700	1.3879
Observations	987	1025
Df	986	1024
F	0.8430	
P(F<=f) one-tail	0.0034	
F Critical one-tail	0.9013	

(Source: Authors)

Above Table-3 is showing Mean and variance (σ^2) for boys and girls student. It is also calculated:

- Observations: Boys (N=987) and Girls (N=1025).
- Degrees of Freedom: Boys (df=986) and Girls (df=1024).
- F : Calculated F=0.8430
- P: probability that the observed difference in variance between Boys and Girls results from random error. If P < 0.05, variances are statistically different. Here it is 0.0034
- F Critical one-tail: Observed F=0.9013.

It is revealing from the above table that F < F Critical (0.8430 < 0.9013), there is statistically significant difference in scatteredness in student's thought regarding usage of Internet in relation to gender basis. So hypothesis H01 ($\sigma_1^2 = \sigma_2^2$) is not accepted here.
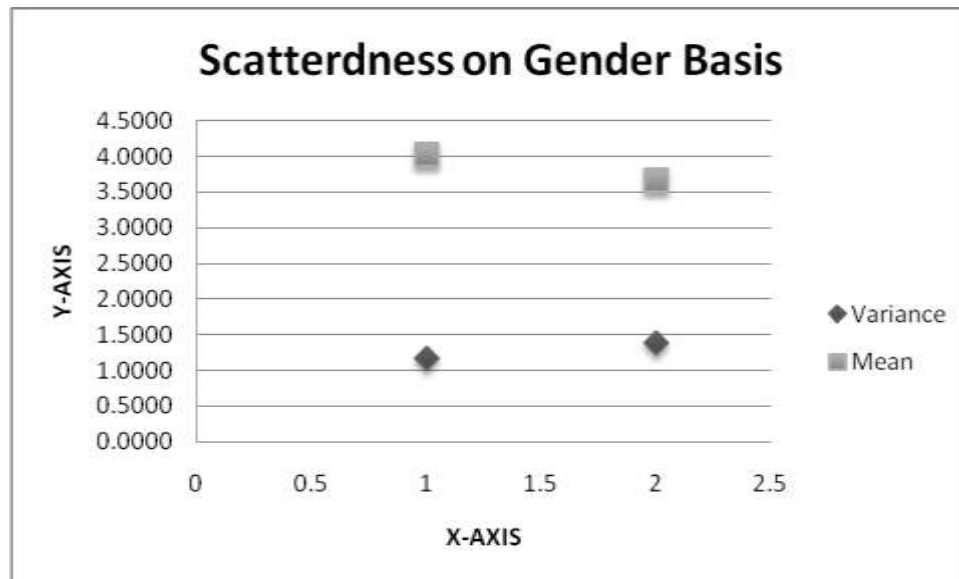
Fig.-1: Scatteredness on Gender Basis, Source: Authors

In above Fig.1 it is clear that there is significant difference in scatteredness in opinions between boys and girls student regarding usage of Internet in educational institutions. It is also observed from resultant mean value in relation to gender basis, boys students have more positive opinion as compare to girls student (4.0203>3.6683).

Table 4 (F-Test scatteredness of student's thoughts regarding Internet usage on locality basis at significant level 0.05)

	Rural	Urban
Mean	3.7376	3.9200
Variance	1.3245	1.2940
Observations	949	1063
df	948	1062
F	1.0236	
P(F<=f) one-tail	0.3554	
F Critical one-tail	1.1094	

(Source: Authors)

As findings in Table-4 is showing Mean and variance (σ^2) for rural and urban students. It is also calculated:

- Observations: Rural (N=949) and Urban (N=1063).

- Degrees of Freedom: Boys (df=948) and Girls (df=1062).

- F : Calculated F=1.0236

- P: probability that the observed difference in variance between rural and urban results from random error. If P < 0.05, variances are statistically different. Here it is 0.3554.

- F Critical one-tail: Observed F=1.1094.

It is showing from the above table 4 that F < F Critical (1.0236 < 1.1094), there is statistically significant difference in scatteredness in student's thought regarding usage of Internet in relation to locality basis. So hypothesis H02 ($\sigma_1^2 = \sigma_2^2$) is not accepted here.
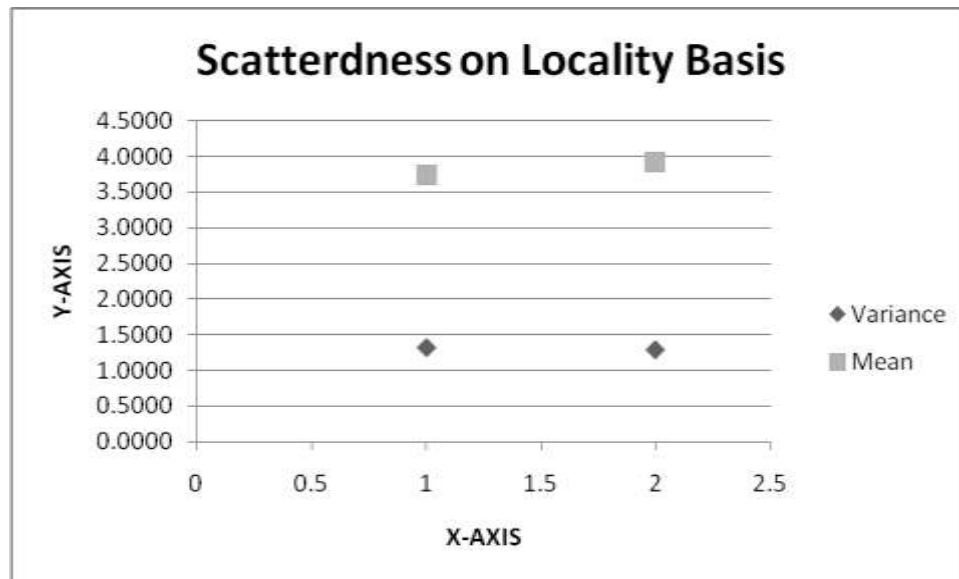
Fig.-2: Scatteredness on Locality Basis, Source: Authors

In above Fig.2 it is found that there is significant difference in scatteredness in opinions between rural and urban students regarding usage of Internet in educational institutions. It is also observed from resultant mean value in relation to locality basis, rural students have more positive opinion as compare to urban students (3.9200>3.7376).

IV. CONCLUSION AND FUTURE SCOPE

This study is carried out to test the statistically significantly difference in scatteredness of student's thoughts or opinion regarding Internet usage in educational institutions located in district Sirsa of Haryana. It is found that Boys and rural students have more positive opinions regarding usage of Internet as compare to girls and urban students. It is also concluded that there is statistically significant difference in scatteredness in student's thought regarding usage of Internet in relation to gender basis. This research is also revealing that there is statistically significant difference in scatteredness in student's thought regarding usage of Internet in relation to locality basis also. The results of this study give us suggestions that there is more need of availability of Internet in educational places not only in Sirsa district but also remaining districts in Haryana state.

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