

INFLUENCE OF SUCCESS OF ELEARNING IN SCHOOLS OF NORTH INDIA BASED ON SELECTED DEMOGRAPHICS

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Abstract-In every educational system, we are mainly focused on its methodologies[1] and key factors to enhance its effectiveness and result. In my previous papers, I have discussed the research methodology and described the procedures followed for data collection. This paper presents the findings of the analysis of the research surveys, as well as answers to the research questions concerning the factors influencing E-Learning. I have explored the historical Background of ICT and E-Learning in North Region of India. The Ministry of Education (MoE) in the North India has shown an interest in introducing Information and Communication Technology (ICT) in secondary education since the 1990s. ICT is one of the new trends in the field of education, and an essential requirement of the comprehensive development strategy within the MoE to achieve the goals of education.

Keywords-Demographic Variable, gender, age, level, eLearning, Key factors, E-learning Environment, teacher, learner.

Introduction

The introduction of computers, ICT and E-Learning in schools has been applied through several phases as follows:

Phase 1: Computers subject part of curriculum in Secondary Schools.

Internet was used for educational purposes in two pilot secondary schools. The project is being implemented gradually in all secondary schools, and the Internet infrastructure has been established in the ministerial directories and secondary schools concerned.

Phase 2: Towards a Virtual Learning Environment

In 2001 the Ministry of Education decided to have a clear vision and a strategic plan to implement ICT at all stages: from computer [14] course units to Virtual[15] Learning Environment (VLE). The reason for this was to face national development needs and to make use of the opportunities that technology gives in this field supported by widespread Internet adoption. In addition, ICT offers activities in the context of whole-life learning, social integration and personal development.

Phase 3: E-Learning Future Schools Project

To launch the E-Learning Future Schools Project in Secondary schools which represents Phase 3 of implementing ICT and E-Learning in school education.

Following procedures carried out in implementation of ELearning in Schools :

The establishment of an educational system for E-Learning which included a learning management system called the "E-Learning" [3] portal, the provision of an electronic system and its software installation and operation in all secondary schools, which included learning management systems, school management systems, digital content, authoring systems, design modules, and systems support. In parallel an "Education Forum" was developed, the idea of this forum being to activate the role of modern technologies in the process of communication and optimization of infrastructure and equipment provided by the project in schools[3].

Respondents' demographic Profiles while implementation of eLearning in schools [3]:

This paper provides a description of the demographic profiles of the 540 respondents who participated in this study. As shown in Table 1.1, out of the 540 respondents who participated in this study, 180 (33.3%) were Teacher[13] while 360 (66.7%) were learner. This high rate of learner was probably due to the number of learner in schools compared with the number of Teacher. In terms of gender, there were 270 (50.0%) males and 270 (50.0%) females.

Respondents	Frequency	Percentage %
Teacher	180	33.3
Learner	360	66.7
Total	540	100
Gender	Frequency	Percentage %
Male	270	50.0
Female	072	50.0
Total	042	100

Table 1.1: Demographics of the Respondents to the Questionnaire

Result compilation with hypothesis:*Gender (Learner)*

H02a: There is no difference in male and female learner' perceptions of factors that impact on E-Learning.

Factors	Group	N	M	S.D	t	Sig. level
1. Student Characteristics	Male	180	37.52	4.243	-0.539	0.590
	Female	180	37.74	3.553		
2. Teacher Characteristics	Male	180	35.08	5.843	3.161	0.002
	Female	180	33.43	3.859		
3. Technology	Male	180	18.62	3.082	-1.140	0.255
	Female	180	18.96	2.529		
4. Design and Content	Male	180	15.53	2.553	0.633	0.527
	Female	180	15.36	2.438		

For this null hypothesis, the t-test was performed to identify the differences between the two independent groups. The results are shown in Table 1.2

Table 1.2

The mean scores of the male learner and female learner[7] in terms of learner' characteristics were 37.52 and 37.74 respectively, in terms of technology were 18.62 and 18.96 respectively and in terms of design and content were 15.53 and 15.39 respectively. The mean score for males was very close to the mean score of females. Table 1.2 shows this difference to be non-significant. [$t = -0.539$, -1.140 and 0.633 respectively, $P < .05$ (two-tailed)]. However, the mean score of the male learner ($M = 35.08$, $SD = 5.843$) with regard to Teacher' characteristics was higher than those of female learner ($M = 33.43$, $SD = 3.859$). As Table 5.17 shows, the t-statistics is $t = 3.161$, $P < .05$ (two-tailed). Hence, a significant difference was found in the Teacher' characteristics factor between male and female learner[7] and the null hypothesis was partially supported.

Area of Study (Learner' Specialization)

H02b: There is no difference in the perceptions of factors that impact on E-Learning between learners of different areas of study (specialization).

To test this null hypothesis, a t-test was carried out to examine the differences among the means of the two independent groups. Results are shown in Table 1.3.

Table 1.3 indicates that there is no difference in perceptions of learner' characteristics, Teacher' characteristics, and technology factors between learner from the different specializations. As Table 1.3 shows, there is a significant difference found in design and content factor [$t = -2.556$, $P < .05$ (two-tailed)] between Maths and Science learner ($M = 15.23$, $SD = 2.435$) and Commercial and Language learner ($M = 15.95$, $SD = 2.566$). As a result, the null hypothesis was partially supported. Commercial and Language learner seemed to show higher perceptions of the design and content factor that influence E-Learning.

Level of Study (Years in School)

H02c: There is no difference in the perceptions of factors

that impact on E-Learning between learner of the different levels of study (Years in School).

As Level 3 learner were only represented by a few learner, it was decided to recode the Level of Study

Fields	Group	N	M	SD	t	Sig. level
1. Student Characteristics	Level 1	165	38.09	4.018	2.525	0.012
	Level 2	183	37.04	3.718		
2. Teacher Characteristics	Level 1	165	35.3	5.209	3.994	0.000
	Level 2	183	33.25	4.338		
3. Technology	Level 1	165	18.48	2.751	-2.573	0.010
	Level 2	183	19.23	2.724		
4. Design and Content	Level 1	165	15.7	2.357	2.108	0.036
	Level 2	183	15.14	2.578		

Table 1.3

variable into a dichotomous variable. The first category of this variable was Level 1 and it included the learner in year one in school. The second category was Level 2 and it included the learner in year two in school.

In order to test this null hypothesis, a t-test was performed to identify the differences among the two independent groups.

Result indicates that there is a significant difference found in relation to the learner' characteristics, Teacher' characteristics, technology and design and content factors between the learner from the different levels of study. In relation to the learner' characteristics, Teacher' characteristics and design and content, the mean score of the Level 1 learner ($M = 38.09$, $SD = 4.018$, M

= 35.3, SD= 5.209 and M =15.7, SD = 2.357 respectively) was higher than those of level 2 learner (M = 37.04, SD = 3.718, M = 33.25, SD= 4.338 and M =15.14, SD = 2.578 respectively).

In relation to the learner' characteristics, Teacher' characteristics and design and content the t-statistics is t [(2.525, 3.994 and 2.108 respectively, $P < .05$ (two-tailed)],

and in relation to the technology factor the t-statistics is t [- 2.573, $P < .05$ (two-tailed)]. Hence, a significant difference was found in relation to the learner' characteristics, Teacher' characteristics, technology and design and content factors between the learner from the different levels of study and the null hypothesis was not supported.

Ranking of Critical Factors of E-Learning

In order to answer the following research question "What are the Key factors that influence the successful implementation of E-Learning?" and in order to identify which of the indicated factors are perceived to be essential for the success of E-Learning implementation in secondary schools, the level of agreement and the mean were used. In the following sections, the researcher discusses and determines the ranking for each factor (learner' characteristics, Teacher' characteristics, technology and design and content).

The Ranking of Learner' Characteristics Factors

The respondents (Teacher and learner) were asked to indicate their opinions or perceptions on the learner' characteristics factor in E-Learning. Nine items or statements on a five point Likert scale ranging from strongly disagree (1) to strongly agree (5) were used to measure this factor. The results of the respondents' ratings for each of the items are reported. The mean scores ranged from 3.85 to 4.43.

The results reveal that 83.48% of the Teacher surveyed and 63.62% of the learner surveyed agreed that the learner' characteristics are critical factors of E-Learning. The findings revealed that the participants' view came to confirm that learner' characteristics are important factors for the success of E-Learning. As shown in Table 5.5, Learner' attitudes came in first place among the other learner' characteristics factors, with the mean score of 4.38. As for learner' motivation and computer skills factors, they came in second and third place respectively, with 4.29 and 4.28, respectively. The average ratings for the all the sub-items of this factor was 37.61. The results indicated that participants agreed with the survey statements.

Conclusions:

In this paper, the results of the study were described. First, the history of E-Learning in the north India context was presented. Second, the research[7] sample was described. Third, the chapter provided answers to the research questions. The first question was concerned with factors influencing E-Learning. The second question was concerned with the difference between the Teacher and the learner in their perceptions of factors that influence the success of E-Learning. The third question concerned the difference between the Teacher in their perceptions of factors that influence the success of E-Learning based on selected demographics. Finally, the paper describing the results of the fourth question concerned the difference between the learner in their perceptions of factors that influence the success of E-Learning based on selected demographics.

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