



VARIOUS DIMENSIONS OF ATTITUDE TOWARDS e-LEARNING AMONG RESEARCH SCHOLARS OF DIFFERENT FIELDS OF RESEARCH: A COMPARATIVE STUDY

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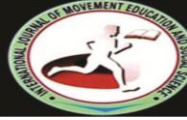
ABSTRACT

e-learning is technology replacing face to face contact with teachers. It acts as motivating factors for learnings whenever they are absent from the class for one or the other reason. The present study was conducted to find out the attitude towards e-learning among research scholars on four dimensions as e-learning interest, usefulness, ease of e-learning, e-learning confidence with respect to their Gender, Residential Background and Field of Research. The researchers adopted the stratified proportionate random sampling technique to have 450 research scholars as sample and used Attitude towards e-learning Scale by Dimpal Rain for data collection. The data was analyzed with the help of 3-Way ANOVA technique. The results revealed that Residential Background and Field of Research had significant influence on the mean scores of e-learning interest of research scholars while as only Field of Research had significant effect on the mean scores of ease of e-learning of research scholars. Further, it was found that research scholars from the Urban background were found to possess higher mean score of e-learning interest than Rural ones. Moreover, it was exposed that the main effect Gender and also the interactions between Gender and Residential Background as well as Gender and Field of Research had significant influence on usefulness.

Keywords: Attitude towards e-learning, e-learning interest, ease of e-learning, e-learning confidence, Research Scholars

1. INTRODUCTION

e-learning is simple to understand and use. e-learning is that kind of acquiring knowledge in which electronic technologies are being applied to access courses outside of a conventional classroom. Mostly, it refers to a program, course, or degree provided entirely online. e-learning can save money as well as time. It is more proficient to develop a course that can be publicized electronically which is delivered personally to teaching groups. e-learning proposes much importance as compared to conventional training options, as assisted sessions and lectures. It could be either synchronous or asynchronous goal oriented activity. e-learning programs are in the hands of the individual who needs them, anywhere and anytime. It saves time and money.



The factors of e-learning facilitate scholars' overall attitude toward e-learning, that critically affects his or her choice of either withstand or close any e-learning course. So, it is obligatory for originators to be tactical in producing technology which is easy to use, also to create a common experience that's corroborative for the student's successes. Studying scholars' attitudes toward e-learning, exploring the crucial factors that have an effect on their behaviours toward e-learning may help to originate a more applied course that can boost success. The students with high academic interests have positive attitude towards the use of e-learning platform, use it frequently and its use boosts their situational interests [1]. About 90% students possess favourable attitude towards use of e-learning[2]. Student attitude towards e-learning are positive, easy availability is contemplated as one of the most essential feature by students toward the use of e-learning[3]. Postgraduate students have favorable attitude towards using e-resources in and off campus [4]. The higher percentage of Postgraduate students were believed to acquire new knowledge as compared to Undergraduate students [5].

1.1.1. OBJECTIVES

1. To study the influence of Gender, Residential Background, Field of Research and their various interactions on e-learning interest dimension of Attitude towards e-learning of Research Scholars.
2. To study the influence of Gender, Residential Background, Field of Research and their various interactions on Usefulness dimension of Attitude towards e-learning of Research Scholars.
3. To study the influence of Gender, Residential Background, Field of Research and their various interactions on Ease of e-learning dimension of Attitude towards e-learning of Research Scholars.
4. To study the influence of Gender, Residential Background, Field of Research and their various interactions on e-learning Confidence dimension of Attitude towards e-learning of Research Scholars.

1.1.2. HYPOTHESES

- H₀₁. There is no influence of Gender, Residential Background, Field of Research and their various interactions on e-learning Interest dimension of Attitude towards e-learning of Research Scholars.
- H₀₂. There is no influence of Gender, Residential Background, Field of Research and their various interactions on Usefulness dimension of Attitude towards e-learning of Research Scholars.
- H₀₃. There is no influence of Gender, Residential Background, Field of Research and their various interactions on Ease of e-learning dimension of Attitude towards e-learning of Research Scholars.
- H₀₄. There is no influence of Gender, Residential Background, Field of Research and their various interactions on e-learning Confidence dimension of Attitude towards e-learning of Research Scholars.

2. METHODOLOGY

2.1. Sample

The research scholars of University of Kashmir, Jammu and Kashmir, India was population for the present study. A sample of 450 research scholars (225 Male and 225 Female) were selected with the help of stratified proportionate random sampling technique from the various departments of three streams VIZ Science, Social



Science, Arts in University of Kashmir, Jammu and Kashmir, India. Out of 560 sets of attitude towards e-learning scale which were distributed, only 470 sets were returned. After the scrutiny 20 sets were found having incomplete information which were discarded and the remaining 450 sets were retained for analysis.

2.2. Tool used

Attitude towards e-learning Scale (ATELS-RD): This scale has been developed by *Dimple Rani*[6]. It has been standardized on all the students who were above age of 14 years (secondary, senior, secondary, graduate, PG level). This scale comprises of 65 items. It has four dimensions as I) e-learning interest, II) Usefulness, III) ease of e-learning, IV) e-learning confidence.

3. DATA ANALYSIS

The data were analyzed using SPSS 20.0 and the statistical tests used were 3-Way ANOVA, independent sample t-test and Graphs (where ever required).

4. RESULTS AND DISCUSSION

The results are discussed under sub-headings below:

4.1. INFLUENCE OF GENDER, RESIDENTIAL BACKGROUND, FIELD OF RESEARCH & THEIR INTERACTIONS ON DIMENSIONS OF ATTITUDE TOWARDS e-LEARNING OF RESEARCH SCHOLARS

The study of the influence of Gender, Residential Background, Field of Research and their various interactions on dimensions of Attitude towards e-learning of research scholars. There were two levels of Gender and Residential Background namely, Male, Female and Urban, Rural respectively and also three levels of Field of Research, namely, Arts, Science, and Social Science. Thus the data were analyzed with the help of 2X2X3 Factorial Design ANOVA and the results are given in Tables below under different sub-headings.

4.1.1. INFLUENCE OF GENDER, RESIDENTIAL BACKGROUND, FIELD OF RESEARCH & THEIR INTERACTIONS ON e-LEARNING INTEREST OF RESEARCH SCHOLARS

The study of the influence of Gender, Residential Background, Field of Research and their various interactions on e-learning interest of research scholars. There were two levels of Gender and Residential Background namely, Male, Female and Urban, Rural respectively and also three levels of Field of Research, namely, Arts,



Science, and Social Science. Thus the data were analyzed with the help of 2X2X3 Factorial Design ANOVA and the results are given in Tables below

Table 1.1: Summary of 2X2X3 Factorial Design ANOVA of e-learning interest of Research Scholars

Sources of Variance	df	SS	MSS	F-value
Gender (A)	1	53.92	53.92	2.17
Residential Background (B)	1	122.85	122.85	4.95 *
Field of Research (C)	2	172.72	86.36	3.48 *
AXB	1	10.18	10.18	0.41
AXC	2	17.55	8.78	0.35
BXC	2	6.36	3.18	0.13
AXBXC	2	123.34	61.67	2.49
Error	438	10864.48	24.80	
Total	449			

*significant at 0.05

Table 1.1a: Residential Background -wise M, SD, N and t-values of e-learning interest of Research Scholars

Residential Background	M	SD	N	t-value
Urban	48.66	4.91	229	2.07 *
Rural	45.88	5.11	221	

*Significant at 0.05 level

Table 1.1b: Field of Research-wise M, SD, N and t-values of e-learning interest of Research Scholars

Field of Research	M	SD	N	Science	Social Science
Arts	46.02	4.82	149	0.71	1.89
Science	45.98	4.85	152		1.96
Social Science	47.13	5.34	149		

From the Table 1.1 it can be seen that the F-values of Gender ($F=2.17$); interaction between Gender and Residential Background ($F=0.41$); Gender and Field of Research ($F=0.35$); Residential Background and Field of Research ($F=0.13$); Gender, Residential Background and Field of Research ($F=2.49$) which are not significant. While as Residential Background ($F=4.95$, $df=1, 438$); Field of Research ($F=3.48$, $df=2, 438$) which are significant at 0.05 level. So there was no influence of Gender; interaction between Gender and Residential Background; Gender and Field of Research; Residential Background and Field of Research; Gender, Residential



Background and Field of Research on e-learning interest of research scholars. Thus, the Null hypothesis that there is no significant influence of Gender, Residential Background, Field of Research, and their various interaction on e-learning interest dimension of Attitude towards e-learning of Research Scholars is partially rejected.

Further, it may be said that Male and Female Research Scholars were found to have e-learning interest to the same extent. The t-value for urban and rural Research Scholars is 2.07 which is significant at 0.05 level with df=448 (Vide Table 1.1a). It indicates that the mean scores of e-learning interest dimension of Attitude towards e-learning of Research Scholars differ significantly. The table further depicts that the mean score of e-learning interest of Research Scholars belonging to Urban areas found to have higher mean score (M=48.66) than Research Scholars belonging to Rural areas. It may, therefore, be said that Research Scholars from Urban were found to have significantly better e-learning interest than those of Rural Research Fellow.

From Table 1.1b, it can be seen that the t-value for Arts and Science fields is 0.71 and Arts and Social Science Research Scholars is 1.89; Science and Social Science fields is 1.96 which are not significant. It indicates that mean scores of e-learning interest dimension of Attitude towards e-learning of Research Scholars from Arts and Science fields do not differ significantly. It may, hence, be said that Research Scholars from Arts, Science and Social Science were found to have similar e-learning interest.

In light of these results reported above, the null hypothesis H_{01} which reads as, "There is no influence of Gender, Residential Background, Field of Research and their various interactions on e-learning Interest dimension of Attitude towards e-learning of Research Scholars." is partially being rejected.

4.1.2. INFLUENCE OF GENDER, RESIDENTIAL BACKGROUND, FIELD OF RESEARCH & THEIR INTERACTIONS ON USEFULNESS OF RESEARCH SCHOLARS

The study of the influence of Gender, Residential Background, Field of Research and their various interactions on usefulness dimension of Attitude towards e-learning of research scholars. There were two levels of Gender and Residential Background namely, Male, Female and Urban, Rural respectively and also three levels of Field of Research, namely, Arts, Science, and Social Science. Thus the data were analyzed with the help of 2X2X3 Factorial Design ANOVA and the results are given in Table 1.2

Table 1.2: Summary of 2X2X3 Factorial Design ANOVA of usefulness of Research Scholars

Sources of Variance	df	SS	MSS	F-value
Gender (A)	1	322.85	322.85	3.99 *
Residential Background (B)	1	75.11	75.11	0.93
Field of Research (C)	2	98.36	49.18	0.61
AXB	1	479.60	479.60	5.92 *
AXC	2	545.10	272.55	3.36 *



BXC	2	86.07	43.03	0.53
AXBXC	2	79.89	39.95	0.49
Error	438	35470.98	80.98	
Total	449			

*significant at 0.05

Table 1.2a: Gender-wise M, SD, N and t-values of Usefulness of Research Scholars

Gender	M	SD	N	t-value
Male	95.67	9.02	216	1.82
Female	94.12	9.11	234	

From the Table 1.2 it can be seen that the F-values of Residential Background ($F=0.93$); Field of Research ($F=0.61$); interaction between Residential Background and Field of Research ($F=0.53$); interaction among Gender, Residential Background and Field of Research ($F=0.49$) which are not significant. While as the F-values of Gender ($F=3.99$, $df=1,438$); interaction between Gender and Residential Background ($F=5.92$, $df=1, 438$); Gender and Field of Research ($F=3.36$, $df=2, 438$) which are significant at 0.05 level (Vide Table 1.2). Thus the Null hypothesis that there is no significant influence of Gender Residential Background, Field of Research and their various interactions on usefulness dimension of Attitude towards e-learning of Research Scholars is partially rejected.

Further, the t-value for urban and rural Research Scholars is 1.82 which is not significant (Vide Table 1.2a). It indicates that the mean scores of Usefulness dimension of Attitude towards e-learning of Research Scholars differ significantly. It may, therefore, be said that Research Scholars from urban and rural area were found to feel usefulness of e-learning to same extent.

In order to know the trend of influence of interaction between Gender and Residential Background; Gender and Field of Research on Usefulness of e-learning to Research Scholar, Graphs have been plotted.

From Figure 1.1, it is evident that Male and Female Research Scholars from Urban area found Usefulness of e-learning to the same extent while in case of Rural area, Male Research Scholars found Usefulness of e-learning much more than those of Female Research Scholars. Further there is a sharp decline in Usefulness of e-learning as the area of Research Scholars change from Urban to Rural. On the other hand, there was a sharp increase in Usefulness of e-learning as the area of Research Scholars change from Urban to Rural.

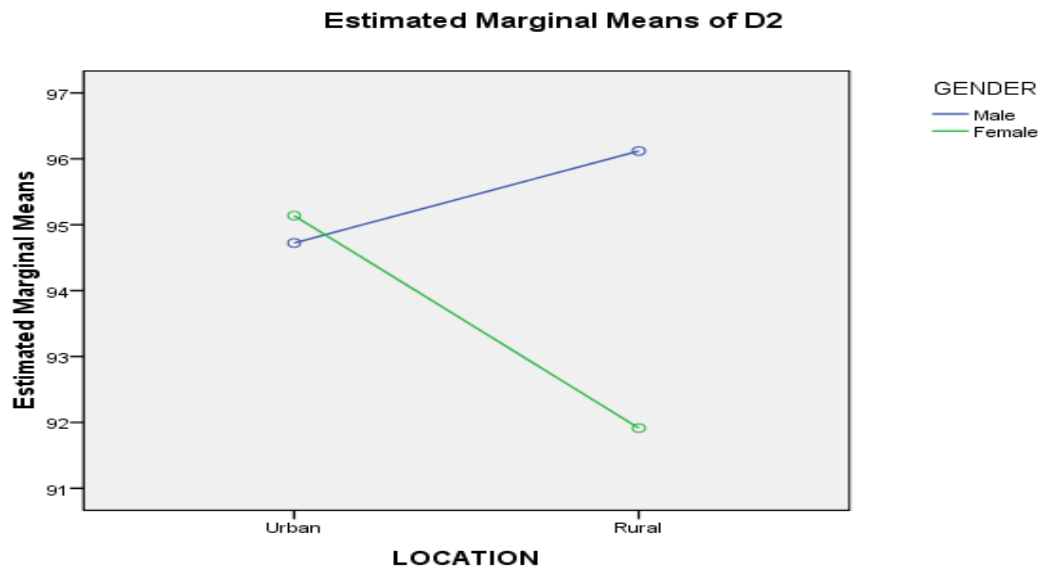


Figure 1.1: Influence of interaction between Gender and Residential Background on Usefulness of e-learning to Research Scholar; D2- Usefulness

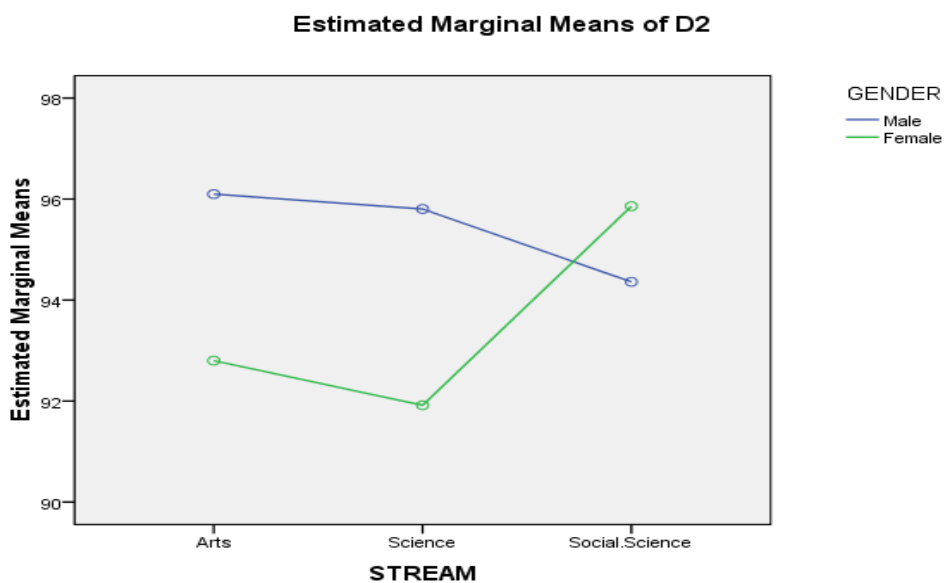
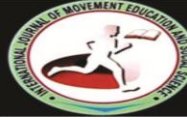


Figure 1.2: Influence of interaction between Gender and Field of Research on Usefulness of e-learning to Research Scholar; D2-Usefulness

From Figure 1.2, it can be seen that Male Research Fellows from Arts and Science Fields found e-learning to be more useful than those of Female Research Fellows. While Female Research Fellows from Social Science found e-learning to be more useful than those of Male Research Fellows from Social Science. In case of Male Research Fellows, there is a slight decline in the e-learning Usefulness as the Field of Research changes from



Arts to Science and this decline become sharper as the Field of Research changes from Science to Social Science. On the other hand, in case of Female Research Fellows, there is a decline in the e-learning Usefulness as the Field of Research changes from Arts to Science but there is sharp increase in e-learning Usefulness as the Field of Research changes from Science to Social Science. It may, therefore, be said that Male Research Fellows from Arts and Science Fields and Female Research Fellows from Social Science Field found e-learning to be more useful.

In light of these results reported above, the null hypothesis H_{02} which reads as, “There is no influence of Gender, Residential Background, Field of Research and their various interactions on Usefulness dimension of Attitude towards e-learning of Research Scholars.” is partially being rejected.

4.1.3. INFLUENCE OF GENDER, RESIDENTIAL BACKGROUND, FIELD OF RESEARCH & THEIR INTERACTIONS ON EASE OF e- LEARNING OF RESEARCH SCHOLARS

The study of the influence of Gender, Residential Background, Field of Research and their various interactions on ease of e-learning dimension of Attitude towards e-learning of research scholars. There were two levels of Gender, namely, Male and Female. Urban. and Rural were the two levels of Residential Background. Lastly, there were three levels of Field of Research, namely, Arts, Science, and Social Science. Thus the data were analyzed with the help of 2X2X3 Factorial Design ANOVA and the results are given in Table 1.3.

Table 1.3: Summary of 2X2X3 Factorial Design ANOVA of Ease of e-learning of Research Scholars

Sources of Variance	df	SS	MSS	F-value
Gender (A)	1	38.69	38.69	1.33
Residential Background (B)	1	0.44	0.44	0.01
Field of Research (C)	2	255.10	127.55	4.40 *
AXB	1	24.22	24.22	0.84
AXC	2	18.05	9.02	0.31
BXC	2	10.13	5.07	0.17
AXBXC	2	74.53	37.26	1.29
Error	438	12690.52	28.97	
Total	449			

*significant at 0.05

Table 1.3a: Field of Research-wise M, SD, N and t-values of ease of e-learning of Research Scholars

Field of Research	M	SD	N	Science	Social Science
Arts	49.88	5.09	149	1.41	2.77**
Science	50.71	5.11	152		1.47



Social Science	51.64	5.87	149		
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**Significant at 0.01 level

From the Table 1.3, it can be seen that the F-value for Gender ($F=1.33$); Residential Background ($F=0.01$); interaction between Gender and Residential Background ($F=0.84$); interaction between Gender and Field of Research ($F=0.31$); interaction between Residential Background and Field of Research ($F=0.17$); and interaction among Gender, Residential Background and Field of Research ($F=1.29$) which are not significant while as F-value of Field of Research is 4.40 is significant at 0.05 level with $df=2, 438$. Thus the Null hypothesis that there is no significant influence of Gender, Residential Background, Field of Research and their various interactions on Ease of e-learning dimension of Attitude towards e-learning of Research Scholars is Partially rejected.

Further from Table 1.3a, it can be seen that the t-values for Arts and Science fields is 1.41 and Science and Social Science fields is 1.47 which are not significant while as t-value for Arts and Social Science Research Scholars is 2.77 is significant at 0.01 level with $df=296$. It indicates that mean scores of Ease of e-learning of Research Scholars from Arts and Science; Science and Social Science fields do not differ while as Research Scholars from Social Science were found to have significantly high ease of e-learning than those of Arts Research Fellow.

In light of these results reported, the null hypothesis H_{03} which reads as, “There is no influence of Gender, Residential Background, Field of Research and their various interactions on ease of e-learning dimension of Attitude towards e-learning of Research Scholars.” is partially being rejected.

4.1.4. INFLUENCE OF GENDER, RESIDENTIAL BACKGROUND, FIELD OF RESEARCH & THEIR INTERACTIONS ON e-LEARNING CONFIDENCE OF RESEARCH SCHOLARS

The study of the influence of Gender, Residential Background, Field of Research and their various interactions on e-learning confidence of research scholars. There were two levels of Gender and Residential Background namely, Male, Female and Urban, Rural respectively and also three levels of Field of Research, namely, Arts, Science, and Social Science. Thus the data were analyzed with the help of 2X2X3 Factorial Design ANOVA and the results are given in Table 1.4

Table 1.4: Summary of 2X2X3 Factorial Design ANOVA of e-learning Confidence of Research Scholars

Sources of Variance	df	SS	MSS	F-value
Gender (A)	1	1.28	1.28	0.04
Residential Background (B)	1	102.26	102.26	3.51
Field of Research (C)	2	99.08	49.54	1.70
AXB	1	0.38	0.38	0.01



AXC	2	4.90	2.45	0.08
BXC	2	56.03	28.02	0.96
AXBXC	2	98.75	49.37	1.69
Error	438	12760.89	29.13	
Total	449			

From the Table 1.4 it can be seen that the F-value for Gender ($F=0.04$); Residential Background ($F=3.51$); Field of Research ($F=1.70$); interaction between Gender and Residential Background ($F=0.01$); interaction between Gender and Field of Research ($F=0.08$); interaction between Residential Background and Field of Research ($F=0.96$); interaction among Gender, Residential Background and Field of Research ($F=1.69$) which is not significant. So, there was no significant influence of Gender, Residential Background, Field of Research and their various interactions on e-learning confidence of research scholars. Thus the null hypothesis that there is no significant influence of Gender, Residential Background, Field of Research and their various interactions on e-learning confidence dimension of Attitude towards e-learning of Research Scholars is not rejected. It may, therefore, be said that Research Scholars were found to possess e-learning confidence to the same extent irrespective of Gender, Residential Background, Field of Research and their various interactions.

In light of these results reported above, the null hypothesis H_{04} which reads as, “There is no influence of Gender, Residential Background, Field of Research and their various interactions on e-learning confidence dimension of Attitude towards e-learning of Research Scholars.” is not being rejected.

5. CONCLUSION

e-learning enhances the performance in every field the research in not apart of its effect. It profoundly enhances the research scholars' performance by helping them to do more and more research activities in less time. The present study revealed that Research Scholars from Urban Area were found to have more e-learning Interest than those from Rural Area and only Research Scholars from Social Science field were found to have considerably greater e-learning Interest than those from Science Field. Male Research Scholars from Rural area found Usefulness of e-learning more than those of Female Research Scholars from same area. Male Research Fellows from Arts and Science Fields and Female Research Fellows from Social Science Field found e-learning to be more Usefulness. The Research Scholars from Social Science felt considerably high Ease of e-learning than those of Arts Research Fellow.

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