

University Students' Perception towards e-Learning

Pooja Tamta¹ and M. A. Ansari²

1. Ph. D. Scholar, and 2 Professor, Department of Agriculture Communication; College of Agriculture, G B Pant University of Agriculture & Technology, Pantnagar-263145 (Uttarakhand).

Corresponding author e-mail : aslam1405@yahoo.com

ABSTRACT

Rapid advances in Information and Communication Technologies (ICTs) have comprehensively changed the process of teaching and learning. E-Learning has emerged as one of the alternative modes of instruction delivery. Consequently, integrating e-learning into traditional modes of learning has become one of the priorities for higher educational institutions. It is thus imperative for education researchers to determine student's perception towards e-Learning in order to assess the effectiveness of such offerings. The present study was undertaken to find out the perception of students towards e-Learning. The study was conducted on Undergraduate students of a premier State Agriculture University (SAU) of India. An exploratory research design was selected for the study. An e-content was specially developed on a specific UG course based on the prescribed curriculum. The study sample included 34 registered students of B. Sc. Agriculture (III year), selected purposively and exposed to the e-content especially developed for the purpose. A structured questionnaire was used for data collection. The findings indicate that a large majority of students (91%) have positive perceptions about e-Learning. Further, student's academic performance, computer / laptop ownership, computer proficiency and frequency of computer use were found to have positive and significant correlation with students' perception towards e-learning. These findings might be of interest to academicians, university administrators, and policy makers involved in planning, developing and implementation of future e-learning strategies in India and other developing countries.

Key words : e-learning, e-content, Web based instruction, Students' Perceptions towards ICTs, Technology integration in Higher education,

Information and Communication Technologies (ICTs) are gaining increasing importance in every sector and becoming progressively more widespread throughout the education sector. Consequently, e-learning has emerged as a very important tool to assist and facilitate teaching and learning process. It provides the tools for learners to be in contact with peers and teachers inside and outside the classroom. Besides, it also empowers the learners to manage their own learning and in the most appropriate way for each learner. Hall (2001) reported that e-learning is the fastest growing and most promising in the educational industry. ICTs can empower teachers and learners, making significant contributions to learning outcomes and achievement. Students no longer need to spend long periods travelling to a location to attend a course; they can now have access to learning when they want it, at the time they want it - day or night, wherever they want it - at home, at work, in their local library. The learning no longer needs to be a passive experience, with the learners all sitting in front of the teacher and "learning by telling". The e-learning makes learning an active and interesting experience.

The e-learning is no longer simply associated with distance or remote learning but forms part of a conscious choice of the best and most appropriate ways of promoting effective learning. Ryan, (2001) observed that e-learning can be implemented in a variety of ways, such as through the use of self-paced independent study units, asynchronous interactive sessions (where participants interact at different times) or synchronous interactive settings (where learners meet in real time). Participants in this educational and training paradigm require rich learning environment supported by well-designed resources (Khan, 1997).

Some part of e-resources now a day's are involved in all types of learning. Although e-learning and various blended approaches that integrate online components into traditional classes continues to grow rapidly, it still remains at an early stage of development. Consequently, developers and deliverers of online learning need more understanding of how students perceive and react to elements of e-learning (since student perception and attitude is critical to motivation and learning) along with how to apply these approaches most effectively to enhance learning (Koohang & Durante, 2003).

These technologies not only strengthen the communication between instructors and learners, but also let the learners get an easy access to their course materials at anytime and from anywhere. But before we implement any e-learning strategy, we must check-up with the target audience (i.e. students) as to how they perceive this new innovation and how far they would be willing to partake in this process of learning. Therefore, the present study was undertaken to find out the student's perception towards e-Learning, and the factors that influence their perception towards e-learning.

METHODOLOGY

The study was conducted at G. B. Pant University of Agriculture and Technology (GBPUAT), Pantnagar, the first agriculture university established in India in 1960. It has been a premier institution for higher education, research and extension in the country. It has a long history of academic leadership and excellence through national and international cooperation, and also been eulogised by Nobel Laureate Norman E. Borlaug as the 'harbinger of green

revolution' in India. The University is one of the largest single-campus University in the country. It has eight constituent colleges and offers 18 Undergraduate, 73 Postgraduate and 51 Doctoral programmes in various subjects. The present study was conducted in the purposively selected College of Agriculture, and the respondents were students pursuing B.Sc. Agriculture (a four year UG programme).

Development of e-content : Of the various courses offered under B. Sc. Agriculture programme at Pantnagar University, the Department of Agriculture Communication offers a course named "Extension Methodologies for Transfer of Technology" to 3rd year students of B.Sc. Agriculture. This is one of the basic undergraduate two credit courses on agricultural extension. Out of three sections of students pursuing B.Sc. Agriculture, one section (comprising 34 students) was selected randomly. Students were taught this course with the help of an e-content developed by the researcher, and available online (<http://www.emtt.in/index.aspx>). The content was validated by a team of subject experts. This was introduced to all the registered students of selected section by concerned course instructor in the starting of semester. The students were taught this course by combining conventional method of teaching and e-content.

Data were collected with the help of a structured and pre-tested questionnaire developed by Buzzetto-More (2008) and Khan & Jumani (2012) with slight modification to accommodate the needs of this study. Data were analyzed using descriptive and inferential statistics.

RESULTS & DISCUSSION

The results of the study are discussed in three parts. The first part consists of the profile characteristics of the students and the second part deals with perception of students towards e-learning, and the third part shows the relationship of profile characteristics of students with their perceptions towards e-learning.

I. Profile characteristics of the students : A number of profile characteristics such as age, gender, family income, family background, medium of instruction during schooling, academic performance, computer/laptop ownership, frequency of computer use and computer use efficiency. The results obtained are given in Table-1 below :

A careful perusal of the above Table 1 revealed that, as all the respondents belonged to the same academic year (i.e. 3rd year of UG course), so there was no significant difference in their age. The average age of the students was 21 years. As regards gender-wise composition of respondents, majority of students were female (68 %) followed by male students (32 %). The possible reason for such distribution might be that in the

Table1
Distribution of students on the basis of their profile characteristics (N=34)

Characteristics	Freq.	%
Age (Years)		
20	02	08.30
21	21	87.50
22	01	04.17
Gender		
Male	11	32.00
Female	23	68.00
Annual family income (Rupees)		
Low (<2,96,290)	04	11.76
Medium (2,96,290-5,98,416)	23	67.65
High (>5,98,416)	07	20.59
Family background		
Rural	05	14.70
Semi-urban	14	41.18
Urban	15	44.12
Medium of basic education		
Hindi medium	09	26.47
English medium	25	73.53
Academic performance		
Low (<6.9)	07	20.59
Medium (7-7.8)	20	58.82
High (>7.8)	07	20.59
Computer Ownership		
Yes	31	91.18
No	03	08.82
Computer proficiency		
Low (<3 years)	10	29.41
Medium (3-6.5 years)	19	55.88
High (>6.5 years)	05	14.71
Frequency of computer use		
Daily	27	79.41
Weekly	07	20.59
Monthly	00	00

Freq. - Frequency % - Percent

state of Uttarakhand, education of girls is being given special importance. Traditionally, education has been one of the high priorities in the state. Besides, there is provision of 30 per cent reservation in admission for women of Uttarakhand due to which the number of female students are more here than male students in the study sample.

Regarding income status of the respondents, the majority of students had medium family income (67.65 %) followed by those who had high annual family income (20.59 %). Only 11.76 per cent of the students had low annual family income. Further, the majority of students came from urban areas (44.12 %)

followed by almost equal number of students (41.18 %) who belonged to semi-urban areas and 14.70 per cent who lived in rural areas. The above data shows that people from urban and semi-urban areas gives more importance to education or may be that they have more access to education services and have adequate means and resources in this area as compared to people who lives in rural areas of Uttarakhand. Joy & Shaiju (2004) reported that out of 162 students 113 were from rural area and 49 were from urban area.

The majority of students has received their basic education in English medium (73.53 %) followed by students who received their basic education in Hindi language (26.47 %). Thus, it can be concluded that a majority of students had received their basic education through English medium. The reason behind it may be that English is a globally accepted language and our educational system heavily relies on English language and higher education in India is given mainly in English language.

About more than half of students had medium academic performance (58.82 %) followed by an identical number of students who had high and low academic performance (20.59 %) in terms of overall grade point average (OGPA). Further, 91.18 per cent students reported to own a computer/ laptop. This shows the tech-savvy nature of the students. Buzzetto-More & Sweat-Guy (2007) reported that students attending Historically Black Colleges and Universities (HBCUs) come to college with most of them having computers. In terms of access to computers, 65.5 per cent of students had computers. However, as regards proficiency in the use of computers, 55.88 per cent displayed 'medium' proficiency followed by 29.41 per cent reporting 'low' and only 14.71 per cent reporting 'high' computer proficiency.

Nicole (2008) in a similar study observed that when participants were asked to self-select a ranking for their level of computer expertise, majority of participants (51.4 %) ranked themselves as 'intermediate' computer users followed by 17.4 per cent who categorized themselves as computer experts, while 29 per cent said that they had some experience, and 2.2 per cent considered themselves computer novices.

As regards daily use of computer by the students, 79.41 per cent students said that they used the computer daily followed by 20.59 per cent students who used computer weekly. From the above data it can be concluded that majority of students were frequent users of computer, which indicate that computers are helping students by many ways such as for completing their assignments, making presentations, checking their e-mails, surfing internet, blogging, gaming etc.

II. Perception of students towards e-learning

Perception towards any issue, object or individual shapes our thinking, opinion and outlook.

Therefore, students' perception towards e-learning will be reflective of their opinion, outlook and thinking towards e-learning which will ultimately affect its uptake. To measure student's perceptions toward e-learning a structured questionnaire was used which consisted of total 12 statements and students were asked to apply a rating scale (from 1 = 'strongly disagree' to 5 = 'strongly agree') to indicate their level of agreement with various statements. The categories in the rating scales have been collapsed to facilitate statistical analysis and ease of interpretation. Categories 'strongly agree' and 'agree' were merged into a single category, 'Agree'. Similarly, categories 'strongly disagree' and 'disagree' were combined into a single category, 'Disagree'. The following table presents the results obtained.

Approach to e-learning : A careful perusal of the results given in Table 2 underscore the importance of e-learning as more than half of the students (58.8 %) 'agreed' that face-to-face learning is more difficult and challenging than e-learning whereas only 29.4 per cent 'disagreed' with the above statement, and only 11.8 per cent students expressed 'neutral' perceptions. This could be due to the fact that as e-learning is more flexible than the traditional face to face learning. Moreover, e-learning can help the students understand complex topics or subjects easily with the help of pictures, audios, videos, animation and can get real life experience which is not possible in face to face learning.

Further, when asked whether 'e-learning is as effective as learning from face-to face teaching / class room situations', a majority of students (58.8 %) 'agreed', followed by 29.4 per cent who 'disagreed' and 11.8 per cent expressing 'neutral' perceptions. This is similar to the earlier statement, and it represent that students are not able to distinguish between the two. It may be due to the fact that students may not have had enough e-learning opportunities, and thus are not able to clearly mark-out the advantages of e-learning.

When asked whether 'e-learning systems can fulfill the challenging needs of present times for teaching masses in India' a large majority of students (73.53 %) 'agreed' whereas only 23.53 per cent 'disagreed', and only 02.94 per cent expressed 'neutral' perception. This emphasizes the fact that students feel that e-learning can help full the educational needs of masses in India. We know that population of India is increasing day by day but educational infrastructure is not expanding in the same ratio. Lack of required number of schools, colleges and lack of adequate teaching staff negatively affect the learning outcomes. In this situation, e-learning can help overcome this problem. A large majority of students (79.42 %) agreed that 'e-learning system is a good alternative for the traditional system of teaching' and only 14.7 per cent disagreeing (with only 5.88 % being neutral) with the above proposition.

Table 2
Distribution of students on the basis of their perception towards e-learning

Sr. No	Statement	Level	Freq.	%
1.	Approach to e-Learning			
	(a). Face to face learning is more difficult and challenging than e-learning.	A	20	58.8
		N	04	11.8
		D	10	29.4
	(b). The e - learning is as effective as learning from face-to face teaching / class room situations.	A	20	58.8
		N	04	11.8
		D	10	29.4
	(c). The e-learning systems can fulfill the challenging needs of present times for teaching in India.	A	25	73.53
		N	01	02.94
		D	08	23.53
	(d). The e -learning system is a good alternative for the traditional system of teaching - learning.	A	27	79.42
		N	02	05.88
		D	05	14.70
2.	Student's preferences about course delivery/format			
	(a) Fully online courses (b) Teacher taught courses (c) Hybrid courses (Mix of Online as well as Classroom based courses) (d). I would like to see course websites added to all of my courses.	A	05	14.7
		A	03	08.8
		A	26	76.5
		A	32	94.1
		N	02	05.9
		D	00	00
3.	Use of e-learning:			
	(a). I am satisfied with the overall experience using e learning.	A	31	91.2
		N	03	08.8
		D	00	00
	(b). I enjoyed the portion of the course on e- learning.	A	27	79.4
		N	07	20.6
		D	00	00
	(c). The e - learning stimulated my desire to learn.	A	19	55.9
		N	14	41.2
		D	01	02.9
	(e). I am satisfied with e learning in respect to the quality of my learning experience.	A	34	100.00
		N	00	00
		D	00	00
4.	Course website visited : How many times you visited the course website.			
		Daily	03	08.82
		Once a week	13	38.24
		Several times a week	12	35.29
		Fortnightly	06	17.65
		Monthly or Rarely	00	00

A-Agree, N-Neutral, D-Disagree

Students’ preferences about course delivery/ mode :

Results obtained in respect of students’ preference about course delivery/ format indicate that majority of the students prefer hybrid courses (76.5 %) followed by those who prefer fully online courses (14.7 %) and the remaining 8.8 per cent preferred teacher taught courses. Thus, we can conclude that students are still not very sure of efficacy of online courses, and expressed their preference for a hybrid mode of course delivery involving online as well as traditional mode of classroom based teaching. Buzzetto-More (2008) also reported that majority of students (51.1 %) preferred hybrid courses to traditional face-to-face delivery of courses.

Additionally, a large majority of the students (94.1 %) told that they would like to see a course websites added to all of their courses. This indicates students’ clear preference for complementing the traditional mode of learning with some sort of online learning. In a similar study conducted by Buzzetto-More (2008), most students (75.6) felt that course websites should be added to all of their courses.

Use of e-learning : A large majority of the students (91.2 %) expressed ‘satisfaction with the overall experience of using e-learning’ and significantly no student expressed any dissatisfaction. Further, majority of the students (79.4 %) told that ‘they enjoyed the online portion of the course’, and again no one reported that they did not enjoy, although 20.6 percent expressed being neutral. Additionally, more than half of the students (55.9 %) agreed that ‘e-learning through online e-content stimulated the desire to learn more’ whereas only 2.9 per cent disagreed with it, and 41.2 per cent expressed being ‘neutral’. It is very interesting and gratifying that all the students (100 %) reported agreed and expressed satisfaction with e-learning as regards the quality of learning experience through e-learning’. Aixia and Wang (2011) also found that the vast majority of students who were satisfied with an e-learning environment held positive beliefs and attitudes towards it.

Course website visited : As mentioned earlier, the researcher specially developed a course website (www.emtt.in/index.aspx) and made it available online to all the registered students (who served as the respondents for the study). When asked how frequently they visited this website, 8.82 per cent reported that they visited it ‘daily’ followed by 38.24 per cent who visited ‘once a week’, 35.29 per cent who visited it ‘several times a week’ and 17.65 per cent who visited it ‘fortnightly’. The results obtained emphasizes that the students favoured the idea of traditional mode of learning to be supplemented with online learning alternatives.

Student’s overall perception towards e-learning :

The results obtained in respect of overall perception of students towards e-learning are presented in Table 3

Table 3
Distribution of students on the basis of their overall perception towards e-learning (N=34)

Sr. No.	Perception Category	Freq.	%
1	Unfavourable	00	00
2	Neutral	03	08.82
3	Favourable	31	91.18

Freq. - Frequency % - Per cent

It is evident from the above table that a large majority of students (91.18 %) had a favourable perception towards e-learning while only 8.82 per cent students had a neutral perception towards e-learning. None of student had unfavourable perception towards e-learning. This emphatically outlines the importance of e-learning among the University students, and calls for a paradigm shift for delivery of education services. These findings are similar to a survey carried out by Hussain (2007) in Pakistan’s Virtual University with 387 undergraduate students in their final year of study. He concluded that over 90 per cent of the students viewed learning through internet and satellite television as advantageous, and students’ attitude towards e-learning was found to be generally positive.

III. Relationship of profile characteristics of students with their perception towards e-learning.

The study intended to find out the relationship between selected independent variables and students’ perception towards e-learning. The results obtained are presented below in Table 4.

Table 4
Relationship between students' perceptions and their selected profile characteristics

Sr. No.	Independent variables	Coefficient of correlation	t _{cal}
1.	Age	-0.067	-0.380 NS
2.	Annual family income	-0.114	-0.649NS
3.	Academic performance	0.437*	2.748
4.	Computer or laptop ownership	0.548*	3.705
5.	Computer proficiency	0.506*	3.319
6.	Frequency of computer use	0.582*	4.049

*NS=Non Significant, * Significant at 0.01 level of significance.*

A careful perusal of the results given in Table 4 reveals that student’s age and annual family income had negative but non significant correlation with perception of students. Further, four independent variables, viz. academic performance, computer/laptop ownership, computer proficiency, and frequency of computer use were found to have a

positive and significant relationship with students' perception towards e-learning. Thus, we can infer from the above results that age and annual family income of students does not affect their perception towards e-learning. But, student's academic performance, computer/ laptop ownership, Computer proficiency, and frequency of computer use do certainly have a positive and significant effect on their perceptions towards e-learning.

Mohammadi, et al (2008) reported that students have a positive perception towards e-learning. Further, linear regression analysis indicated that 68 per cent of variations in students' perception towards e-learning was determined by four variables: students' assessment about competency of e-learning, access to internet, computer and internet usage and assessment of current higher education system's shortcomings

CONCLUSION

With the emergence of the internet, e-learning has increasingly become the promising solution that continues to grow day after day. Considering students' perception toward e-learning is important in successful development of e-learning in higher education, it offers many opportunities for supporting teaching-learning process and ensuring better and improved learning outcomes. Khan (2005) observed that it is widely accepted that advances in Information and Communication Technology and new developments in

learning science shall provide the opportunities to create well-designed, learner-centered, interactive, affordable, efficient, and flexible e-learning environments.

The present study showed that students have favourable perceptions towards e-learning. Besides, it also highlighted the independent variables which were found to be significantly related with students' perceptions towards e-learning. In spite of the benefits that will accrue to students when e-learning is incorporated into teaching and learning at University level, there are certain challenges that need to address upfront by the University administration. It includes (a) Providing universal access to computer and internet facility, (b) Improvement in bandwidth infrastructure and availability of high speed internet services at all the times, (c) Skills training to those who require it, (d) Educational research about how to optimize instructional designs and delivery with technology integration in both online and face-to-face learning environments, and finally (e) An appropriate implementation strategy of e-learning systems in a phased manner in higher educational institutions. Thus, we can assume that strategy of incorporating e-learning in higher education will lead to maximizing the learning outcomes and lead to an overall improvement in education sector.

Paper received on : July 09, 2015

Accepted on : July 27, 2015

REFERENCES

1. Aixia, D. and Wang, D. 2011. Factors influencing learner attitudes toward e-learning and development of e-learning environment based on the integrated e-learning platform. *International J. of e-Education, e-Business, e-Management and e-Learning*, 1(3), 264-268.
2. Buzzetto-More, N. A. and Sweat-Guy, R. 2007. The technology ownership and information acquisition habits of HBCU freshmen. *Interdisciplinary J. of Information, Knowledge, and Management*, 2 (1): 59-72.
3. Buzzetto-More, N.A. (2008) Student perceptions of various e-learning components. *Interdisciplinary J. of E-Learning and Learning Objects*, 4 : 113-134.
4. Hall, B. (2001). e-Learning : Building competitive advantage through people and technology. A special section on e-learning by Forbes Magazine. Retrieved online on January 23, 2015 from <http://www.forbes.com/specialsections/elearning/>
5. Hussain, I. 2007. A study of student's attitude towards virtual education in Pakistan. *Turkish J. of Distance Learning*, 8(2), 69-79. Retrieved February 26, 2013 from http://tojde.anadolu.edu.tr/tojde26/pdf/article_6.pdf
6. Joy, B. H. H. and Shaiju, S. L. 2004. Development of computer assisted instruction material in History at higher secondary level and its effectiveness. *Indian Educational Abstracts*, 5(1-2):26-27.
7. Khan, B. H. 2005. Managing e-learning: Design, delivery, implementation, and evaluation. *Hershey, PA: Information Science Publishing*. (Website: <http://BooksToRead.com/elearning>)
8. Khan, B. 1997. Web-based instruction. Englewood Cliffs, New Jersey, *Educational Technology Publications* : 5-18.
9. Koohang, A. and Durante, A. 2003. Learners' perceptions toward the web-based distance learning activities/assignments portion of an undergraduate hybrid instructional model. *J. of Informational Technology Education*, 2: 105-113.
10. Mohammadi, Iraj Malek, Iravani, H., Attaran, Mohammad, and Gheidi, Ahmad. 2012. Virtual Students' Perceptions of e-Learning in Iran. *The Turkish Online J. of Educational Technology*, Vol 7 (3), Article 10.
11. Nicole, A. 2008. Student perceptions of various e-learning components. *Interdisciplinary J. of E-Learning and Learning Objects*, 4:10-17.
12. Ryan, S. 2001. Is online learning right for you? *American Agent & Broker*, 73 (6) : 54-58.
13. Twigg, C. 1993. Can education be "Productive"? *EDUCOM Review*, 28 (6) : 10-12.
14. UNESCO. (2006). Teachers and educational quality: Monitoring global needs for 2015. Retrieved on April 29, 2015 from <http://www.uis.unesco.org/Library/Documents/teachers06-en.pdf>.