

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

Procedia Social and Behavioral Sciences 1 (2009) 1914–1918

---

---

**Procedia**  
Social and Behavioral Sciences

---

---

World Conference on Educational Sciences 2009

# Assessment of agricultural extension and education graduate students' perceptions of e-learning in Iran

Jafar Yaghoubi

*Zanjan University, P.O.Box 45195-313, Zanjan, IRAN*

Received October 25, 2008; revised December 24, 2008; accepted January 5, 2009

---

## Abstract

Educational research is an ever-expanding field of study where new methods, systems and new concepts are always being discovered. With the emergence of the Internet, e-learning has increasingly become the promising solution that continues to grow day after day. This paper examines perception of graduate students in Agricultural Extension Education in Iran towards e-learning. A descriptive–correlation survey approach was used in this study. Students ( $n = 82$ ) filled in a web-based closed questions questionnaire. Reliability and validity of instrument were determined by investigating the attitudes of e-learning and extension specialists and application of Cronbach's (0.94). Descriptive and inferential statistics were used to analyze the data using SPSS Win13. Questionnaires received were analyzed, putting the students' perceptions in relation to gender, age, university, previous knowledge of computers and attitudes to advantages and disadvantages of e-learning. Results showed that students have positive perception to e-learning. The results also indicated that male students, students with previous knowledge of computers and students with positive attitudes to new technologies were all more positive in favour to e-learning than other students. There were significant relationship between computer and internet skills of students and their perceptions of e-learning. Therefore from the student's point of view, e-learning can be used as complementary approach with current system to improving educational quality in agricultural extension and education in higher Education.

© 2009 Elsevier Ltd. Open access under [CC BY-NC-ND license](http://creativecommons.org/licenses/by-nc-nd/3.0/).

*Keywords:* E-learning; higher education; agricultural extension and education .

---

## 1. Introduction

Advances in information and communication technology (ICT) are opening up new opportunities for distance learning. The use of ICT in delivery of education and training managers has major implications for learners and institutions. It is widely accepted that advances in information technology and new developments in learning science provide opportunities to create well-designed, learner-centered, interactive, affordable, efficient, flexible e-learning environments (Khan, B. H., 2005). Higher education institutions in developing countries often have problems keeping up-to-date with advances in international science and technology. E-Learning offers many opportunities for

Jafar Yaghoubi.  
E-mail address; [Yaghobi@znu.ac.ir](mailto:Yaghobi@znu.ac.ir)

supporting training in higher education in developing countries such as Iran. The term e-learning embraces a variety of electronic delivery media, for example web-based multimedia, interactive television, virtual classrooms, video conferencing, and so forth. This study focuses on web-based learning (WSL), as a subset of e-learning.

Several studies have been published exploring student perceptions and expectations regarding e-learning (Sandercock, G., & Shaw, G., 20002). Recent studies by the National Center for Education statistics show a growing demand and acceptance of online learning (Anawati, D., & Craig, A, 2006). Online access can affect how successful students will be in Web-based classes (Waits, T. & Lewis, L, 2003). Previous research into online collaboration and education in international environments indicates that maintaining contact and access is essential to educational success or students' affective and cognitive development. This contact involves (a) keeping students involved in online projects and (b) building a kind of online community essential to educational success (Anawati, D., & Craig, A., 2006). Students who have been involved in e-learning courses are generally very positive about their experiences. At the University of Wisconsin, 80% of the students who took a blended learning course indicated they thought the experience was worthwhile and that they would recommend a course offered in online format to others (Vogel, D. R, et al, 2001).

Online learning has been promoted as being more cost effective, convenient, and increasing opportunities for life-long learning. It has demonstrated several advantages over traditional learning, especially in allowing "learning anytime and anywhere." Students have access to online course material independent of time and place. It also allows students to reflect on the learning materials and their responses, and permits them to work at their own pace, regardless of race, sex, disability or appearance (Aycock, A., Garnham, C., & Kaleta, R., 2002; Richardson, C. J., & Swan, K., 2003).

Some studies indicate that students have more positive attitudes about the course and their learning in an online context (Swan, K., et al, 200; Anawati, D., & Craig, A., 2006).

The main purpose of this study was to provide an overview of the perceived advantages and disadvantages of e-learning system from the perspective of agricultural extension and education graduate students by analyzing areas of instruction at agricultural colleges in Iran. This paper will add to the growing body of literature exploring students' attitudes towards e-learning viewed by agricultural extension and education graduate students in Iran.

## **2. Methods and Data Sources**

The methodological approach of this study employed an analytical method (co relational study). agricultural extension and education graduate students in Tehran University, Tarbiyat Modarress University (TMU) and Shiraz University are the target population that have been selected by using stratified randomization method (n=87). From review of literature, a questionnaire was developed to collect data. Content and face validity of instrument were established by investigating the attitudes of e-learning specialists in Tehran University, Iran. A pilot study was conducted with 25 students in Tehran University. Questionnaire reliability was estimated by calculating Cronbach's Alpha. Reliability for the overall instrument was estimated at 0.88. Students filled in a web-based closed questions questionnaire. Email addresses for this population were obtained from their engaged faculty's websites. The web-based HTML format of the questionnaire was designed. The compiled data were saved at a data bank designed for this purpose. After the initial mailing and two follow-ups (resending a letter and a copy of the questionnaire by email), a total of 82 students responded. Data collected were analyzed using the Statistical Package for the Social Sciences (SPSS13). Appropriate statistical procedures for description (frequencies, percent, means, and standard deviations) and inference were used.

## **3. Results**

Agricultural extension and education graduate students who participated in the study ranged in age from 23 to 42 years. The mean age of respondents was 26.3 years. 46.8% of them were male and 53.2% were female.

Computer and internet skills affected students' use of electronic information resources. For this research, computer and Internet use were measured using a five-point Likert-type scale, Table1 shows the skills of the respondents use the internet. As shown in Table1, the most important uses are Internet surfing, Word and email. The least are Excel and news groups.

**Table 1. Respondents' level of use of computer & internet (n=82)**

Computer and internet use	Mean	SD.	C.V.
Internet surfing (on-line)	4.72	0.55	0.12
Word	4.57	0.85	0.19
E-mail	4.20	0.84	2.22
PowerPoint	4.26	0.93	0.21
Data banks	2.62	1.45	0.56
Excel	2.32	1.64	0.71
News groups	2.20	1.35	0.61

Scale1) Very little; 2) little; 3) somewhat; 4) Much; 5) Very much

Perceptions of students about advantages of e-learning system in front of traditional system were measured. In order to identify and explore students' perceptions and experience about advantages of e-learning, students' comments were obtained via web based questionnaire. Quantitative data was obtained by asking students to indicate if they agreed or disagreed with a series of statements about their experiences and preferences regarding the use of online learning tools on a 5 point Likert scale (1=Strongly Disagree and 5=Strongly Agree). The results from the survey suggest that the students view online learning favourably. Table 2 provides a summary of the results obtained. As indicated in Table 2, the respondents rated 7 items as being in "high importance" and 4 items as being in "average importance" category. The two highest rated items were "Flexibility in time and place" and "Ease and quick share of learning materials".

**Table2. Student's perceptions toward advantages of e-learning system**

Advantages	Mean	SD.	C.V.
Flexibility in time and place	4.80	0.40	0.08
Ease and quick share of educational material	4.56	0.59	0.13
Improved collaboration and interactivity among students	4.50	0.66	0.15
Access to higher education for all applicants	4.46	0.71	0.16
Possibility of working with e-learning	4.44	0.76	0.17
Accommodates different types of learning styles	4.10	0.81	0.20
Quick feedback	4.06	0.83	0.20
Wide and diverse interactions	3.93	1.14	0.29
Confidence	3.85	1.12	0.29
Easy updating of learning material	3.69	1.13	0.31
More focused on the learner	3.33	1.12	0.34

Perceptions of students about disadvantages of e-learning were also measured. The students were asked to indicate their perceptions regarding the disadvantages of e-learning system in front of traditional system. In order to identify and explore students' perceptions and experience about disadvantages of e-learning, students' comments were obtained via web based questionnaire. As indicated in Table 3, the respondents rated 6 disadvantages as being in "high importance", 4 items as "average importance" and 1 item as "low importance" category. The highest rated disadvantage of e-learning system was "technology issues" that play a factor include whether the existing technology infrastructure can accomplish the training goals, whether additional tech expenditures can be justified, and whether compatibility of all software and hardware can be achieved.

The Pearson coefficient of correlation was used to identify correlation between selected dependent variables with perception of agricultural extension and education graduate Students regarding e-learning. The relationship between some selected respondents' characteristics with perception of agricultural extension and education graduate Students regarding e-learning is presented in (Table 4):

Table3. Agricultural Extension and Education Graduate Students' perceptions toward disadvantages of e-learning system

Disadvantages	Mean	SD.	C.V
Technology issues	4.80	0.54	0.11
Reduced social and cultural interaction	4.70	0.48	0.10
Inappropriate content	4.48	0.95	0.21
Lack of readiness in faculty members	4.29	0.96	0.22
Slow Internet connections	4.15	0.93	0.22
Up-front investment	4.10	0.79	0.19
Students weakness in computer skills	3.63	0.95	0.26
Less awareness of student with learning style in virtual environments	3.58	0.85	0.24
Students weakness in Internet skills	3.55	0.92	0.26
Students weakness in self directed learning	3.21	1.13	0.35
Students weakness in Internet skills	2.81	0.79	0.28

Table 4. Correlation between selected dependent variables with perception of virtual students regarding e-learning

variables	r	P
Level of Internet Use	0.714**	0.007
Level of computer Use	0.534*	0.026
Access to internet	0.556*	0.017
Assessment of traditional higher education system’s shortcomings	0.601*	0.010
Students’ assessment about competency of e-learning	0.734**	0.001

P ≤ 0.01:\*\* p ≤ 0.05:\*

There was a significant relationship found between level of Internet use, level of computer use, access to internet, assessment of traditional higher education system’s shortcomings and students’ assessment about competency of e-learning.

In continue liner regression was used for prediction of changes in perception of agricultural extension and education graduate Students regarding e-learning. Stepwise regression analysis indicated that 68% (R2=0.680) of variation in students' perceptions of e-learning was determined by the four variables of: Students’ assessment about competency of e-learning, access to internet, computer and internet usage and assessment of traditional higher education system’s shortcomings. This relationship is described in the following formula:

$$Y=7.861+0.525X1+0.266 X2 +0.459X3 + 0.255X4$$

Table 5. Liner regressions for prediction of changes in perception of agricultural extension and education graduate Students regarding e-learning

Variable	B	Beta	T	Sig
Students assessment about competency of e-learning (x1)	0.346	0.525	3.254	0.004
Access to internet(x2)	0.467	0.266	4.214	0.002
Level of Internet Use (x3)	0.259	0.459	4.580	0.012
Assessment of traditional higher education system’s shortcomings (x4)	0.193	0.255	3.199	0.033
F=12.872		F Sig: 0.00		
R=0.725		R2=0.680		

#### 4. Conclusions

This study has provided insight into the perception of agricultural extension and education graduate Students toward e-learning in Iran. Results about respondents' level of computer and Internet use showed that most important uses are using Internet surfing and email. The least important uses are chat, news groups and data banks. The results from the survey indicated that the two highest rated advantages of e-learning system were “flexibility in time and place” and “ease and quick share of learning materials” and the highest rated disadvantage was “technology issues”. Regression analysis indicated that 68% of variation in students' perceptions of e-learning was determined by the four variables of: students' assessment about competency of e-learning, access to internet, computer and internet usage and assessment of current higher education system's shortcomings. If e-learning is to have a meaningful role in higher education, it is important that universities should focus on students' attitudes and their expectations with regard to the role of e-learning within their higher education experiences.

#### References

- Anawati, D., & Craig, A. (2006). Behavioral adaptation within cross-cultural virtual teams. *IEEE Transactions on Professional Communication*, 49, 44-56.
- Anawati, D. & Craig, A. (2006). Behavioral adaptation within cross-cultural virtual teams. *IEEE Transactions on Professional Communication*, 49, 44-56.
- Aycock, A., Garnham, C., & Kaleta, R. (2002). Lessons learned from the hybrid course project. *Teaching with Technology Today*, 8(6). Retrieved December 14, 2007, from <http://www.uwsa.edu/ttt/articles/garnham2.htm>
- Khan, B. H. (2005). *Managing e-learning: Design, delivery, implementation, and evaluation*. Hershey, PA: Information Science Publishing. (Website: <http://BooksToRead.com/elearning>)
- Richardson, C. J., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Journal of Asynchronous Learning Networks*, 7(1), 68-84.
- Sandercock, G., & Shaw, G. (2000). Learners' performance and evaluation of attitude towards web course tools in the delivery of an applied sports science module. *Journal of Asynchronous Learning*, 3(2), 1-10.
- Sandercock, G., & Shaw, G. (2000). Learners' performance and evaluation of attitude towards web course tools in the delivery of an applied sports science module. *Journal of Asynchronous Learning*, 3(2), 1-10.
- Swan, K., Shea, P., Frederickson, E., Pickette, A. Pelz, W., & Maher, G. (2000). Building knowledge building communities: Consistency, contact, and communication in the virtual classroom. *Journal of Educational Computing Research*, 23(4), 389-413.
- Vogel, D. R., van Genuchten, M., Lou, D., Verveen, S., van Eekout, M., & Adams, A. (2001). Exploratory research on the role of national and professional cultures in a distributed learning project. *IEEE Transactions on Professional Communication*, 44, 114-125.
- Waits, T. & Lewis, L (2003). *Distance education at degree-granting postsecondary institutions: 2000-2001 (NCES 2003-017)*. U.S. Department of Education, National Center for Education Statistics. Retrieved January 8, 2005 from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2003017>.