# ผลการเรียนรู้แบบ E-Learning ที่มีต่อคุณภาพการเรียนรู้: กรณีศึกษาของนักศึกษาชาวอิหร่าน

# E-Learning Effects on Learning Quality: a Case Study of Iranian Students

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**บทคัดย่อ**

ในปัจจุบันชีวิตของพวกเรา มีมิติใหม่ซึ่งเรียกว่า มิติทางเทคโนโลยี เทคโนโลยีมีผลเป็นพิเศษต่อชีวิตของพวกเรา มันมีบทบาทที่มีความหมายอย่างมากในทุกประเทศ ในงานวิจัยนี้พวกเรามีวัตถุประสงค์จะวิเคราะห์ผลของ E-Learning และข้อดีของมัน ในสาขาวิชาการศึกษาในประเทศโลกที่ 3 (ด้อยพัฒนา) โดยเฉพาะอย่างยิ่งในอิหร่าน วัตถุประสงค์อีกประการหนึ่งของการวิจัยนี้คือเพื่อประเมินผลทางด้านการศึกษา ในการปรับปรุงคุณภาพการเรียนรู้ โดยทางอินเทอร์เนทประกอบกับ พื้นฐานด้านสื่อประสม อาจตอบสนองความต้องการ (อุปสงค์) เพื่อรูปแบบทางเลือกการศึกษา

**คำสำคัญ:** E-Learning, เทคโนโลยี, การปรับปรุง, การศึกษา

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**ABSTRACT**

Today our life has got a new dimension which called technological dimension. Technology has special effects on our life; it plays a very meaningful role in all countries, in this paper we intend to analyze e-learning effects and its advantages in the field of education in third world countries specially in Iran .the other purpose of this study is evaluating its educational effects to improve learning quality in Iran. Learning via the Internet combined with multimedia platforms can satisfy the demand for alternative forms of education.

**Keywords:** E-learning, Technology, Improvement, Education

**INTRODUCTION**

The American Society for Training and Development (ASTD) defines e-learning as a broad set of applications and processes which include web-based learning, computer-based learning, virtual classrooms, and digital. Much of this is delivered via the Internet, intranets, audio- and videotape, satellite broadcast, interactive TV, and CD-ROM. The definition of e-learning varies depending on the organization and how it is used but basically it is involves electronic means of communication, education, and training. Today many technologies can be used in E-Learning. These include webcasts, blogs, collaborative software, and virtual classrooms.

Most e-learning situations use combinations of these techniques. E-learning is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face-to-face teaching, in which case the term blended learning is commonly used. E-learning pioneer Bernard Luskin argues that the "E" must be understood to have broad meaning if e-learning is to be effective. Luskin says that the "e" should be interpreted to mean exciting, energetic, enthusiastic,

emotional, extended, excellent, and educational in addition to electronic that is a traditional interpretation.

The popularity of e-learning is not only limited to working adults who are seeking higher qualifications without leaving their jobs and losing their earning power (Lau, 2003). This trend seems ever increasing as the Internet and computer technology become widespread as a daily necessity of the younger generation.

According to Lau (2003), research revealed that 16 to 18 years old teenagers are really keen towards on-line learning or e-learning.

The main purpose of this paper is to explore some effects on e-learning method. This is done by extensive case study in Graph Institute in Iran. At the end of the paper, the authors will discuss some effects of e-learning in the field of learning quality.

**IMPORTANCE OF THE RESEARCH**

With rapid changes in training techniques and nature of workforce, Information and Communication Technologies (ICT) play a critical role in the overall learning process. In a bid to stay in the aggressively competitive environment, the corporate world is sharpening its focus on cutting-edge technologies such as e-learning. The worldwide e-learning industry is projected to be worth over 52 billion US$ by 2010.

According to the increasing rate of communication infrastructures in all around the world, the way in which people are doing their daily activities has changed. This change called virtual life. This virtual life offers you a wide range of new facilities that it was unbelievable and also impossible in the past. Today we can make communication and do relation, training, and so on via virtual world which called internet. So it is a must, to manage this virtual world to get better result and optimum functional performance; to meet this goal we are supposed to evaluate its educational effects, to improve the learning quality. Today we are experiencing equity more important

than it was in the past. According to these facets we did a comprehensive case study about e-learning effects in third world countries and analyzed its effects on learning quality.

**AN OVERVIEW "E-LEARNING TECHNOLOGY"**

E-learning definition: Schank (2002), Roffe (2002), Sambrook (2003) and Tsai & Machado (2002) refer to e-learning as "communication and learning activities through computers and networks (or via electronic means)". To be more specific, Fry (2000) defines e-learning as "delivery of training and education via networked interactivity and a range of other knowledge collection and distribution technologies." Wild, Griggs & Downing (2002) also had the same definition as Fry's — they defined e-learning as the creation and delivery of knowledge via online services in the form of information, communication, and education and training. Bleimann (2004) stated that e-learning is a self-directed learning that is based on technology, especially web-based technology. He also stressed that e-learning is collaborative learning. Internet and web technology is important in e-learning; Horton (2001) defines e-learning as "the use of Internet and digital technologies to create experience that educate fellow human beings." Apart from web based technology, e-learning seemed to require multimedia based courseware (Evans & Fan, 02; Lahn, 2004). Therefore, it is clear that e-learning is centered on Information and Communication Technology (ICT). It is not surprising that Hamid (2002) and Lytras, Pouloudi & Poulymenakou (2002) mentioned that e-learning evolved around Information Technology to enhance the learning performance and efficiency. Furthermore, Evans & Hasse (2001) pointed out that technology is indeed needed in e-learning to educate the learner through the usage of two-way video, two-way computer interaction, cable, satellite downlinks and Internet. Honey (2001) provided many good

examples of learning activities that involved ICT. These examples include learning from e-mail, online research, online discussion and coaching by e-mail. From these definitions and examples, we can therefore define e-learning as learning activities that involve computers, networks and multimedia technologies.

**RESEARCH APPROACH**

The main duty of this research is analyzing following question: "what is the advantages of e-learning on learning quality?" The research has been carried out through a theoretical model and an empirical study. The empirical study involves questionnaires. This study aims to explore and analyze E-learning's effects to improve learning quality in Iran. It explains the relationships among variables and constructs in a theoretical model and examines the differences among institute students.

Therefore, the purpose of this research is Hypothesis testing, based on our extensive knowledge of the e-learning effects and their relationships to improve learning quality from distance educational aspect.

**APPLICATIONS OF THE STUDY**

Being familiar with e-learning systems

- Designing useful and effective e-learning models especially for third world countries
- Analyzing user acceptance of e-learning systems.
- Defining the relation between higher education and e-learning systems.

**HOW E-LEARNING IMPROVE LEARNING QUALITY?**

Kandies and Stern (1999) have asserted that

Web-enhanced learning improves instruction and course management and offers numerous pedagogical benefits for learners. They explain that students in Web-enabled learning environments become more active and self directed learners, who are exposed to enhanced learning materials.

Course Websites have proved to be an effective means of delivering learning materials, with students responding positively to the quality resources they make available. Wernet, Olliges, and Delicath (2000), who surveyed students who used WebCT in a social work course, found that all of the respondents considered the online course materials beneficial to their overall learning experience.

Derouza and Fleming (2003) compared undergraduates who completed quizzes online with students who took traditional paper-based quizzes and found that the marks revealed that students who took the quizzes online significantly outperformed students who took the pencil-and-paper quizzes. According to Connolly and Stansfield (2007) e-learning has gone through three distinct generations.

The first generation, they explain, took place from 1994-1999 and was marked by a passive use of the Internet where traditional materials were simply repurposed to an online format. The second generation took place from 2000-2003 and was marked by the transition to higher bandwidths, rich streaming media, increased resources, and the move to create virtual learning environments that incorporated access to course materials, communications, and student services. The third generation is currently underway and is marked by the incorporation of greater collaboration, socialization, project based learning, and reflective practices, through such tools as e-portfolios, wikis, blogs, social bookmarking and networking, and online simulations. Additionally, the third generation is increasingly being influenced by advances in mobile computing.

**RESEARCH METHODOLOGY**

In this study, to evaluate the e-learning effects to improve learning quality a survey was conducted. The questionnaire consists of 16 measurement items in six sections. It was distributed among the forty-six Iranian students In Graph Gostar Institute in the fields of computer science and information

technology. Students were from Different cities of Iran. The first section of the instrument assessed demographic characteristics such as age, gender, and e-learning experience. In the second section, the respondents were asked about their general knowledge and the acceptance of e-learning systems.

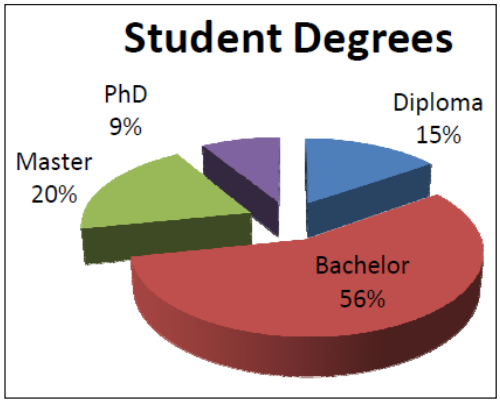


Figure 1. *Student academic Degrees*

This figure proves that most the educated people in Iran are familiar with e-learning systems; so it shows the importance of e-learning in Iran and the need of e-learning management .the Iranian people are experiencing new areas in the field of technology and educational life. Today most of the Iranian young generation is students, so via a comprehensive e-learning system we can improve their knowledge and their skills.

| Gender | Ferequenscy(N) | Percentage(%) |
|---|---|---|
| Female | 28 | 61 |
| Male | 18 | 39 |
| Age | | |
| 20-25 | 29 | 63 |
| 25-35 | 9 | 20 |
| More than 35 | 8 | 17 |
| Field of Study | | |
| Information Technology | 37 | 80 |
| Software Engineering | 9 | 20 |
| How familiar are you with elearning systems | | |
| Never heard about it | 0 | 0 |
| I have heard but have never used it | 11 | 24 |
| Use it only sometimes | 26 | 57 |
| Use it on a regular basis | 9 | 20 |
| How long have you been using e-learning system | | |
| More than 10years | 2 | 4 |
| More than 4 years | 38 | 83 |
| More than 6 Months | 2 | 4 |
| Less than a month | 4 | 9 |
| How frequent do you use elearning systems? | | |
| Once a day | 10 | 22 |
| Weekly | 14 | 30 |
| Monthly | 10 | 22 |
| More than once a day | 12 | 26 |
| What is the e-learning role on your learning quality? | | |
| Excellent | 23 | 50 |
| Very Good | 13 | 28 |
| Good | 6 | 13 |
| bad | 4 | 9 |

Figure 2. *100 % of respondents are familiar with e-learning systems. It shows the importance of e-learning in the future of learning systems.*

The other important Result of this table talks about the period that student are familiar with e-learning systems. According to the table we aim to this goal that e-learning is a new concept for people and specially the young generation of Iranian society .they are familiar with this new concept. It shows the Importance of manage and use e-learning systems in Iran.

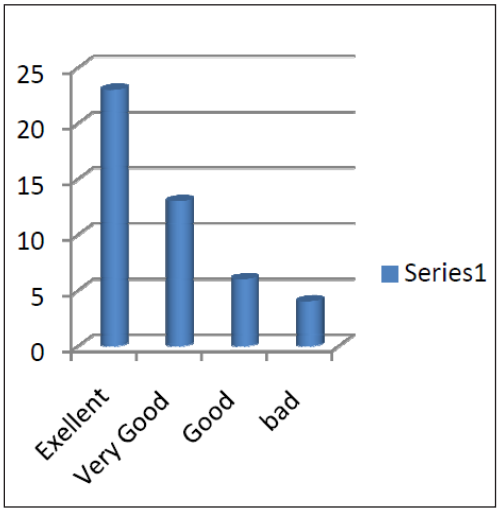


Figure 3. *Below illustrates the e-learning systems in terms of acceptance and its effects.*

The results of this chart are amazing.

Approximately most the student has got very good result of e-learning systems. It shows its power to transfer knowledge to young generation especially in third world countries.

## DISCUSSION AND RESULTS

- Analyze of e-learning as a effective and beneficial part of education systems
- To Design a new model for educational system that is a mixture of traditional and e-learning system.
- Need of third world countries to design implement e-learning systems. Especially for areas that they don't have enough facilities.
- Attention of Iranian young generation to being familiar with technological education systems and their smartness to make communication with this new phenomenon.
- Willpower to support third world countries to implement e-learning systems and providing facilities and human power to get better and most

effective result of e-learning systems.

- Need to design comprehensive e-System as a new aspect of Educational technology that offers different types of Medias such as video text, image, websites and etc.

**References**


http://www.about-elearning.com/definition-of-elearning. Nichols, M. (2008). **E-Learning in context**.

Lau, M.P. (2002). 'Online Teaching & Learning', Nanyang SiangPau's New Century, 12 July.

Sambrook, S. (2003). 'E-learning in Small Organizations', **Education + Training**, vol.45, no.8/9, pp. 506-516.

Schank, R.C. (2002). **Designing World Class ELearning**, 1st ed, McGraw Hill, USA.

Wild, R.H., Griggs, K.A. & Downing, T. (2002). 'A framework for e-learning as a tool for knowledge management', **Industrial Management & Data Systems**, vol.102, no.7, pp.371-380.

Bleimann, U.(2004). 'Atlantis University: a new pedagogical approach beyond e-learning', **Campus-wide Information Systems**, vol.21, no.5, pp.191-195.

Evans, C. & Fan, J.P. (2002). 'Lifelong Learning through the Virtual University', **Campus-Wide Information Systems**, vol.19, no.4, pp.127-134.

http://akoaotearoa.ac.nz/sites/default/files/ng/group661/n877-1---e-learning-in-context.pdf http://www.articulate.com/rapiddissecting-an-e-learningcourse-will

Vavoula, G. (2004). **KLeOS: A knowledge and learning organisation system in support of lifelong learning**. PhD Thesis. University of Birmingham, UK.

Scanlon, E., Jones, A., & Waycott, J. (2005). **Mobile technologies: prospects for their use in learning in Informal science setting**.

Horton, W. (2001). **'Leading e-Learning', American Society for Training and Development**, [online accessed 25 April 2003] http://www.elearninggurus.com/articles.html

Lytras, M.D., Pouloudi, A. & Poulymenakou, A.,(2002),'Knowledge management convergence – expanding learning frontiers', **Journal of Knowledge Management**, vol.6, no.1,pp.40-51

Hamid, A.A. (2002). 'e-Learning-Is it the "e" or the learning that matters', **Internet and Higher Education**, vol.4, pp.311-316.

Honey, P. (2001). 'E-learning: a performance appraisal and some suggestions for improvement', T**he Learning Organization**, vol.8, no.5, pp.200-202.

Kandies, J., & Stern, M. B. (1999). **Weaving the Web into the classroom: An evolution of Web enhanced instruction**. Paper presented at the Teacher Education International Conference, San Antonio, TX. (ERIC Document Reproduction Service No. ED 432270).

Wernet, S., Olliges, R., & Delicath, T. (2000). Post course evaluations of WebCT (Web Course Tools) classes by social work students. **Research on Social Work Practice**, 10(4), 487-504.

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Derouza, E., & Fleming, M. (2003). A comparison of in class quizzes vs. online quizzes on student exam performance. **Journal of Computing in Higher Education**, 14, 121-134.

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Derouza, E., & Fleming, M. (2003). A comparison of in class quizzes vs. online quizzes on student exam performance. **Journal of Computing in Higher Education**, 14, 121-134.

Derouza, E., & Fleming, M. (2003). A comparison of in class quizzes vs. online quizzes on student exam performance. **Journal of Computing in Higher Education**, 14, 121-134.

Connolly, T., & Stansfield, M. (2007). **Developing constructivist learning environments to enhance e-learning**. In N. Buzzetto-More, Principles of effective online teaching (pp. 19-38). Santa Rosa: CA, Informing Science Press.http://en.wikipedia.org/wiki/E-learning April 2008. Global Industry Analysts, Inc. E-learningmarket survey, 2007.