TOJDEL
The Online Journal of Distance Education and e Learning

ISSN 2147-6454

The Online Journal of Distance Education and e-Learning

Volume 6 Issue 2
April 2018

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www.tojdel.net
April 2018

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Published in TURKEY

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TOJDEL thanks and appreciate all reviewers who have acted as reviewers for one or more submissions of this issue for their valuable contributions.

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A HYBRID METHODOLOGY FOR MONITORING STUDENT ACTIVITIES IN A CLOUD BASED E LEARNING SYSTEM

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ABSTRACT

There is a rapid growth in technology and advancement of E- learrning systems . E-Learning is a network enabled transfer of skills that can enable people to learn anytime and anywhere. It is a platform that provides easy access to the upgradation of knowledge and skills. In this paper we are using cloud computing technologies and Intelligent video surveillance system in E-learning environment. Intelligent video surveillance system are widely used nowadays. They monitor the activities of a student in an e-learning environment. The intelligent surveillance system will learn the events itself by capturing the video and make a decision that whether the event is usual or unusual. The histogram of optical flow orientation, entropy and magnitude (HOFOME) and histogram of gradient are combined to preprocess the captured video frames. They classify the event based on the machine learning approach called Support Vector Machine (SVM).

Keywords: E-learning, Intelligent video surveillance; e-learning; abnormal event detection; HOFOME; HOG, cloud computing.

INTRODUCTION

E-learning systems are experiencing a very rapid development because of advancements in network and information technology. E-learning and Internet-based education have become an emerging technology where people can learn from their own places. The learners can learn at their own place at any time , learning materials are organized in one place and used by people all around the world to gain knowledge. Thus E-learning system is the formalised way of teaching to the individual user. E-Learning includes training and guidance from experts through video surveillance. Video surveillance approach is an intelligent E-learning system which monitor the persons who are learning in e-learning platform.

In E-learning system ,the teacher will monitor the events or activities of students from their place through video surveillance. Video surveillance approach can act as a virtual supervisor for online examinations, web-based online training. In E-learning system, teacher or course co-ordinator will be in one place who needs to monitor the events or activities of students in another place. When the student logs into the course session, the camera which is kept in front of the course learner will capture their activities.

Hence, in this paper a machine-learning algorithm is used for the detection of abnormal activities. If the user is outdoor the entities such as bikers, skaters, wheel chair, small carts are the abnormalities. In E-learning system, while attending the course session in virtual class room, the activities like bending , hand waving ,walking and paper passing are considered as abnormal events. The abnormalities are detected by using a hybrid model which extracts the shape and motion. The activities or events are classified into usual or unusual based on the training given to classifiers.

LITERATURE REVIEW

Vincent Tam[1] and et all considers a framework for cloud based e-learning games which is assessed through mobile devices inorder to enhance student's learning anytime and anywhere. This proposal is for highly portable and adaptive that can be easily customized to any existing cloud platform. This developed e-learning game system is generic.

NouhaAMMARI[2] and others proposes e-learning as a set of services, hosted according to Cloud Computing techniques. They based their work on a concrete industrial product. They aim to use Web services to integrate

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heterogeneous and remote application in SOA contexts. The main advantages are: i) the interoperability of the platforms and the applications. The Applications are considered as black boxes offering services without considering the way they are coded and their platform. ii) To take into account the new needs such as new lessons and add or modify lessons. iii)The lessons and exercises are accessible via Intranet, Extranet, Internet, via different devices like lab top, PDA, mobile phone.iv) This e-learning Architecture is distributed and each knowledge component is supported by one server independently .

Mohammad Nazim Kabiri and Muhammad Wannous[3] propose a solution based on cloud computing and mobile technologies to facilitate access to courses and learning materials anytime and anywhere. The solution consists of two parts: Google Course Builder (An Open Source e-Learning Platform) which customized and deployed on Google App Engine (GAE) and an Android Application which was developed for quick and easy access to learn contents on mobile devices. The major advantage was the main system functionalities, ease of use and usefulness were positively evaluated by the users. The drawback was the latency in service delivery and low performance at peak times due to the low speed Internet and using Google App Engine during free trial.

Abderrahim El Mhouti[4] and et all proposes a work to exploit the potential of Multi-Agents Systems (MAS) and cloud computing to improve students collaboration in LMS (Learning Management System). This work is an interactive and collaborative e-learning platform which combines the advantages of LMS, MAS and cloud computing. The platform is implemented as a cloud-based LMS integrating with MAS permitting to collect, store and manage data and information about student's activities. Also, it allows to track the progress of students and their level of collaboration and productivity to provide tutors with information about the realization of student's activities. Thus they interact and communicate to support the various activities of students and tutors using cloud. Future enhancements include implementation of the proposed platform using Moodle as cloud-based LMS and the JADE (Java Agent framework for Distance learning Environments) platform as a MAS framework development. And also we have planned to propose other analysis methods of data collected about student's learning activities.

Hosam F. El-Sofanyand Samir A. El-Seoud[5] focus on the research of the application of cloud computing and mobile computing in the in E-learning environment.Themain objectives are: 1) to identify advantages and disadvantages associated with running cloud based applications on mobile devices. 2) to evaluate the performance and features from the use of cloud based application on a mobile device and what effects it will have on the device that runs 3) to analyze the results that can occur when using cloud based applications on mobile devices. They used Cornbras' alpha to measure the validity and stability of the study contents. In addition to that the spearman correlation and stepwise multiple linear regression analysis was also used to determine the impact of the dominating practices such as educational level, gender, age, and major on the variables of using cloud based applications on mobile devices.

PROPOSED MODEL

Architecture

The system architecture of cloud-based e-learning system, contains following components:

a) E-Learning Portal
b) Administration Console Portal;
c) E-Learning Server running on the Cloud platform
d) Mobile Devices including smartphones or tablet PCs such as the iPad.

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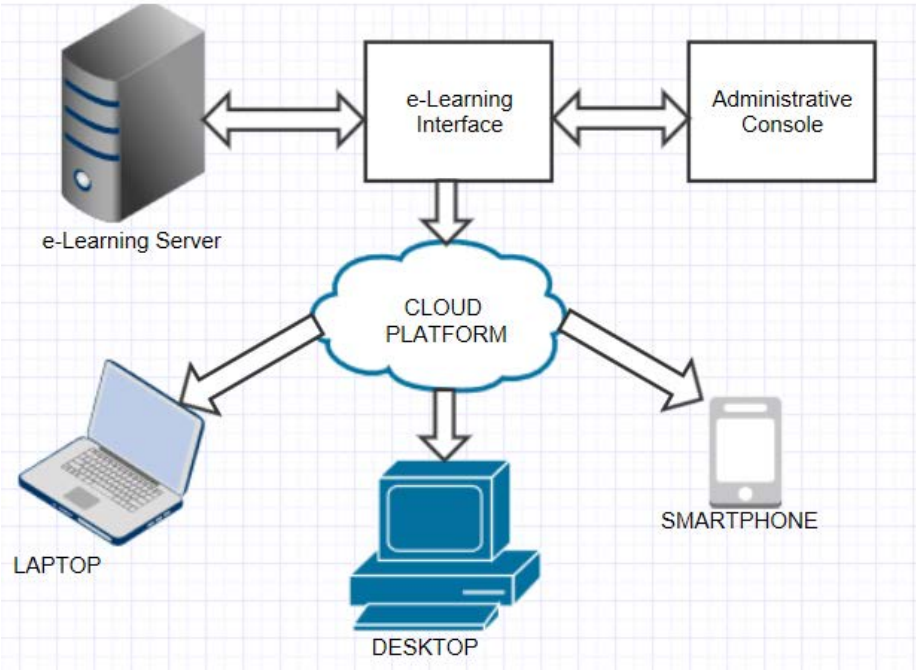

After registration, the user logs in our E-learning Server via the wireless network(3G, 4G or Wi-Fi)through the user interface loaded onto their mobile devices. During the schedule time, the E-Learning Server will have some lecture videos and each student has to take up the online lecture. The student will be monitored by the teacher via surveillance camera. While the student takes up the online lectiure there will be a surveillance camera (i.e) the camera attached to the mobile device(e.g webcam ,smart phone front camera) will start taking vedios of the student. This video will be uploded to cloud. Using machine learning technique the normal and abnormal activities of the student are classified and stored in the cloud. The student portal will have quiz session at the end of each lecture. Each student will have to take up the test. The server will display the correct answer for each question only when the student completes the quiz, the score of the student in each quiz will also be updated on the cloud. The teacher can login to the e-learning server and can cheack the performance and progress of the student. Thus the server side of our e-learning game platform requires data synchronization

Video Processing

For any video to be classified as normal and abnormal it should be preprocessed first.We use histogram of optical flow orientation magnitude and entropy (HOFME) to extract the motion information and histogram of oriented gradient (HOG) to extract the information on appearance and shape. The video is divided into a number of nonoverlapping regions.

Histogram of oriented gradient HOG is used to identify the object appearance and shape , using which we classify the normal and abnormal events. For greater accuracy the intensities of the image is measured across a large area which is called a block, and its normalized

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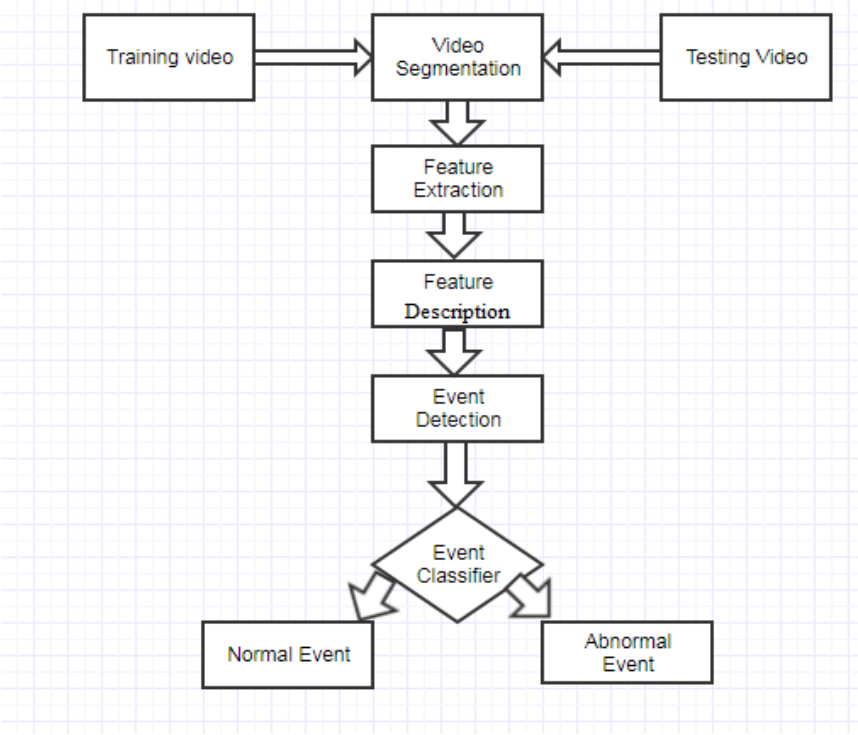

IMPLEMENTATION

The video is converted into a number of frames. The RGB color frame will be taken as input. This RGB image will be converted into gray scale image using MATLAB. By observing the intensity differences using Histogram of oriented gradient (HOG) and Histogram of optical flow orientation magnitude and entropy(HOFME) in the gray scale image, the normal and abnormal events are detected. The Histogram of optical flow orientation magnitude and entropy (HOFME) gives the motion information of the gray scale image. Histogram of oriented gradient (HOG) gives the appearance and shape information of the gray scale image. The HOG is plotted on the frame for visualization.

(a) Indoor E-learning classroom- RGB Gray Scale

(b) Indoor E-learning classroom-

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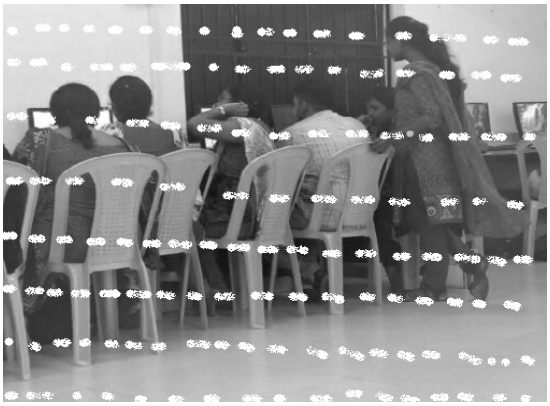
(c) Image with Abnormal Events

(d) Detecting Abnormal Events



ALGORITHM

Consider ,

$(\vec{a}_1, b_1)$, ……..$(\vec{a}_n, b_n)$

a_i, b_i – Training dataset of points

A hyperplane can be written as follows,

$\vec{w}.\vec{a}$ – y = 0

w - normal vector to the hyperplane. This is similar to Hesse normal form.

A Margin seperates two different classes of data (ie) normal and abnormal events. It can be represented as follows,

$\vec{w}.\vec{a}$ – y = 1 and

$\vec{w}.\vec{a}$ – y = -1

The distance between these hyperplanes is $\frac{2}{||\vec{w}||}$,

The distance between the planes should be maximum.

$||\vec{w}||$ should be minimum.

The data points should come under any one of the planes but not on the margin.

$\vec{w}.\vec{a}_i$ – y >= -1 if $b_i = 1$

or

$\vec{w}.\vec{a}_i$ – y <= 1 if $b_i = -1$

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These constraints state that each data point must lie on the correct side of the margin.
This can be rewritten as:

$b_i(\vec{w}.\vec{a}_i - y) >= 1$ for all 1 <= i <= n ------(1)

This can be put together to get the optimization problem:
"Minimize $||\vec{w}||$ subject to $b_i(\vec{w}.\vec{a}_i - y) >= 1$ for all 1 <= i <= n^n

The $\vec{w}$ and *y* that solve this problem determine our classifier, $\vec{a} \rightarrow \text{sgn}(\vec{w}.\vec{a} - y)$.

An easy-to-see but important consequence of this geometric description is that the max-margin hyperplane is completely determined by those $\vec{a}_i$ which lie nearest to it. These $\vec{a}_i$ are called *support vectors.*

The points obtained from the histogram are plotted across a SVM graph. This graph classifies the normal and abnormal activities. In the graph fig12. H1 does not classify the normal an abnormal event, whereas the classifier H2 and H3 classifies the normal and abnormal activities. The support vector machine (SVM) classifiers are trained with training frame features and an unknown frame is given for test to classify it as normal or abnormal case. There are two methods to classify the normal and abnormal activities they are C-tree and SVM. we use SVM because it yields better results compared to Ctree. The area under the curve of ROC of SVM is 77.99%.

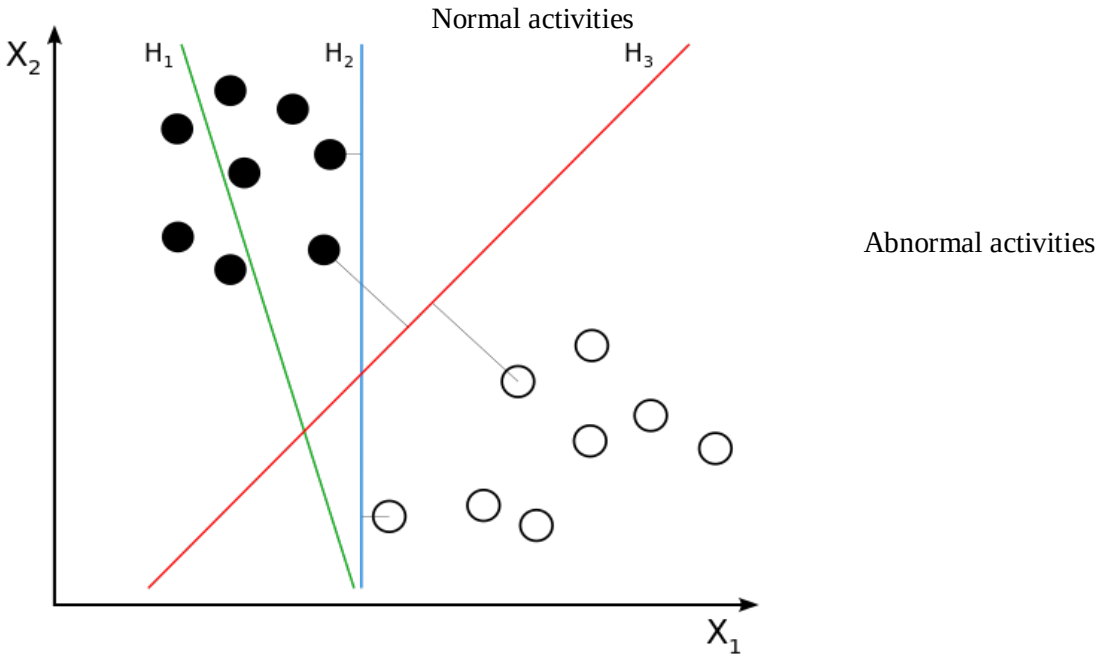

Fig 12a SVM Classifier

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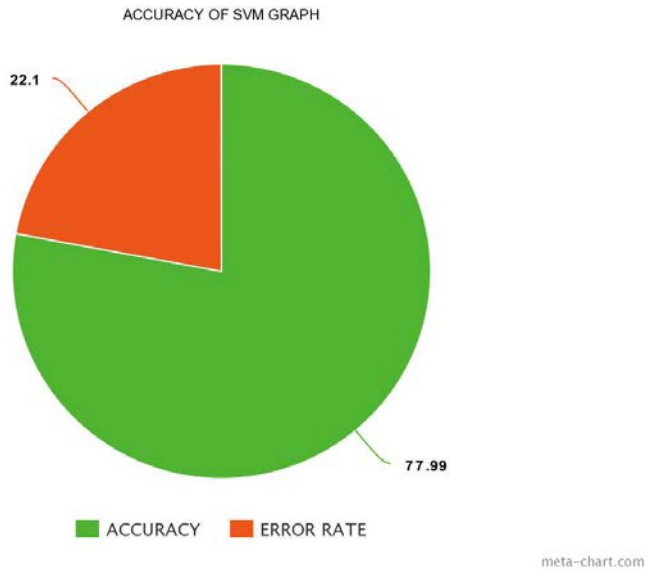

Fig12b Accuracy of SVM

CONCLUSION

This paper proposed an idea to classify the normal and abnormal activities of the student in an E-learning environment and reports it to the teacher. This method uses HOG and HOFME for video pre-processing. The points obtained are plotted against a SVM classifier graph and then the normal and abnormal events are detected. SVM yields a better result compared to C tree. The accuracy of SVM is 77.99%. An appropriate method can be used for video summarization in future for better results.

REFERENCES

Vincent Tam, Alex Yi, Edmund Y. Lam, Cecilia Chan and Allan H.K. Yuen. Using Cloud Computing and Mobile Devices to Facilitate Students' Learning Through E-Learning Games. 2013 IEEE 13th International Conference on Advanced Learning Technologies.

Nouha AMMARI, Fayssal FEHLI. Using SaaS and Cloud computing For "On Demand" E Learning Services. 2010 10th IEEE International Conference on Advanced Learning Technologies.

Mohammad Nazim Kabiri1a and Muhammad Wannous. The Use of Cloud Computing and Mobile Technologies to Facilitate Access to An E-Learning Solution in Higher Education Context Work in Progress. Proceedings of the 2017 IEEE International Conference on Applied System Innovation IEEE-ICASI 2017 - Meen, Prior & Lam (Eds).

Svitlana Agadzhanova, Andrii Tolbatov. Using Cloud Technologies Based On Intelligent Agent-Managers To Build Personal Academic Environment In E-Learning System. IEEE AICT 2017.

Abderrahim El Mhouti, Azeddine Nasseh, Mohamed, Jose Marfa Vasquèz, Using Cloud Computing and a Multi-Agents System to Improve Collaborative e-Learning in LMS. Intelligent Systems: Theories and Applications (SITA), 2016 11th International Conference on IEEE 2016.

Vivek Bhuttoo, Kamlesh Soman and Roopesh Kevin Sungkur. Responsive Design and Content Adaptation for Elearning on Mobile Devices. Next Generation Computing Applications (NextComp), 2017 1st International Conference. IEEE 2017.

Blanka Klimova, Petra Maresova. Cloud Computing and E-Learning and Their Benefits for the Institutions of Higher Learning. 2016 IEEE Conference on e-Learning, e-Management and e-Services (IC3e).

Sabina-Daniela AXINTE, Gabriel PETRICA, Ionut-Daniel BARBU. E-learning Platform Development Model. The 10th International Symposium On Advanced Topics In Electrical Engineering March 23-25, 2017

Jamilson Dantas, Rubens Matos, Jean Araujo, Danilo Oliveira, Andre Oliveira and Paulo Maciel. Hierarchical model and sensitivity analysis for a cloud-based VoD streaming service. 2016 46th Annual IEEE/IFIP International Conference on Dependable Systems and Networks Workshops.

N.Venkatesh Naik, Dr K.Madhavi. Cloud Computing Architecture for Collaborative Elearning System. Applied and Theoretical Computing and Communication Technology (iCATccT), 2015 International Conference

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ACCEPTANCE, USE AND SUCCESS OF E-LEARNING SYSTEMS IN DEVELOPING COUNTRIES: A COMPARISON FROM MALAYSIA AND TANZANIA

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ABSTRACT

Finding an effective model which guiding universities in developing countries on acceptance, use and success of e-learning systems has been a tricky. This has been contributed largely with inadequate of factors explaining the existing models. This research study is aimed at comparing and contrasting results of two developed models in Tanzania and Malaysia respectively. Explored factors and hypotheses existing in two developed models will be compared and contrasted. The unified model will be deduced which explaining the acceptance, use and success of this systems. It implies that between these two countries there are considerable number of common factors for guiding successfully acceptance, use and success of e-learning systems, however Malaysia has been better off in terms of course contents, design and delivery. The significance of these result is on policy marking and strategy formulation of educational institutions which are eager to have comprehensive e-learning systems in developing countries, Malaysia and Tanzania in particular.

Keywords: e-learning systems, model, universities, developing countries, factors.

1 INTRODUCTION

There is an increasing adoption of Information and Communication Technology (ICT) in an education sector in developing countries (Tossy, 2017). Since 1990 many of developing countries were started accepting and use ICT in education to facilitate and enhance provision of learning and teaching to key education stakeholders (Naresh & Reddy, 2015). E-learning systems is referred as type of web-application systems which is specialised in distribution of learning contents to different users who are accessing contents through their computing devises connected by internet (Ahmed, 2013; Ehlers, 2009; Lwoga & Komba, 2015). Adoption in this context means a way of accepting and use of e-learning systems in educational settings (Maina & Nzuki, 2015). Developing countries referred as "the countries which need equitable and maintainable social and economic growing" (Ssemaluulu, 2012). Tanzania and Malaysia are all falling under category of developing countries (Supian, Shah & Yosof, 2015).

Studies shows that number of universities which managed to accept and use e-learning systems in Tanzania is 46% and most of adopted universities are public universities (Lashayo & Gapar, 2017). Majority of e-learning systems platforms are Moodle-based in universities with a record of 75% (Lashayo & Gapar, 2017). This rate of Moodle-based in universities is close to the rate of Moodle-based in Higher Learning Institution (HLIs) in Tanzania which record 78% (Munguatosha et al, 2011). Rate of adoption of e-learning systems in public universities is 67% while in private universities is 33% (Lashayo & Gapar, 2017).

In Malaysia studies show that rate of adoption of e-learning systems is 65% (Azhari & Ming, 2015; Hussin et al., 2009) and majority of universities which managed to have these systems are public universities. Type of existing platforms in universities are Open Source with 57.7% (Moodle been a popular and Claroline), 34.6 % purchased and 15.4% developed internally (Embi, 2011).

Use of e-learning systems in developing countries is becoming problematic. Studies show that in University of Dar es Salaam (UDSM) only 9.68% of instructors are still using that system after been trained (Mtebe & Raisamo, 2014). In another front taker university, which is Open University of Tanzania (OUT) studies show

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that only 12.4% of instructor are using it (Bhalalusesa, Lukwaro, and Clemence, 2013). In Ardhi University (ARU), literature show that e-learning system was last for about two years after been in an operation from 2010 (Mgendi, 2010).These three universities give an indicator of how difficult has been on keeping use of e-learning systems to key users in developing countries.

Acceptance, use and evaluation of success for e-learning systems in Malaysia is one of key agenda of ministry of higher education in Malaysia, since beginning of implementation of e-learning systems in Malaysia in year 2000 (Azhari & Ming, 2015; Embi, 2011; Goi & Ng, 2009).

Research shows that irrespective of considerable studies on acceptance, use and success of e-learning systems in developing countries, still there is a lack of having an effective model which would be used to provide a guidance in developing countries. This study aimed at comparing two models developed from same base model (Lashayo & Gapar, 2018) and from that comparison, a deduced model which will be used in both countries (Malaysia and Tanzania) to guide acceptance, use and success of e-learning systems in universities and possibly extending to other developing countries. Specifically, this study will do the following objectives:

1) To compare common and un-common factors existing in between two validated models.
2) To compare common hypotheses existing in between both validated models.
3) To deduce unified model which will act effectively in both countries.

Structure of this paper is as follows: first section is *literature review*, a critical review of number of research studies done in Malaysia, both descriptive and quantitative studies which were tried to unveil success factors for acceptance, use and measuring of e-learning systems have been reviewed, then followed by *methods* section, in this section different methods used in this paper have been explained and justified including method to compare and contrast, it followed up by *analysis and discussion* section, in this section similar and different pair of factors and hypotheses have been identified and discussed, results obtained have been compared with literature, last section is *conclusion and future studies*, in this section major contribution have been elaborated and future studies have also been recommended.

2 LITERATURE REVIEW

There are factors which influencing adoption of e-learning systems in Malaysia, Goi and Ng (2009) conducted descriptive studies on factors affecting e-learning systems success in Malaysia by considering the following: program content, web page accessibility, learner's participation and involvement, web site security and support, and institution commitment, interactive learning environment, instructor competency, and presentation and design. Goi and Ng (2009) found that program content, web page accessibility, learner's participation and involvement, web site security and support, and institution commitment had higher score than interactive learning environment, instructor competency, and presentation and design, which implies that program content, web page accessibility, learner's participation and involvement, web site security and support, and institution commitment are more influential in course of acceptance and use of e-learning systems in Malaysia . In another study by Abdul-Razak et al. (2014), it found that Information Quality, Service Quality and System Quality determine behaviour intention to use e-learning systems.

Study of Embi (2011), it used a sample of 26 Institutions of Higher Learning (IHLs) in Malaysia and performed a descriptive survey on following factors policy, governance, Learning Management Systems (LMS), Training, e-Content development and Integration of e-learning in teaching and learning. Embi (2011) found that 61.5% of IHL have no e-learning policy, 80.8% of institutions have specialised unit to manage e-learning systems, e-learning training is 69.2% for academic staff and 50% for students, in e-learning content development, 50% have dedicated centre for developing e-learning contents and on integration of e-learning in teaching and learning, 42.3% of IHLs offer more than 50% of their course online. This study found that all IHLs surveyed has e-learning system. This study shows that at least each factor has been achieved more than 30%.

Al-rahmi, Othmani and Yusuf (2015) in their quantitative study which include 268 undergraduate students of Universiti Teknologi Malaysia (UTM) found that effectiveness of e-learning systems in Malaysia universities is influenced by self-efficacy, interface, community, usefulness, students' satisfaction and intention to use e-learning. Other quantitative studies in Malaysia include Chang (2014) which found five factors, Abdul Razak, Abu Bakar, Abdullah, Abdullah (2016) who found four factors (system quality, information quality and service quality and behavioral intention) and Alzahrani, Mahmud, Ramayah, Alfarraj and Osama (2017) who found six

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factors (Information Quality, System Quality, Service Quality, Satisfaction, Intention to Use, Actual Use) are influencing e-learning systems in Malaysia.

Although there are considerable efforts which have been devoted on studying acceptance, use and success for e-learning systems but no research had tried to compare quantitatively between these two developing countries specific in universities level.

3 METHODS

This study used data results from two quantitative results conducted in 2017 by Lashayo and Gapar. Same study done in Tanzania which collected and analysed a total of 1,005 students sample from eight universities (public and private owned universities) and later on, in Malaysia which employed a total of 142 students from Management and Science University (MSU) as a case study. Two models' results will be compared and contrasted and a common (unified model) will be deduced based on those two models.

4 ANALYSIS AND DISCUSSION

Analysis of this study will base on comparison and differences existing between two results obtained separate from same proposed model fitted into two different contexts in developing countries.

Objective One: To compare common factors existing in between two validated models.

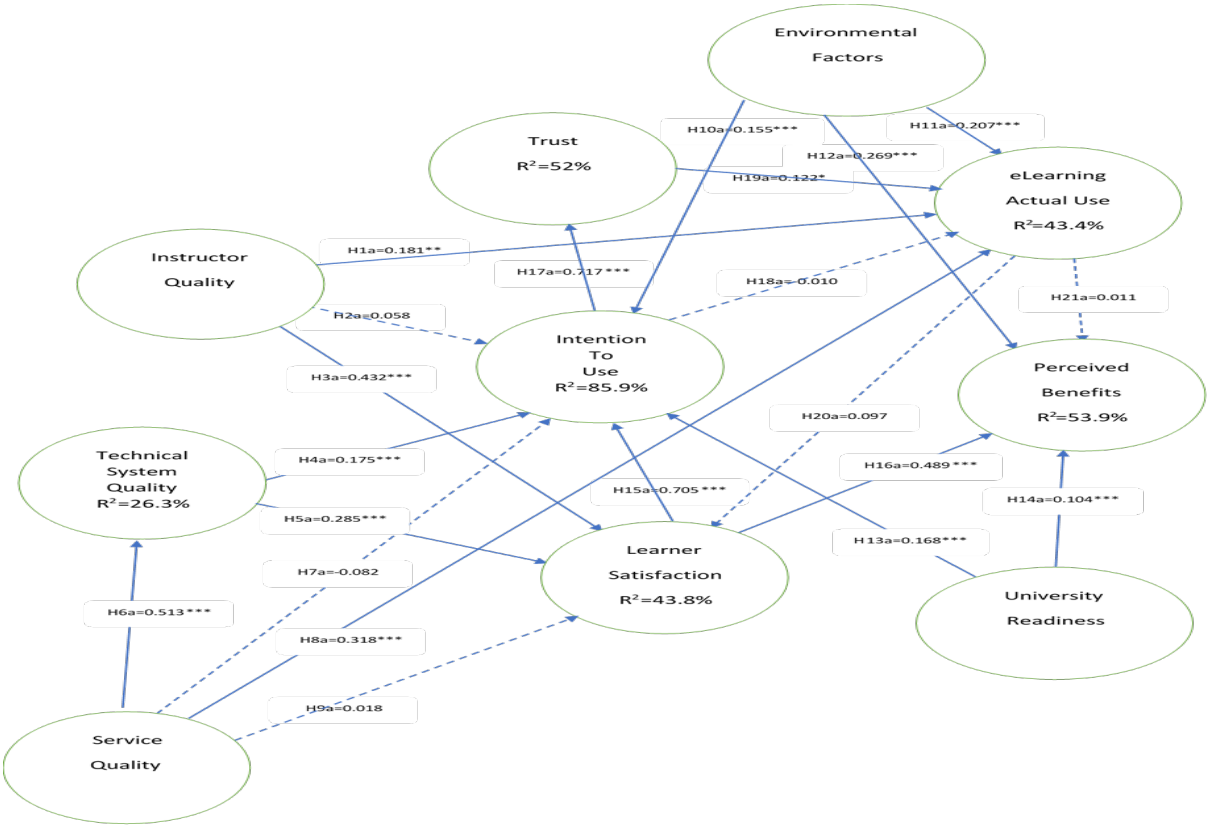

Figure 1 Results from SEM Analysis of data collected in Tanzania

Figure 1 shows that there are ten factors explaining acceptance, use and success of e-learning systems' in universities in Tanzania. These factors include Instructor Quality, Technical System Quality, Service Quality, Trust, Intention to Use, Learner Satisfaction, Environmental Factors, Elearning Actual Use, University Readiness and Perceived Benefits.

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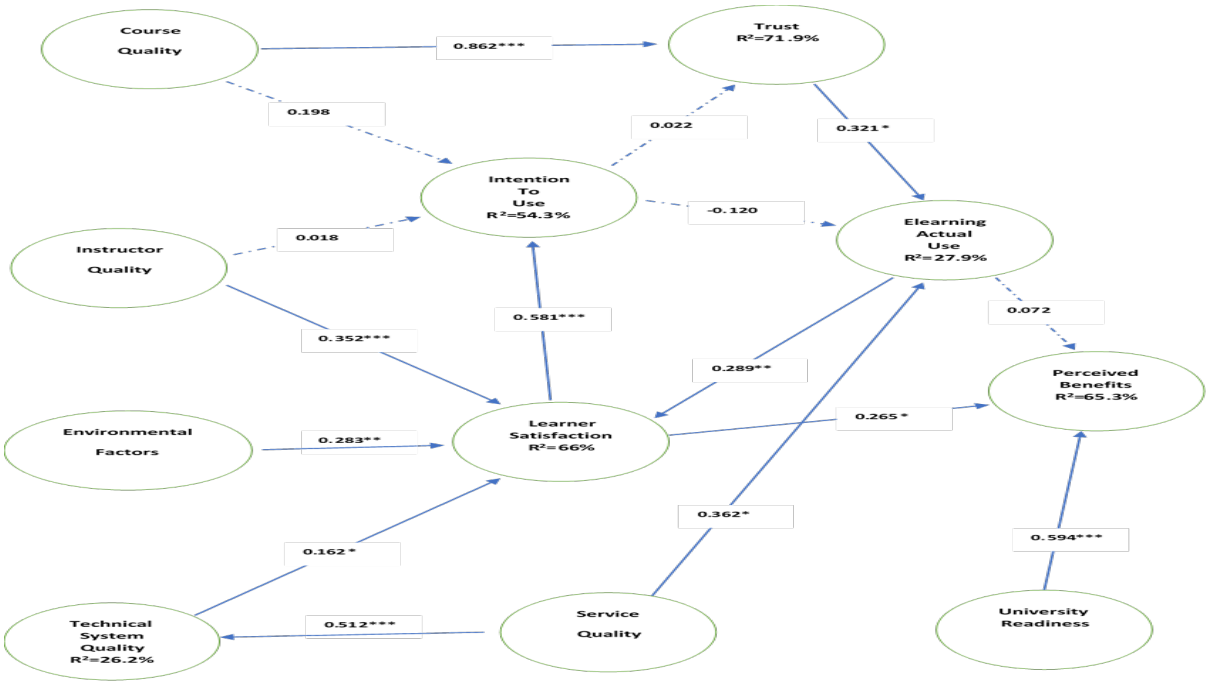

Figure 2 Results from SEM Analysis of data collected in Malaysia.

Figure 2 shows results of model which have been tested in Malaysia, it further indicates that eleven factors (Course Quality, Instructor Quality, Technical System Quality, Service Quality, Intention to Use, E-learning Actual Use, Learner Satisfaction, University Readiness, Environmental Factors, Perceived Benefits are important for acceptance, use and success of e-learning systems in Malaysia's universities. This result shows that one more factors are explained in Malaysia compared to Tanzania, this factor is *Course Quality*.

Objective two: To compare common hypotheses existing in between both validated models.

Table 1 Comparison between hypotheses of two developed models

S/N	Construct	Path	Construct	Regression estimate (B) of Tanzania model	Results of hypotheses for model tested in Tanzania	Results of hypotheses for model tested in Malaysia	Regression estimate (B) of Malaysia model
1	TSQ	<---	SQ	0.527	**Significant**	**Significant**	0.512
2	LS	<---	IQ	0.375	**Significant**	**Significant**	0.352
3	ITU	<---	TSQ	0.126	**Significant**	Not sig	0.012
4	LS	<---	TSQ	0.231	**Significant**	**Significant**	0.162
5	EAU	<---	LS	0.015	Not sig	**Significant**	0.289
6	EAU	<---	EF	0.259	**Significant**	Not sig	0.010
7	EAU	<---	SQ	0.366	**Significant**	**Significant**	0.362
8	EAU	<---	IQ	0.218	**Significant**	Not sig	0.015
9	ITU	<---	EF	0.125	**Significant**	Not sig	0.011
10	ITU	<---	UR	0.086	**Significant**	Not sig	0.010
11	PB	<---	LS	0.452	**Significant**	**Significant**	0.265
12	PB	<---	UR	0.104	**Significant**	**Significant**	0.594
13	PB	<---	EF	0.225	**Significant**	Not sig	0.050
14	T	<---	ITU	0.905	**Significant**	Not sig	0.022
15	EAU	<---	T	0.150	**Significant**	**Significant**	0.321
16	LS	<---	EF	0.070	Not sig	**Significant**	0.283
17	ITU	<---	LS	0.625	**Significant**	**Significant**	0.581
18	T	<---	CQ	-0.016	Not sig	**Significant**	0.862

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Table 1 compare hypotheses from two developed models, the comparison takes on strength of each hypotheses and its significant. It shows that there are common hypotheses from two models and also there are overlapping of strengths of hypotheses.

Objective three: To deduce the unified model which will act effectively in both countries

Figure 3 shows the following that there are ten factors which are common for acceptance, use and success of e-learning systems in both Tanzania and Malaysia.

It further shows following hypotheses: -

i. *Service Quality has positive and significant effect on Technical System Quality.*
This hypothesis is supported in both models. It implies that timely support, e-learning systems knowledge and incorporation of user inputs have significant impact to reliable, available and better interface of e-learning systems. *This is new finding to both Malaysia and Tanzania.*

ii. *Learner Satisfaction has positive and significant effect on Intention to Use.*
This hypothesis is supported in both models. It implies that overall satisfaction of learner strongly impacts a behavioural use of e-learning systems by learner in both countries. This is consistent with results of Mohammadi (2015).

iii. *University Readiness has positive and significant effect on Perceived Benefits*.
This hypothesis is supported in both models. This hypothesis implies that top management support, finance support and human resource support have significant and strong impact on benefits of using systems. This is consistent with previous study of Ramayah, Ahmad and Hong (2012).

iv. *Instructor Quality has positive and significant effect on Learner Satisfaction.*
This hypothesis is supported in both models. It implies that response of instructor and his/her efficacy have medium impacts on learner overall satisfaction, it means that of all existing factors, instructor quality has higher impact to learner satisfaction than any other existing factors in unified model. This is consistent with previous study of Lwoga (2014).

v. *Service Quality has positive and significant effect on Elearning Actual Use*.
This hypothesis is supported. This hypothesis means that system knowledge of support team, timely response and consideration of learner comments have significant impacts on prompting learner to be routine user than occasional user. This result is consistent with previous study of Alzahrani et al. (2017).

vi. *Technical* System Quality has positive and significant effect on Learner Satisfaction
This hypothesis is supported. This hypothesis means that user interface of e-learning systems, its reliability and availability have low to medium impact to learner satisfaction on these two countries. This is consisting with study of Alzahrani et al. (2017).

vii. Trust *has* positive and significant effect on Elearning Actual Use.
This hypothesis is supported. This hypothesis means that overall trust on e-learning systems by learner has low to medium impact to his/her actual use of e-learning systems. This result is consisting with that of Masa'deh et al. (2016) and Lin (2008).

viii. Environmental factors has positive and significant effect on Learner Satisfaction.
This hypothesis is not supported in both models. This hypothesis does not show significant correlation in both two countries, this means either study from one country is insignificant. This need more research.

ix. Intention to Use has positive and significant effect on Trust.
This hypothesis is not supported in both models. This hypothesis also does not have pair correlation with each other, in both two countries.
This need further research.
Intention to Use has a positive and significant effect on Elearning Actual Use.
This hypothesis has neither had significant impact to both countries. This need further study.

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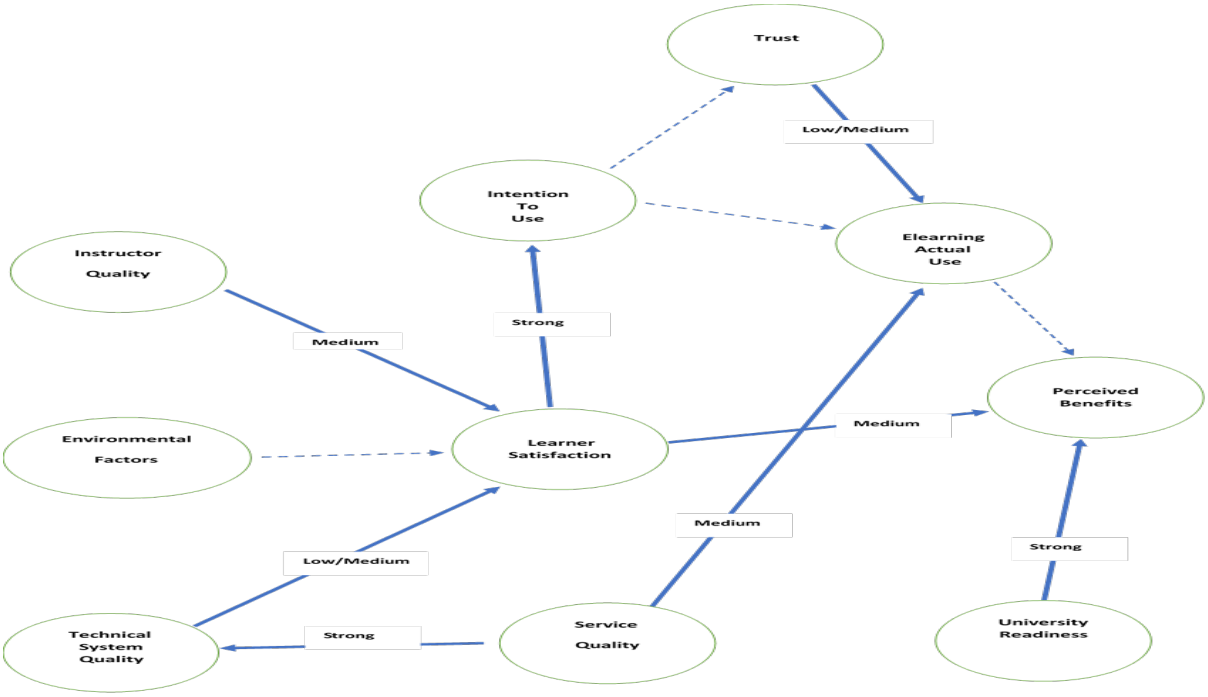

Figure 3 Unified model for Tanzania and Malaysia

5 CONLUSSION AND FUTURE STUDIES

A main purpose of this research is to compare and contrast acceptance, use and success of e-learning systems in Malaysia and Tanzania context, the results shows that there are considerable common factors affecting acceptance, use and success of e-learning systems between these two countries however there is slightly difference of factor particular on *course* (contents, design and delivery). It implies that Malaysia compared to Tanzania is better off in Quality of Course contents, design and delivery which is something Tanzania has to learn. Figure 3 presents a unified model for both of Malaysia and Tanzania.

It further shows that both learner in Malaysia and Tanzania are affected significantly with *Trust*, *environmental factors* (peer universities, national ICT policy, education institutions partners), *university readiness* (top management, budget allocated in e-learning implementations and human resources apart from technical staff).

The deduced model for acceptance, use and success of e-learning systems, can be tested in other developing countries either quantitatively or in a mixed research in a frame of Information Systems (IS) or e-learning systems.

Since a model in figure 3 is not closed therefore may be subject to changes whenever necessary to reflect changes of technology, culture and context.

Further research on Impacts of Intention to Use on Actual Use, Environmental Factors on Learner Satisfaction, Intention to Use on both Trust and Actual Use, and last Impact of Actual Use on Perceived Benefits.

REFERENCES

Abdul Razak F.Z.B., Abu Bakar A., Abdullah W.S.W., Abdullah M.A. (2016). Determinant of Satisfaction in E-learning Usage: An Evidence in Malaysian Higher Institution. *In Y. W. Abdullah M., Regional Conference on Science, Technology and Social Sciences ((RCSTSS 2014).* Singapore: Springer. Retrieved from https://link.springer.com/chapter/10.1007/978-981-10-1458-1_35#citeas

Ahmed, T. (2013). Toward Successful E-learning Implementation in Developing Countries : A proposed Model for Predicting and Enhancing Higher Educations' Participation. *International Journal of Academic Research in Business and Social Sciences, 3*(1), 422-425.

Al-rahmi, W. M., Othman, M. S & Yusuf, L. M. (2015). The Effectiveness of Using E-Learning in Malaysian Higher Education: A Case Study Universiti Teknologi Malaysia. *6*(5), 625-637.

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Alzahrani, A. I., Imran Mahmud, I., T. Ramayah, T., & Alfaraj, O. (2017). Modelling digital library success using the DeLone and McLean information system success model. *Journal of Librarianship and Information Science*. Retrieved from http://journals.sage

Azhari, F. A & Ming, L. C. (2015). Review of e-learning Practice at the Tertiary Education level in Malaysia. *Indian Journal of Pharmaceutical Education and Research, 49*(4), 248-257.

Bhalalusesa, R, Lukwaro,E.E, & Clemence, M. (2013). Challenges of Using E-learning Management Systems Faced by the Academic Staff in Distance Based Institutions from Developing Countries: A Case Study of the Open University of Tanzania. *Huria Journal of OUT, 14*, 89-110.

Chang, C. (2014). Exploring the determinants of e-learning systems continuance intention in academic libraries. *Library Management, 34*(1/2). doi:10.1108/01435121311298261

Ehlers, U. (2009). Web 2.0 – e-learning 2.0 – quality 2.0? Quality for new learning cultures. *Quality Assurance in Education, 17*(3), 296-314.

Embi, M. A. (2011). e-Learning in Malaysian Institutions of Higher Learning: Status, Trends and Challenges. *Paper presented at the International Lifelong Learning Conference (ICLLL 2011).* Kuala Lumpur, Malaysia.

Goi, C.L & Ng, P. Y. (2009). E-learning in Malaysia: Success Factors in Implementing E-learning Program. *International Journal of Teaching and Learning in Higher Education, 20*(2), 237-246.

Hussin H, Bunyarit F, Hussein R. (2009). Instructional design and e-learning: Examining learners' perspective in Malaysian institutions of higher learning. *Campus-Wide Information Systems, 26*(1), 4-19.

Lashayo, D.M., & Gapar, J. (2017). A review of e-learning systems' adoption in Tanzania universities. *South East Asia Journal of Contemporary Business, Economics and Law, 13*(2), 111-118. Retrieved from http://seajbel.com/wp-content/uploads/2017/10/K13-252.pdf

Lin, H. (2008). Determinants of successful virtual communities: Contributions from system characteristics and social factors. *Information & Management, 45*(8), 522-527. doi:10.1016/j.im.2008.08.002

Lwoga, E. T. (2014). Critical success factors for adoption of web-based learning management systems in Tanzania. *International Journal of Education and Development using Information and Communication Technology, 10*(1), 4-21.

Lwoga., E & Komba., M. (2015). Antecedents of continued usage intentions of web-based learning management systems in Tanzania. *Education+Training*, 738-756. doi:10.1108/ET-02-2014-0014

Maina, M.K & Nzuki, D.M. (2015). Adoption Determinants of E-learning Management System in Institutions of Higher Learning in Kenya: A Case of Selected Universities in Nairobi Metropolitan. *International Journal of Business and Social Science*, 233-248.

Masa'deh, R., Tarhini, A., Mohammed, A. B., & Maqableh, M. (2016). Modeling Factors Affecting Student's Usage Behaviour of E-Learning Systems in Lebanon. *International Journal of Business and Management, 11*(2), 299-312.

Mgendi, M. (2010). Introducing web-based Elearning platform at an African university. *ISPRS Commission VI mid-term symposium. Enschede : ISPRS.* Retrieved from http://www.isprs.org/proceedings/xxxviii/part6/papers/Mgendi/Mgendi_ISPRS_VI_symposium[1].pdf

Mohammadi, H. (2015). Investigating users' perspectives on e-learning: An integration of TAM and IS success model. *Computers in Human Behavior, 45*, 359–374.

Mtebe, J.S, & Raisamo, R. . (2014). A model for assessing Learning Management System Success in higher education in sub-Saharan countries. . *The Electronic Journal of Information Systems in Developing Countries, 61*(7), 1-17.

Munguatosha, G.M., Muyinda, P.B., & Lubega, J.T. (2011). A social networked learning adoption model for higher education institutions in developing countries. *On the Horizon, 19*(4), 307 - 320.

Naresh, B., & Reddy, B.S. (2015). Challenges and Opportunity of ELearning in Developed and Developing Countries-A Review. *International Journal of Emerging Research in Management &Technology, 4* (6), 259 -262.

Ramayah, T., Ahmad, N. H., & Hong, T. S. (2012). An Assessment of E-training Effectiveness in Multinational Companies in Malaysia. *Educational Technology & Society,, 15*(2), 125–137. Retrieved from http://www.ifets.info/journals/15_2/12.pdf

Ssemaluulu, P. (2012). *An Instrument to Assess Information Systems Success in Developing Countries (PhD dessertation).* Groningen: University of Groningen.

Supian, N. S., Shah, G. L., & Yusof, M.B.M. (2015). Current Waste Generation of E-West and Challenges in Developing Countries : An Overview. *Malaysian Journal of Civil Engineering, 27*(1), 110-120. doi:http://civil.utm.my/mjce/files/2015/04/Vol-27-No-1-Paper-8.pdf

 Copyright © The Online Journal of Distance Education and e-Learning

Tossy, T. (2017). Measuring the impacts of e-learning on students' achievements in learning process : An experience from Tanzania public universities. *The Online Journal of Distance Education and e-Learning, 5*(2), 61-68. Retrieved from https://www.tojdel.net/journals/tojdel/articles/v05i02/v05i02-08.pdf

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ACCOUNTING AND TASK APPLICATION STUDENTS' LEARNING STYLES IN DISTANCE EDUCATION

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ABSTRACT
Distance education could be expressed that less a philosophy and more a method of education. Students can study in their own time, at the place of their choice (out of school or not), and without face-to-face contact with a teacher. Technology is a main and most effective element of distance education.
This study reports on a case study conducted in a vocational high school investigating the opinions held by students, with respect to technology and its application to education. Based on data gathered from distance education students in an accounting and task application program. Q-methodology was used to identify opinions, shared among students, on issues they considered important about the application of technology to course instruction. The finding showed that the identification of participant opinion profiles based on the similarities and differences by which they sort the statements in the Q-sample.
Keywords: Teaching, Education, distance education, accounting and task application program.

Introduction

The research literature dealing with student attitudes toward technology and web-based computer- distance learning is growing in last years. Zhang (1999) states that some studies report the actual uses of Internet technologies in combination with other technologies in effective distance learning (Bergen, Kingston, 1999; Neal, Ramsay, Preece, 2007 & Stubbs, Burnham, 1990). Stubbs and Burnham (1990) focused that students' attitudes toward distance education are as important a metric as students' achievements in determining the effectiveness of distance education. In this paper, the main point of the authors for distance education are that online courses and distance education provide greater flexibility and student convenience, interaction with the teachers, better grades and a more positive learning experience. Neal at al. (2007) stated that the collaborative learning environment seems to better manipulate students individually in the learning process. They explained the negative way of this learning way as reduction in face-to-face interaction, an increased time at student workload and much costs to the student.
Positive aspects of the application of technology to distance education: we can abstract the positive ways of this special educational application from the literature (Guernsey, 1999; Richards and Ridley, 1999; Hiltz, 1998; Koch, 1998, Bee, 1999 & Jaffee, 2001) as bellow;

- Limitations on Interactivity: need to be with a "live person"
- Technological Problems: Students new to this way of particular technology
- Increased Workload: it takes much time to learn new software
- Lack of administrative and technical support: course resource materials
- Costs: equipment, online phone charges

Negative aspects of the application of technology to distance education: a short form of the negative aspects of the system resulted from the literature (Richards and Ridley, 1999; Koch, 1998, Bee, 1999; Jaffee, 2001; Barbrow, Jeong and Parks, 1999; Foell and Fritz, 2005 & Mastrian and Mc Gonigle, 2007) is as below;

- Limitations on Interactivity: need to be with a "live person"
- Technological Problems: Students new to a particular technology
- Increased Workload: it takes much time to learn new software
- Lack of administrative and technical support: course resource materials
- Costs: equipment, online phone charges

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Methods

Sixt-four from accounting and tax distance education program of Kocaeli vocational school participated voluntarily (26 males and 38 females, 40.6% and 59.4%, respectively. All students received the same Q-set developed by Valenta and Wigger (1997) having 23 statements (Appendix A). Q-methodology is used to make clear commonly shared opinions regarding a specific topic (Valenta and Wigger, 1997). The quantitative methods of Q use factor analytic data-reduction and emphasizes the subjective opinion of a population, not how many in the population share the opinion. The instructions for the Q- instrument were given to the participants to read and follow.

By-person factor analysis, Valenta and Wigger (1997) identified three opinion types (factors) that represented three different views regarding the use of distance education;

Factor 1: Time and Structure in Learning

Factor 2: Social Interaction in Learning

Factor 3: Convenience in Learning

Findings

The analyze of the identification of students' opinions based on the similarities and differences by which they sort the statements in the Q-sample is categorized. It was identified three opinion types among our participants that represented three different views regarding the use of web-based instruction. Almost all of the participants were accounted for in the three factors. Table 1 summarizes the rankings among statements for each factor, as generated by the statistical software (SPSS). The classification of participant viewpoints results from the examination of that factor's statements, after ranking ordering the statements from +3 to –3 (Valenta and Wigger, 1997). The three factors were titled: (1) Time and Structure in Learning; (2) Social Interaction in Learning; and (3) Convenience in Learning.

Table 1. Students' points for factors

Statements	**Factors***		
	Time and Structure	Social Interaction	Convenience
1. Less sense of self-assessment in comparisons to others.	-1	0	-3
2. Fewer subtleties in teaching; instructor observation, speech and immediate feedback.	-1	3	0
3. Fewer opportunities to meet new people; social interaction.	1	-1	0
4. Less enrichment from other perspectives.	0	3	-1
5. Less informal learning; side comments by teacher and students.	0	-1	1
6. Less discussion with participants.	0	2	0
7. Sometimes hard to find quiet time at home or school.	-3	0	-1
8. Sometimes computer time hard to get at home.	-3	1	0
9. Provides flexible time management.	2	-1	3
10. Potential interference with work obligations.	1	3	3
11. Saves travel time.	-1	-1	3
12. Can work at home when I want.	3	2	2
13. Trouble getting access to Internet at home.	-2	-2	1
14. Requires basic skills in computer troubleshooting.	1	-1	-1
15. Must pay home phone line costs.	-2	-3	-2
16. Access to Internet only through work.	-2	1	-3
17. No set class time.	0	0	-1
18. Requires self-discipline.	3	-3	0
19. Requires active learning and initiative.	2	-2	-1
20. You'll sure learn to use the Internet.	-1	1	-2
21. Can learn at my own pace.	2	0	2
22. Saves commuting cost.	0	0	-2
23. Can work in your bathrobe.	1	-2	-1

*Item rankings: -3 = most unimportant; 0 = ambivalent; +3 = most important

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Time and Structure in Learning

Web-based education provides flexible time management. It is important to the students that they can work at home when they want to. According to the students, self-discipline and active learning are important. On the other hand, having access to the Internet only through work, paying home phone bills, attaining quiet computer time at home and find quiet time at home or school are unimportant subjects for our students.

Table 2. Classification of issues from the time and structure important

İmportant	
Can work at home when I want.	3
Requires self-discipline.	3
Can learn at my own pace.	2
Provides flexible time management.	2
Requires active learning and initiative.	2
No-load	
Less enrichment from other perspectives.	0
Less informal learning; side comments by teacher and students.	0
Less discussion with participants.	0
No set class time.	0
Saves commuting cost.	0
Unimportant	
Sometimes hard to find quiet time at home or school.	-3
Sometimes computer time hard to get at home.	-3
Trouble getting access to Internet at home.	-2
Must pay home phone line costs.	-2
Access to Internet only through work.	-2

The statements in the table 2 were sorted on a continuum of –3 most unimportant to +3 most important. The numbers in the right column following each statement is the factor score for that item within this viewpoint of the students.

Social Interaction in Learning

Most important to the Social Interaction group was the potential for less participant discussion and fewer subtleties in teaching. Also, the other important statements were less enrichment from other perspectives and potential interference with work.

Unimportant to this group were being able to work in their bathrobe and learning to use the Internet. They were not concerned about having trouble accessing the Internet from home, paying home phone bills, or their need to be self-disciplined in learning. For this group expressed in a neutral way to statements such as being able to learn at one's own pace and having less of a sense of self-assessment in comparison to others.

Table 3. Classification of issues from social interaction important

İmportant	
Less enrichment from other perspectives	3
Potential interference with work obligations.	3
Fewer subtleties in teaching; instructor observation, speech and immediate feedback.	3
Less discussion with participants.	2
Can work at home when I want.	2
No-load	
Less sense of self-assessment in comparisons to others.	0
Sometimes hard to find quiet time at home or school.	0
Can learn at my own pace.	0
No set class time	0
Saves commuting cost.	0
Unimportant	
Must pay home phone line costs.	-3
Requires self-discipline.	-3
Requires active learning and initiative.	-3
Trouble getting access to Internet at home.	-2
Can work in your bathrobe.	-2

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The statements in the table 3 were sorted on a continuum of –3 most unimportant to +3 most important. The numbers in the right column following each statement is the factor score for that item within this viewpoint of the students.

Convenience in Learning

Most important to the Convenience group was that web-based education lets them work at home when they want to and save travel time. It provides flexible time management and learn at their own pace. Least important to this group were self-assessment in comparisons to others and access to Internet only through work. Also unimportant were issues such learning to use the Internet and paying home phone line costs. Neutral reactions were fewer subtleties in teaching as instructor observation, speech and immediate feedback, less discussion with participants, computer time hard to get at home and requiring self-discipline.

Table 4. Classification of issues from the convenience important

İmportant	
Provides flexible time management.	3
Saves travel time.	3
Potential interference with work obligations.	3
Can work at home when I want.	2
Can learn at my own pace.	2
No-load	
Fewer subtleties in teaching; instructor observation, speech and immediate feedback.	0
Fewer opportunities to meet new people; social interaction.	0
Less discussion with participants.	0
Sometimes computer time hard to get at home.	0
Requires self-discipline.	0
Unimportant	
Less sense of self-assessment in comparisons to others.	-3
Access to Internet only through work.	-3
You'll sure learn to use the Internet.	-2
Must pay home phone line costs.	-2
Saves commuting cost.	-2

The statements in the table 4 were sorted on a continuum of –3 most unimportant to +3 most important. The numbers in the right column following each statement is the factor score for that item within this viewpoint of the students.

Results

In this study, three opinion types were identified: Students who identified with issues of Time and Structure in Learning, Social Interaction and convenience in Learning. These opinions can be used to aid educators in reaching the effectiveness of their online courses. Also, this study is qualitative and confined to Kocaeli University of a vocational high school. The three opinion types identified via this study. All three groups of students, representing the three opinion types, shared a belief in the importance of being able to work at home.

In our distance education system, the students access to course materials, discussion forums, virtual groups and chat, testing, grades, and electronic communication. There is a movement in both education and business to harness the power of the World Wide Web to disseminate information. Researchers must become invested in understanding the interactions of students and computing.

References

Barbrow E., Jeong M., and Parks S., (1999). Computer experiences and attitudes of students and preceptors in distance education. *Journal of the American Dietetic Association,* 96(12), 1269-1280.

Bee R. H., (1998). Differing attitudes of economics students about web-based instruction. *College Student Journal,* 32(2), 258-269.

Bergen C., Kingston P., (1999). A framework for analyzing the contribution of educational technology to learning. *British Journal of Educational Technology*, 25(1), 58-60.

Foell N.A., Fritz R.L., (2005). Association of cognitive style and satisfaction with distance learning. *Journal of Industrial Teacher Education,* 33(1), 46-59.

Guernsey L., (1999). Distance education for the not-so-distant. *Chronicle of Higher Education,* 45(3), 29-30

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Hiltz S.R., (1998). Impacts of college-level courses via asynchronous learning networks: some preliminary results. *Journal of Asynchronous Learning Networks*, 1(2), 76-85.
Jaffee D., (2001). Asynchronous learning: Technology and pedagogical strategy in a distance learning course. *Teaching Sociology*, (4), 262-277.
Koch J. V., (1999). How women actually perform in distance education. *Chronicle of Higher Education*, 5(3), 49-60.
Mastrian K.G., McGonigle D., (2007). Older student perceptions of technology based learning assignments. *On-Line Journal of Nursing Informatics*, 1(2), 19-30.
Neal L., Ramsay J., Preece J., (2007). Distance learning: A CHI 97 special interest group. *SIGCHI Bulletin*, 29(4), 76-78.
Richards C. N., Ridley D. R., (1997). Factors affecting college students' persistence in on-line computer-managed instruction. *College Student Journal*, 5(2), 490-505.
Stubbs S. T., Burnham B. R., (1990). An instrument for evaluating the potential effectiveness of electronic distance education systems. *The American Journal of Distance Education*, 4(3), 25-37.
Valenta A. L., Wigger U., (1997). Q-methodology: Definition and application in health care informatics. *Journal of the American Medical Informatics Association*, 4, 501-510.
Zhang P., (1999). A case study on technology use in distance learning. *Journal of Research on Computing in Education*, 30(4), 398-419.

Appendix A

Q-sample statements

1. Less sense of self-assessment in comparisons to others.
2. Fewer subtleties in teaching; instructor observation, speech and immediate feedback.
3. Fewer opportunities to meet new people; social interaction.
4. Less enrichment from other perspectives.
5. Less informal learning; side comments by teacher and students.
6. Less discussion with participants.
7. Sometimes hard to find quiet time at home or work.
8. Sometimes computer time hard to get at home.
9. Provides flexible time management.
10. Potential interference with work obligations.
11. Saves travel time.
12. Can work at home when I want.
13. Trouble getting access to Internet at home.
14. Requires basic skills in computer troubleshooting.
15. Must pay home phone line costs.
16. Access to Internet only through work.
17. No set class time.
18. Requires self-discipline.
19. Requires active learning and initiative.
20. You'll sure learn to use the Internet.
21. Can learn at my own pace.
22. Saves commuting cost.
23. Can work in your bathrobe.

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ASSESSMENT IN PROPRIETARY INSTITUTIONS: HISTORICAL TRENDS, CURRENT PRACTICES AND THE FUTURE

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ABSTRACT
The for-profit sector has come under intense scrutiny over the last decade as student debts have escalated and degree attainment rates remain low. Legislative changes have pushed for more oversight and regulation of these colleges at both the institutional and program levels. Issues related to program quality and student outcomes have caused the for-profit education industry to take a closer look at its curriculum and student outcomes. Proprietary colleges are increasingly realizing the value of assessment as both a marketing tool and tracking mechanism to support student success. This paper will explore the historical impact of institutional assessment in proprietary education, current practices and future trends.
Keywords: for-profit, assessment, innovation, learning analytics, technology

INTRODUCTION

Proprietary colleges are the largest growing segment in higher education. The United States Department of Education noted a growth of 166 percent in private, for-profit undergraduate student enrollment between the years 2000 and 2015. Student enrollments jumped from 203,000 students in year 2000 to 1.1 million in 2015. Recent years (2010-2015), however, have shown a decline in overall student enrollments for both public and for-profit colleges. For-profit institutions have experienced the largest decline in student numbers from 1.7 million to 1.1 million between the years 2010 and 2015. Public institutions were much less affected with only a 4 percent decrease while private non-profits saw a small increase at 6 percent (United States Department of Education, 2017). Public institutions still maintain the majority of student enrollments in U.S. higher education as shown below (Table 1).

Table 1: Number of Students Enrolled in Proprietary/For-Profit, Private/Non-Profit and Public Institutions (2000-2015)

Institutional Type	Year		
	2000	2010	2015
Private For-Profit	403,000	1.7 million	1.1 million
Private Non- Profit	2.2 million	2.7 million	2.8 million
Public	10.5 million	13.7 million	13.1 million

Despite the overall decrease in for-profit student enrollment in recent years, certain populations of distance learners seek out these institutions for higher education. As of 2014, 53.9 percent of college students were exclusively enrolled in distance education courses at degree-granting private for-profit institutions (United States Department of Education, 2016).

HISTORY OF ASSESSMENT IN PROPRIETARY INSTITUTIONS

After passage of the GI Bill in 1944, higher education experienced immense growth in student enrollments from 1.5 million students in 1940 to almost 2.7 million in 1950. The United States experienced a large influx of veterans returning from oversees seeking training and employment. The GI Bill provided generous grants for veterans to attend any higher education institution of their choosing. The GI Bill not only provided tuition monies for students attending traditional universities, but proprietary institutions as well (Douglass 2012). With burgeoning student enrollments, questions soon arose about the quality and value of a post-secondary degree (Hunt 2006).

The need for accountability drove the United States government to establish a partnership with regional accrediting agencies during the mid-1950's. These agencies consisted of institutional members in charge of developing their own methods for evaluation. This form of self-regulation caused many to question the stringency of the process.

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While being accredited was considered a stamp of quality by the government and even the public-at-large for many years, it became clear this was not sufficient. Many for-profit schools became accredited, but suffered from poor quality programs and student outcomes (Eaton, 2012).

In an attempt to better regulate the for-profit industry, the gainful employment rule was passed in 2011. In order to continue receiving federal financial aid, colleges were required to demonstrate their graduates were repaying their loans (at least 35 percent of their graduates) or that a student's annual loan payment was not exceeding 12 percent of his or her total income (Douglass, 2012). The Department of Education hoped to address the ongoing issues of poor quality in the proprietary sector along with rising student debt. As a result of this rule, students would be able to make more informed decisions based on publicly available data generated from this legislation. Under the current political climate, the ongoing impact of this rule remains unknown as the current Education Secretary has delayed certain provisions of the rule, promising to devise new protections for students.

IMPACT OF STATE AND FEDERAL POLICIES

The student loan default rates continue to rise with the increasing costs of college tuition, especially in the for-profit industry. In the early 1990's, states faced increasing pressure to balance budgets causing many institutions to raise tuition, forcing students to fund their own education through federal loans. For-profit institutions have traditionally relied on federal financial aid to support their infrastructure and programs (Slaughter & Rhoades, 2016, p. 503-509).

The 1998 Higher Education Act made it easier for proprietary institutions to appeal federal penalties resulting from student loan defaults. Proprietary schools were redefined under the law as institutions of higher education, enabling them to take in federal aid. Lawsuits against proprietary institutions were more aggressively pursued however, citing predatory practices against students. The gainful employment rule increased pressure on institutions to provide data on their programs, demonstrating that certain programs were able to provide salaries sufficient to pay back loans incurred by their students (Proprietary School 90/10 Revenue Percentages).

In 2008, the United States Department of Education reauthorized the Higher Education Act (HEA) of 1965. The original law was designed to increase access to higher education by providing more financial aid to students. The rising costs of college tuition and increasingly high loan default rates were the impetus for reforming the original HEA. Both non-profit and proprietary schools were required to help ease student loan burden, increase college affordability and provide greater transparency by reporting institutional and program outcomes (Hillman, 2014).

For-profit colleges benefited greatly from these reforms to the HEA in terms of funding access. Proprietary institutions received more than 20% of all distributed Title IV funds between the years 2009-2010. Many students who were previously underserved had increased access to a college education. Unfortunately, the for-profit sector suffered from high student loan default rates, low graduation rates and poor reputations. Although schools were required to show accreditation status to receive Title IV funds, this seemed to do little towards improving student outcomes (Myers & Mengistu, 2014).

Some agencies like the National Association of Scholars (NAS) supported additional reform to the HEA. Proponents suggested accrediting bodies take on a greater role in ensuring the financial viability of institutions that receive federal aid. This would help control the creation of programs with questionable value and prevent the reliance of failing schools on government support. Additionally, accreditors would be encouraged to develop and share meaningful reports assessing a college's quality. Such proposals would create more accountability for institutions by requiring the return of a percentage of federal monies by the college if a student fails to graduate in a timely manner (Leef, 2017).

NATIONAL TRENDS AND LEARNING ANALYTICS

For many proprietary institutions, assessment activities have been historically driven by legislative action, external pressures and the need for accountability. With the advent of distance learning, student behavior is more easily monitored using data collected from learning management systems (LMS). Often referred to as learning analytics, the collection, analysis and reporting of student learning outcomes has become a field of growing interest for both on-ground and online institutions. Universities are increasingly using this data to identify at-risk students, to direct learners towards support services and make predictions on a student's future performance (Conijn, Snijders, Kleingeld, & Matzat, 2017).

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Technology has driven the process of assessment through the use of automated data collection. Both direct and indirect measures of student success are collected by software programs in order to analyze various metrics such as student satisfaction, retention rates, grade point averages and persistence (Biemiller, 2017) Collecting and analyzing student data on performance and outcomes helps target areas for improvement in course design, instruction and even career success. Many colleges, including proprietary schools are attempting to assess their learning outcomes to demonstrate the quality and value of their programs (Goldberg, Guffey & Oliverio, 2016).

Kaplan University developed the "Kaplan Commitment" to help understand and address their low retention rates of new, incoming students. Standardized rubrics were used to assess student performance during an online learner's first course at the university. Students were evaluated on a 0 through 5 scale with zero indicating no progress, a three supporting proficient or "practiced" and a 5 indicating mastery. This initial course was offered free to incoming students, costing the university approximately 65 million in lost revenue during a single year (Smith, 2012). Kaplan believes this is a beneficial program for both taxpayers and students. Students are given a trial period to determine if online learning is right for them without incurring any debt.

In 2009, Capella University began reporting their assessment results through a web-based initiative called Transparency by Design. Data on program learning outcomes was provided along with student performance metrics. Capella began collecting competency data and providing information to their faculty through an electronic dashboard in real-time. Capella now maintains publicly available information about their assessment activity through their website capellaresults.com (Banta, Ewell & Cogswell, 2016).

TECHNOLOGICAL TRENDS

Students taking distance education courses have traditionally been older, working adults with families. Many of these students are underrepresented at traditional, public institutions and seek to advance their education and careers through distance learning. Although not as transformative as projected, MOOCs have provided some data on how underrepresented students can be better served through technology. One example comes from a partnership between Arizona State and edX that allows students to pay and apply for credit after they successfully complete classes. The hope is more low income students can be reached with this format, allowing them to try college level courses with minimal risk. The integration of adaptive learning in these courses also provides more data on personalized learning approaches (Allen, 2016).

Technology is also being used to denote a student's skill set through the awarding of digital badges. Once a student demonstrates proficiency in a particular subject area, this can be communicated to potential employers in the form of a visible stamp of accomplishment. Digital badges can be earned through coursework or through military service (Merisotis, 2016).

Faculty employed at for-profit institutions typically devote large amounts of time to teaching and student outreach, leaving less time for curriculum development and assessment. Faculty and staff roles may be segmented across the university using different delivery formats. Western Governors University (WGU), a private non-profit university, employs student mentors to work with learners one-on-one while a separate team of graders provides feedback on assignments. WGU takes advantage of technology to report a student's activity and progress in a course, creating less dependence on faculty and staff for data collection (Mendenhall, 2012, p.117-118).

MISSION, VISION AND GOALS

While the mission of many proprietary schools remains focused on student programs and services, an increasing number of these colleges are recognizing the importance of marketing the quality, effectiveness and value of their programs. A word cloud analysis of the mission and vision statements of ten well known private, for-profit institutions was conducted to evaluate any trends in assessment activities and ongoing program improvements (Figure 1). Each institution's website was reviewed and statements were compiled consisting of a total of 6421 words. The word cloud was created using the online program (http://www.wordclouds.com/). Common English words such as "the", "a" and "and" were removed. The two most prominent words highlighted from the analysis are 'professional' and 'learning'.

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Figure 1: Word Cloud of Ten Private Proprietary College's Mission and Vision Statements

Each institution's mission and vision was reviewed for terms related to assessment and quality in addition to the word cloud analysis. Other prominent words included 'quality', 'improvement', 'innovation/innovative' and 'technology' (Table 2). While none of the universities surveyed made use of all of these terms, almost all colleges used a combination of descriptors to indicate accountability or progress.

Table 2: Frequency of Assessment-Related Terminology in Propriety College Mission and Vision Statements.

Institution					
	Frequency of Assessment Terminology				
	Assessment	Quality	Improvement	Innovation	Technology
Univ of Phoenix	X		X	X	X
Devry	X	X	X		X
Kaplan	X			X	
Capella		X		X	
Colorado Tech				X	X
Argosy					
Ashford		X		X	
NCU	X			X	
ECPI	X	X	X	X	X
AIU		X	X	X	

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The majority of universities surveyed utilized the term 'professional' to describe the growth and development of students. Devry University emphasized professional growth for their students and faculty, while Kaplan University used the term to describe student advancement and university involvement with community leaders. Capella University specifically used the term 'professional' to convey the quality of their program offerings as "high-quality professional curriculum infused with multicultural competencies". Half of the universities stated assessment was a key component of their mission including University of Phoenix, Devry, Kaplan, Northcentral University (NCU) and ECPI University (East Coast Polytechnic Institute). The term 'quality' was also used by 50 percent of the colleges surveyed to market the value of their programs and colleges including American Intercontinental University (AIU).

Interestingly, the term 'innovation' was used by all ten colleges surveyed and displayed equal prominence as 'quality' and 'excellence' in the word cloud. These terms have implications for institutional assessment as well. Demonstrating value and quality will be critical to attracting working, adult students seeking to advance or change careers. New, innovative approaches to curricula using the latest technology may be the best approach. Attracting these students using reliable assessment data in a simple, standardized format could also eliminate the need for cumbersome and punitive legislation (Deming, Goldin, & Katz, 2013).

FUTURE DIRECTIONS

The motivation for institutional assessment in proprietary schools appears to be shifting from a compliance focus towards a culture of improvement, quality and innovation. Assessments that can demonstrate successful learning outcomes are needed to convince students and employers alike of the value of their programs. Institutions are continually looking for ways to improve student success and outreach. Learning analytics may be the key if accuracy of information remains reliable. Learning analytics are already being used to reach out to struggling students earlier versus later in a term. Many proprietary institutions are focusing heavily on the use of assessment data to support student retention and persistence. Rather than hiring more instructors and staff to support these efforts, data analytics are being used to determine the most effective use of resources. This may involve more innovative curricula, higher quality program offerings and diverse student services offered in real-time.

The expanding growth of for-profit institutions has placed them under intense scrutiny by both the government and the public at-large. In particular, graduation rates, loan default rates and program quality are under review. To address these issues, proprietary schools use similar measures as public institutions to demonstrate legitimacy such as becoming accredited. They also attempt to market their institution's value and quality through their mission and vision statements using descriptive terms like "quality" and "innovative."

In order to remain competitive, proprietary institutions will need to attract a sizeable civilian student population. Job placement and career advancement will continue to be key elements of degree quality and value for both non-profit and proprietary institutions. This creates a very competitive landscape for all institutions of higher education. Those institutions that are best able to attract these target populations through demonstrated value of their programs will be able to meet increasing regulatory and economic pressures.

CONCLUSIONS

While increasing focus on assessment activities in the proprietary sector is a positive trend, much work is still needed to ensure institutional accountability and student success. Effective methods in measuring student outcomes will be critical to ensure the long-term stability of programs in proprietary colleges. With the increasing use of technology, data gathering and assessment methods will continue to improve. It will also be critical to recognize the value and meaning of the data being collected in order to properly analyze how it can be used to improve student success.

REFERENCES

Allen, B. (2016). Optimizing Technology's Promise. Educause Review. Retrieved from https://er.educause.edu/articles/2016/10/optimizing-technologys-promise

Banta, T., Ewell, P., & Cogswell, C. (2016). Tracing Assessment Practice as Reflected in *Assessment Update*. National Institute for Learning Outcomes Assessment. Retrieved from https://eric.ed.gov/?id=ED574480

 Copyright © The Online Journal of Distance Education and e-Learning

Biemiller, L. (2017). Big Data for Student Success Still Limited to Early Adopters. *Chronicle of Higher Education, 63*(32), p. 2.

Conijn, R., Snijders, C., Kleingeld, A. & Matzat, U. (2017). Predicting Student Performance from LMS Data: A Comparison of 17 Blended Courses Using Moodle LMS. *IEEE Transactions on Learning Technologies, 10*(1), p. 17-29.

Deming, D., Golding, C., & Katz, L. (2013). For-Profit Colleges. *The Future of Children, 23* (1), p. 137-163.

Douglass, J. (2012). Money, Politics and the Rise of For-Profit Higher Education in the US: A Story of Supply, Demand and the Brazilian Effect. Research & Occasional Paper Series: CSHE.2.12. Center for Studies in Higher Education. University of California, Berkeley.

Eaton, J. (2012). Planning for Higher Education. The Future of Accreditation. *Society for College and University Planning, 40*(3), p. 8-15.

Goldberg, K., Guffey, J., & Oliverio, P. (2016). Defining Postsecondary Degrees in the 21st Century. *Journal of College Teaching and Learning, 13*(2), p.65-78.

Hillman, N. (2014). College on Credit: A Multilevel Analysis of Student Loan Default. *Review of Higher Education, 37*(2), p. 169-195.

Hunt, J. (2006). Educational Leadership for the 21st Century. Retrieved from http://www.highereducation.org/reports/hunt_tierney/hunt.shtml

Leef, J. (2017). If We Can't Repeal the Higher Education Act, Let's Improve It. Retrieved from https://www.jamesgmartin.center/2017/04/cant-repeal-higher-education-act-lets-improve/

Mendenhall, R. (2012).Western Governor's University. In Oblinger, D.(ed) *Game Changers: Education and Information Technologies*. (p.115-132). Educause.

Merisotis, J. (2016). Credentials Reform: How Technology and the Changing Needs of the Workforce Will Create the Higher Education System of the Future. *Educause.*

Myers, R. & Mengistu, B. (2014). The Impact of the Higher Education Regulatory Environment on For-Profit Higher Education Institutions. *Journal of Public Management & Social Policy, 20* (1), p. 84-97.

Proprietary School 90/10 Revenue Percentages. (2017). Retrieved from https://studentaid.ed.gov/sa/about/data-center/school/proprietary

Slaughter, S. & Rhoades, G.. (2016). State and Markets in Higher Education. In Bastedo, M., Altbach, P. & Gumport, P. (ed). *American Higher Education in the Twenty-First Century: Social, Political and Economic Challenges* (pgs 35-59). Baltimore: Johns Hopkins University Press.

Smith, P. (2012). The Quality Challenge: How Kaplan is Tackling the LEAP Call to Action. *Liberal Education, 98* (2), p. 48-53.

U.S. Department of Education, National Center for Education Statistics. (2016). *Digest of Education Statistics, 2015* (NCES 2016-014), Table 311.15.

U.S. Department of Education, National Center for Education Statistics. (2017). *The Condition of Education. Undergraduate Enrollment.* Retrieved from https://nces.ed.gov/programs/coe/indicator_cha.asp

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ATTITUDES TOWARDS ONLINE WEB ASSISTED LEARNING: ACCOUNTING AND TAX STUDENTS

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ABSTRACT
Information and Communications Technology at all level of education has made positive effects to students' learning. From day to day, the use of learning technologies in educational environments is increasing rapidly. As a result of being technology a main part of education, education researcher should focus on the effect of technology to students' learning and their personality.
This research study examined the attitudes of Accounting and Tax Application students from a Vocational High School towards a specific type of technology based learning, that of Online Web-Assisted Learning.
Data were collected to examine differences in attitudes between traditional learning (teacher centered instruction) and Online Web-Assisted Learning, of differences in attitudes towards Online Web-Assisted Learning between males and females, the correlation between Internet use and Online Web-Assisted Learning attitudes, and the items that students find fascinating in Online Web-Assisted Learning.
Keywords: information and communications technology, e-learning, students' attitude, accounting and tax application program

INTRODUCTION

Instructors have interaction with students by face to face at a classroom in traditional education system. When the electronic communication tools are coming in the world technology, the way of life is becoming to change in various ways and at various areas. The term "e-learning" has been thrown around a wide using in recent years, many people in education family are still unaware of what it actually means and how it can help them achieve success in the education and social life. When e-learning comes to education system, teaching was in a classroom of students and a teacher who led the educational activities. At that time, any type of learning was questionable at best. Then the computer evolution happened and it radically changed the learning approaches. the quest for e-learning (electronic-learning), that is, using a computer to aid in the learning process, at the school level had been usable in the 1980's (Hong at al., 2001). Move clearly, e-learning is a computer based educational tool or system that enables people to learn anywhere and at any time. But, today e-learning is mostly delivered though the internet connection, although in the past it was delivered using a blend of computer-based methods like CD-ROM or hard disk.

The term online learning (or, distance learning) includes a number of computer-assisted instruction methods. Online teaching and learning is classroom-delivered instruction via the Internet. Online instruction includes real-time (synchronous) and anytime, anywhere asynchronous) interactions (Vry at al., 2000). According to Feenberg (1998), two parallel processes take place in an online environment:

- Students become more active, reflective learners.
- Students and teachers engage in learning through the use of technology and become more familiar with technology by using it.

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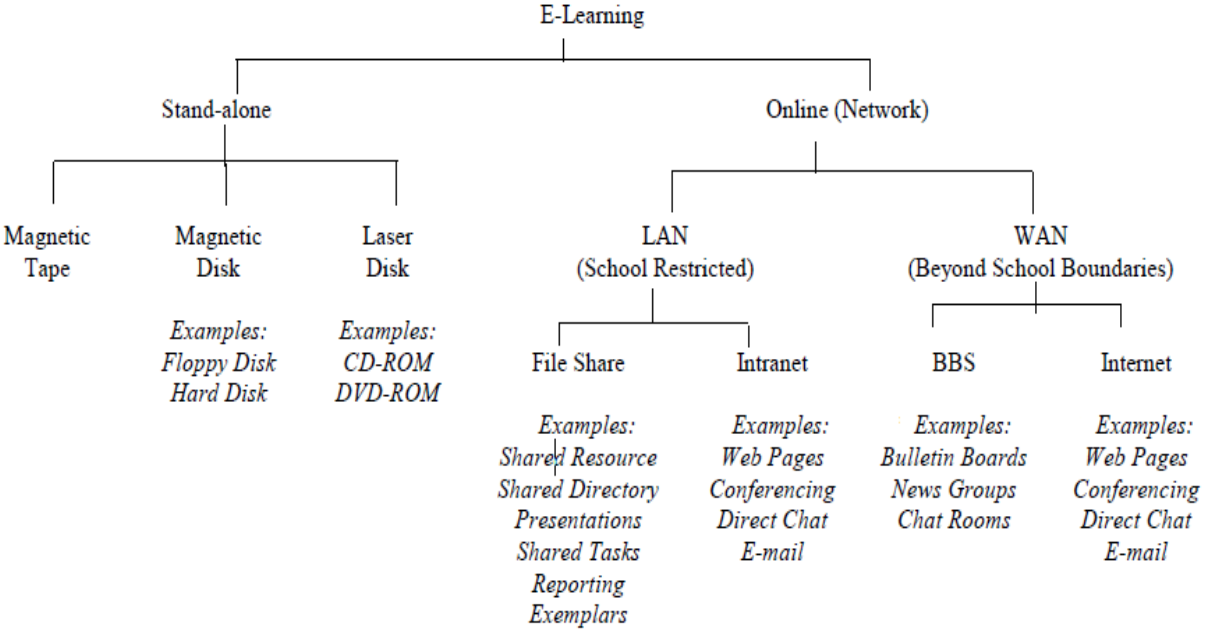
He stressed that 'online learning is most effective when delivered by teachers experienced in their subject matter. The best way to maintain the connection between online education and the values of traditional education is through ensuring that online learning is "delivered" by teachers, fully qualified and interested in teaching online in a web-based environment'. Online Web Learning (OWL) has turned out as one of the fastest moving trends in education today (Palmer et al., 2001).

Using of an important technological material in schools has made many positive impacts and developments into teaching and learning. However, it can be said the adaptation of Information and Communication Technologies (ICT) into schools has been slow. However, Woodrow (1991) noticed that teacher and student attitudes for this system was significant for acceptance, success and developing of the new system. Paris (2004) give a figurative classification of E-learning that covers a broad area within ICT Education and comes in many media formats as seen in Table 1 (Paris, 2004).

Table 1. A figurative classification of E-learning



An important approach for the key concept 'E-learning' was made by Hong at al., (2001); if a computer is used in teaching, then educational format is Computer Learning (CL). It can be used as two way that;

- Computer Based Learning (CBL), which involves the computer taking the place of the teacher as in distance education
- Computer Assisted Learning (CAL), which involves a teacher using electronic materials about the lecture to make more efficient his/ or her face to face teaching.

In CL, if the computer in the class networked to the Internet with web page access, then Computer learning is expressed as Online Web Learning (OWL). It can be used as two way that;

- Online Web Based Learning (OWBL)
- Online Web Assisted Learning (OWAL)

A figurative version of Hong and his friends' approach explained about is presented in Tablo 2 and Tablo 3, (Paris, 2004).

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Table 2. Parts of computer learning (CL)

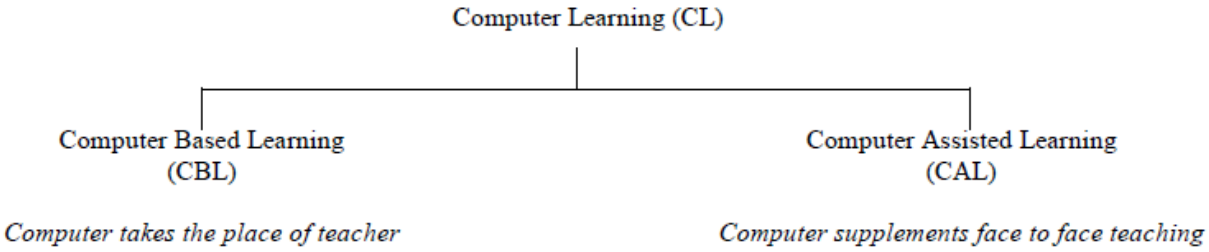
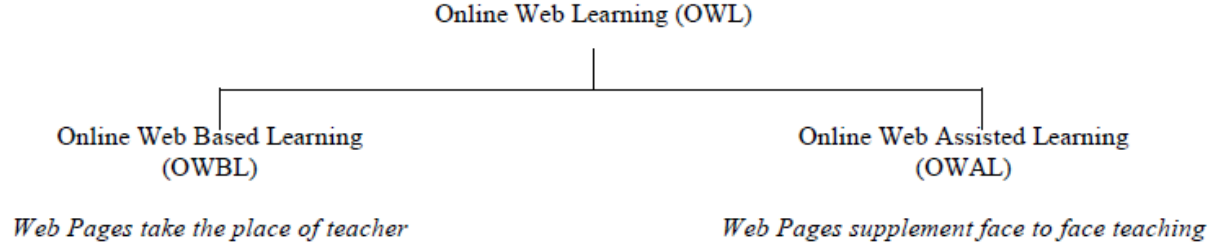


Table 3: Parts of online web learning (OWL)



Trollip and Alessi (1991) noticed some valuable recommendations about developing good e-learning material for students. They consider the following publishing elements:

- Text: "A critical factor affecting the quality of a (e-learning) tutorial is the length of information presentation"
- Graphics and Animation: "Pictures, especially animated ones, capture attention more than text"
- Color: "Color is effective for attracting attention"
- Transitions: "It is difficult for a student to distinguish a change in display that represents a continuation, from one that represents changing to an entirely different topic, the equivalent of changing chapters in a book"
- Help Menus: "(Students) … frequently need help of two types, procedural and informational"
- Questions and Responses: "A lesson which presents information without demanding interaction with the student will not be successful"

METHOD

Sixty-one students (28 males and 33 females, 45.9% and 51.1%, respectively) from the Accounting and Taxdepartment from a vocational high school selected for the study. The students were grouped into two subgroups of 61 students. Basic Information Technology text book (Yıldız at al., 2006) wasused to each subgroup in every week at one semester (PAL activity) in the Basic Information Technology Lecture of the program. An OWAL activity was administered that involved multiple linked web pages as its resource.Both the PAL and OWAL activities included colorful photos and graphics. the web pages also included animation and sound presentations in OWAL (Paris, 2004). *There is a unique application difference between the subgroups of the program;* in the lectures of one subgroup, PAL activities were applied activity first; for the second subgroup, the OWAL activities were first

At the end of the semester, the students were applied to an online questionnaire. This questionnaire had four sections of the different information gathered from the students (Paris, 2004):

- Section 1: student personal details and ICT experiences;
- Section 2: students' "behavioral attitudes" towards OWAL;
- Section 3: the "affective attitudes" of students;
- Section 4: the students' "cognitive attitudes".

The items for the questionnaire were obtained from two sources;
One source came from responses provided by a group of 25 randomly selected the program students. The students were asked to provide a written response to two open-ended questions as follows:

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1. When learning for school work, which do you enjoy the most; a book or a Web Site?
2. If you have answered a Web Site, then please continue by answering the following question: What makes learning from a Web Site more enjoyable?

The other source came from the Jones and Clarke's (1994) Computer Attitude Scale (CASS).The scoring for the questionnaire was established as follows: Strongly Agree: 5 points; Agree: 4 points; Undecided: 3 points; Disagree: 2 points, and; strongly Disagree: 1 point. In the questionnaire, each of the item codes used in the data collection are presented in Table 4 (Paris, 2004).

The Affective and Cognitive Attitudes (14 and 15 items, respectively) of students have a good internal consistency of 0.85 and 0.83 respectively. That is, the items used to determine these attitudinal components were very reliable. However, the Behavioral Attitudes of students (14 items), the Cronbach Alpha Coefficient was 0.62 (Paris, 2004). The 5-point Likert Scale used in the research questionnaire may have contributed to the low Cronbach value (Palmer, 2001).
The classification of dependence between questionnaire items and the research questions are given Table 5 (Paris, 2004).

Table 4. Definition of Questionnaire Item Codes

Code	Questionnaire Items
P1	Indicate your gender
P2	Indicate your age group
P3	How many computers do you have at home?
P4	Do you have access to a computer at school to do your school work?
P5	Do you have access to a computer in the classroom for school work
P6a	Do you have access to the Internet at home?
P6b	If YES to P6 - How often do you use the Internet for chatting (such as ICQ)?
P6c	If YES to P6 - How often do you use the Internet for school work?
6d	If YES to P6 - How often do you use the Internet for playing games?
P7a	Do you have your own email account?
P7b	If YES to P7 - How often do you use the Internet for e-mailing?
B1	I have problems using the mouse when using Web Pages
B2	I have problems using the keyboard when using Web Pages
B3	I have problems using the scroll bars on the Web Pages
B4	If given a choice I would first search for a book to find information for a school project before I search for a Web Site
B5	If given a choice I would get most of my diagrams for school projects from a text book than a Web Site
B6	I avoid using Web Sites whenever I can
B7	I have problems finding my way around a Web Site
B8	I learn to use new Web Sites by trial and error
B9	Other students look to me for help with Web Sites
B10	Using Web Sites has increased my interaction with other students
B11	I develop shortcuts, and more efficient ways to use Web Sites
B12	When I have a problem with a Web Site, I usually solve it on my own
B13	I can adjust Web Pages (such as Font sizes) to suit my needs
B14	I download objects (such as pictures and sound) from a Web Site for school use
F1	The Web Assisted activity terrified me
F2	The colors on the Web Assisted activity made it more interesting than the colors on the Paper Assisted activity
F3	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had animation
F4	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had sound
F5	I felt more uncomfortable using the Web Assisted activity than the Paper Assisted activity
F6	I found the Web Assisted activity more boring than the Paper Assisted activity
F7	School work that uses Web Sites for learning makes me feel happy
F8	If I had a choice I would prefer to learn from a book than from a Web Site
F9	I feel helpless when asked to use Web Sites for school work
F10	I feel confident with using Web Sites
F11	I feel threatened when others talk about Web Sites
F12	Web Sites frustrate me

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F13	I preferred the graphics on the Web Site better than the graphics on the Paper Assisted activity
F14	I get a sinking feeling when I think of trying to use a Web Site
O1	The Web Assisted activity was easier to use than the Paper Assisted activity
O2	The Web Assisted activity was more difficult to read than the Paper Assisted activity
O3	The Web Assisted activity was more difficult to understand than the Paper Assisted activity
O4	Web Sites will take over Books in the future
O5	Working with Web Sites will not be important to me in my career
O6	There should be more school work that uses Web Sites
O7	All subjects in the future will use Web Sites for learning
O8	Students learn more using Web Assisted activities than Paper Assisted activities
O9	Web sites are difficult to learn from
O10	Finding your way around a Web Site is harder than finding your way around a Book
O11	Boys like using Web Sites more than girls do
O12	People who use Web Sites for work are seen as being more important than those who don't
O13	Working on Web Sites means working on your own, without contact with others
O14	To use Web Sites, you have to be highly qualified
O15	Learning from a Web Site is enjoyable because some include games and movies

P = Personal, B = Behavior (Behavioral), F = Feelings (Affective), O = Opinions (Cognitive)

Table 6: The classification of questionnaire items and the research questions

Research Questions	Questionnaire Items
Differences in attitudes between PAL and OWAL	B4, B5, F1, F2, F3, F5, F6, F8, F13, O1, O2, O3, O4, O8, O10
Differences in attitudes towards OWAL between males and females	P1, P2, P3, P4, P5, P6, P7, F3, F5, F6, F7, F8, F9*, F10, F11*, F12*, F13, F14*, O1, O5*, O6, 011*, O13*, O15
*Correlation between Internet use and positive OWAL attitudes	P3, P4, P5, P6, P7, B1, B2, B3, B6, B7, B8*, B9*, B10*, B11*, B12*, B13, B14, F7, F8, F9*, F10, F11*, F12*, F14*, O5*, O6, O7, O9, O12*, O13*, O14*
*Publishing Elements that students find most appealing in OWAL	B5, B13, B14, F2, F3, F4, F13, O15

**Analyze of the research question is not added in this paper.*

FINDINGS

Student Attitudes towards OWAL

Table 7.Mean ratings of attitudes to questionnaire Items

	Behavior			Affective			Cognition	
Code	Male	Female	Code	Male	Female	Code	Male	Female
B1	4.4	4.1	F1	3.8	3.4	O1	3.8	3.6
B2	4.3	4.3	F2	3.5	3.4	O2	3.8	3.8
B3	4.3	4.4	F3	3.3	3.8	O3	3.1	4.0
B4	4.5	4.3	F4	3.6	2.9	O4	4.1	4.0
B5	4.3	4.4	F5	3.1	3.5	O5	4.2	3.8
B6	4.1	3.8	F6	3.7	3.8	O6	4.0	4.0
B7	4.0	3.8	F7	3.5	3.7	O7	3.8	4.2
B8	3.6	3.4	F8	4.2	4.2	O8	3.6	3.9
B9	3.5	3.4	F9	4.4	4.4	O9	3.6	4.1
B10	3.4	3.3	F10	4.4	4.4	O10	3.9	3.6
B11	3.1	3.3	F11	4.0	4.0	O11	4.1	3.9
B12	3.5	3.9	F12	4.0	4.2	O12	4.3	4.0
B13	3.8	3.0	F13	4.4	4.2	O13	4.1	3.8
B14	3.4	4.2	F14	4.5	4.3	O14	3.9	3.7
						O15	3.9	4.2

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According to the Table 7 provides an overall summary of the results from the questionnaire. As an example, it can be seen from questionnaire item coded B6 of "Behavioral" that the males Mean rating was 4.1 while the females Mean rating was 3.8, questionnaire item coded F12 of "Affective" that the males Mean rating was 4.0 while the females Mean rating was 4.2 and questionnaire item coded O2 of Behavioral that the males Mean rating was 3.8 while the females Mean rating was 3.6.From these score, we can say that both males and females rated OWAL favorably.

Differences in Attitudes between PAL and OWAL

Table 8 shows that there is a strong positive tendency by students towards OWAL. It clearly appears that students prefer OWAL because they can get most of the diagrams required for school projects more readily from an Internet site than from a text book (B5, Table 8), they find the graphics on a Web site more appealing (F13, Table 8), students believe they can find additional information more easily from the Internet (B4, Table 8) and. Seventy-one percent of the students believed that OWAL will replace books in schools in the future (O4, Table 8) and 53 per cent of the students enjoyed the fact that OWAL has animations (F3, Table 8).

Table 8. Differences in Attitudes towards PAL and OWAL (N=46)

Code	Questionnaire Item	Mean Rating	Frequency (%)				
			SD	D	U	A	SA
B4	If given a choice I would first search for a book to find information for a school project before I search for a Web Site	4.4	0	7	9	38	47
B5	If given a choice I would get most of my diagrams for school projects from a text book than a Web Site	4.4	0	6	10	30	55
F1	The Web Assisted activity terrified me	3.6	3	7	38	26	25
F2	The colors on the Web assisted activity made it more interesting than the colors on the Paper Assisted activity	3.5	4	18	34	27	18
F3	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had animation	3.6	4	8	37	27	26
F5	I felt more uncomfortable using the Web Assisted activity than the Paper Assisted activity	3.3	6	9	35	28	25
F6	I found the Web Assisted activity more boring than the Paper Assisted activity	3.8	4	6	38	27	24
F8	If I had a choice I would prefer to learn from a book than from a Web Site	4.2	2	5	18	22	53
F13	I preferred the graphics on the Web Site better than the graphics on the Paper Assisted activity	4.2	2	10	23	17	48
O1	The Web Assisted activity was easier to use than the Paper Assisted activity	3.7	3	7	42	27	20
O2	The Web Assisted activity was more difficult to read than the Paper Assisted activity	3.8	4	10	39	27	19
O3	The Web assisted activity was more difficult to understand than the Paper Assisted activity	3.6	5	6	40	23	23
O4	Web Sites will take over Books in the future	4.0	4	5	20	37	34
O8	Student learn more using Web Assisted activities than Paper Assisted activities	3.8	2	8	42	25	24
O10	Finding your way around a Web Site is harder than finding your way around a book	3.7	6	9	41	28	19

SD- Strongly Disagree; D-Disagree; U-Undecided; A-Agree; SA-Strongly Agree

Differences in attitudes towards OWAL between males and females

Table 9. Chi-Square Analysis of Gender Dependence and OWAL Attitudes (N=46)

	Behavior	Affective	Cognition	CASS
Chi-Square	0.604	0.28	0.006	0.125
Asymptotic significance	0.487	0.570	0.951	0.691

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Table 8 provides a summary of the relationship of gender to OWAL attitudes using Chisquare analysis. It indicates that there is no significant difference ($p<0.05$) in gender, and the behavior, affective, cognitive and CASS based attitudes. Table 8 showed no significant difference in attitudes towards OWAL for males or females (all students perceived OWAL in a positive attitude).

RESULT

In this study, we have found a number of outcomes to the research question, What attitudes do Accounting and Tax program students have about Online Web Assisted Learning (OWAL), as compared to paper assisted learning (PAL).OWAL activities motivates students better than PAL activities. There are no significant differences of students' attitudes between male and female.

Finally, it can be said that some students accept the use of OWAL to supplement their learning. The data indicate that OWAL classroom activities would aid in the learning process of students because students have positive attitudes towards the use of OWAL.

REFERENCES

De Vry, Janet R. and David G. Brown. (2000). A Framework for Redesigning a Course. In Brown, D.G. (Ed.) Teaching with Technology. Bolton, MA: Anker Publishing Company.

Feenberg, A. (1998). "The Written World: On the Theory and Practice of Computer Conferencing." In Mason, R. and Kaye A. (Eds), Mindweave: Communication, Computers, and Distance Education. Oxford: Permagon Press. (Excerpted at www.emoderators.com/moderators/feenberg.html)

Hong, K., Lai, K., Holton, D. (2001). Web based learning environments: Observations from a web based course in a Malaysian context. Australian Journal of Educational Technology, 17(3), 223-243. http://cleo.murdoch.edu.au/ajet/ajet17/hong.html [online 3/3/2002].

Jones, T., and Clarke, V. A. (1994). A computer attitude scale for secondary students. Computers and Education, 22(4). 315-318.

Palmer, S. R., and Bray, S. L. (2001). Longitudinal study of computer usage in flexible engineering education. Australian Journal of Woodrow, J. E. (1994). The development of computer-related attitudes of secondary students. Journal of Educational Computing Research, 11(4). 307-338 Educational Technology, 17(3), 313- 329.

Paris, P. G., (2004). E-Learning: A study on Secondary Students' Attitudes towards Online Web Assisted Learning. International Education Journal Vol 5, No 1.

Trollip, S. R & Alessi, S. M., (1991). Computer-Based Instruction: Methods and Development (2nd ed.). Prentice Hall, NJ.

Yıldız, U., Akhisar, Ü., Ar, İ., Harmankaya, O., Topal, A. D., Tunalı, A., Solak, S., Dağ, F., Altınışık, U. & Çopan, E., 2006). Temel Bilgi Teknolojileri. Ankara: Değişim Yayınları.

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ATTITUDES TOWARDS ONLINE WEB ASSISTED LEARNING: BUSINESS MANAGEMENT STUDENTS

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ABSTRACT
The internet technology today is a deep aspect of students' lives. Students surf the World Wide Web (www) daily to communicate, get information, listen music or play game and use the other technological activities. Universities provide students with access to high level connections through a special network that students have many alternatives such as information, sports and scientific knowledge.
In this study, it is examined that the attitudes of Business Management Students from a Vocational High School towards a specific type of technology based learning, that of Online Web-Assisted Learning. Data were obtained to analyze differences in attitudes between traditional learning (teacher centered instruction) and Online Web-Assisted Learning, differences in attitudes towards Online Web-Assisted Learning between males and females, the correlation between Internet use and Online Web-Assisted Learning attitudes, and the items that students find fascinating in Online Web-Assisted Learning. The results indicate that there is compelling evidence for the effective role the e-learning can play in developing the teachers' teaching and the students' learning.
Keywords: online web-assisted learning, e-learning, students' attitude, business management program

INTRODUCTION

The term "e-learning" has been thrown around a wide using in recent years; many people in education family are still unaware of what it actually means and how it can help them achieve success in the education and social life. When e-learning comes to education system, teaching was in a classroom of students and a teacher who led the educational activities. At those times, any type of learning was questionable at best. Then the computer evolution happened and it radically changed the learning approaches. the quest for e-learning (electronic-learning), that is, using a computer to aid in the learning process, at the school level had been usable in the 1980's (Hong at al., 2001). Move clearly, e-learning is a computer based educational tool or system that enables people to learn anywhere and at any time. But, today e-learning is mostly delivered though the internet connection, although in the past it was delivered using a blend of computer-based methods like CD-ROM or hard disk.
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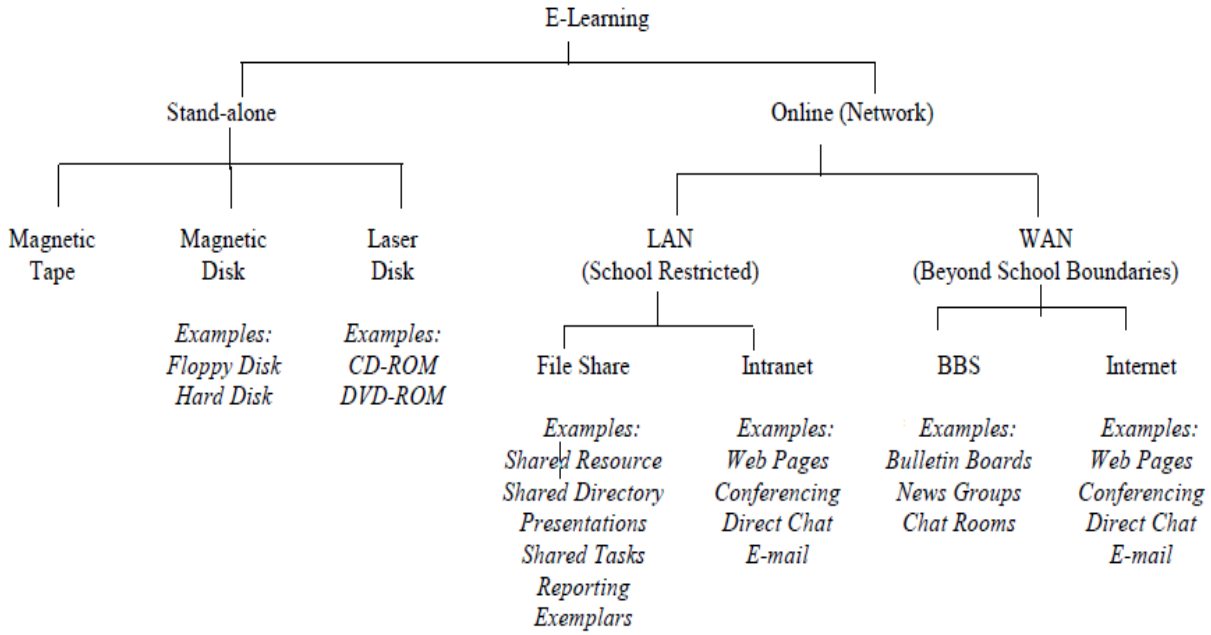
Using of an important technological material in schools has made many positive impacts and developments into teaching and learning. However, it can be said the adaptation of Information and Communication Technologies (ICT) into schools has been slow. However, Woodrow (1991) noticed that teacher and student attitudes for this system was significant for acceptance, success and developing of the new system. Paris (2004) give a figurative classification of E-learning that covers a broad area within ICT Education and comes in many media formats as seen in Table 1 (Paris, 2004).

Table 1. A figurative classification of E-learning



An important approach for the key concept 'E-learning' was made by Hong at al., (2001); if a computer is used in teaching, then educational format is Computer Learning (CL). It can be used as two way that;

- Computer Based Learning (CBL), which involves the computer taking the place of the teacher as in distance education
- Computer Assisted Learning (CAL), which involves a teacher using electronic materials about the lecture to make more efficient his/ or her face to face teaching.

In CL, if the computer in the class networked to the Internet with web page access, then Computer learning is expressed as Online Web Learning (OWL). It can be used as two way that;

- Online Web Based Learning (OWBL)
- Online Web Assisted Learning (OWAL)

A figurative version of Hong and his friends' approach explained about is presented in Tablo 2 and Tablo 3, (Paris, 2004).

Table 2. Parts of computer learning (CL)

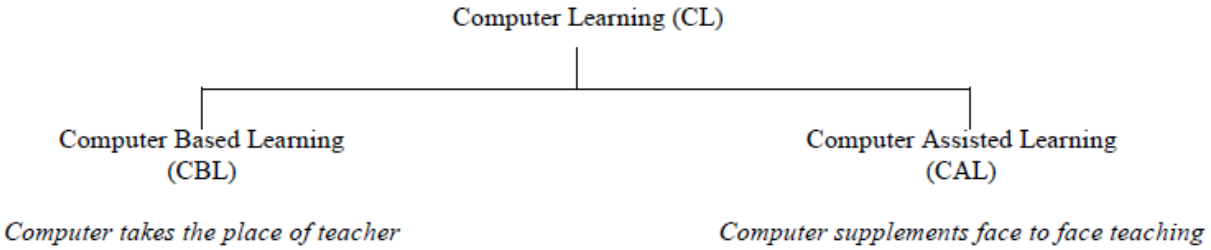


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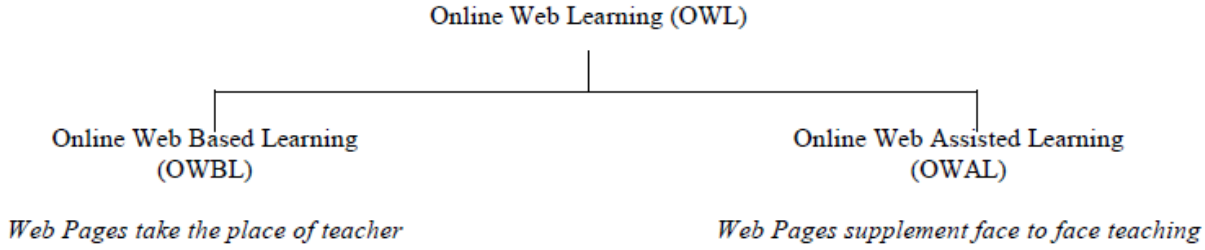
Table 3: Parts of online web learning (OWL)



METHOD

Forty-six students (20 males and 26 females, 43.5% and 56.5%, respectively) from the businessmanagement department from a vocational high school selected for the study. The students were grouped into two subgroups of 46 students. Basic Information Technology text book (Yıldız at al., 2006) wasused to each subgroup in every week at one semester (PAL activity) in the Basic Information Technology Lecture of the program. An OWAL activity was administered that involved multiple linked web pages as its resource. Both the PAL and OWAL activities included colorful photos and graphics. the web pages also included animation and sound presentations in OWAL (Paris, 2004). *There is a unique application difference between the subgroups of the program;* in the lectures of one subgroup, PAL activities wereapplied activity first; for the second subgroup, the OWAL activities were first

At the end of the semester, the students were applied to an online questionnaire. This questionnaire had four sections of the different information gathered from the students (Paris, 2004):

- Section 1: student personal details and ICT experiences;
- Section 2: students' "behavioral attitudes" towards OWAL;
- Section 3: the "affective attitudes" of students;
- Section 4: the students' "cognitive attitudes".

The items for the questionnaire were obtained from two sources;
One source came from responses provided by a group of 20 randomly selected the program students. The students were asked to provide a written response to two open-ended questions as follows:

1. When learning for school work, which do you enjoy the most; a book or a Web Site?
2. If you have answered a Web Site, then please continue by answering the following question: What makes learning from a Web Site more enjoyable?

The other source came from the Jones and Clarke's (1994) Computer Attitude Scale (CASS).The scoring for the questionnaire was established as follows: Strongly Agree: 5 points; Agree: 4 points; Undecided: 3 points; Disagree: 2 points, and; strongly Disagree: 1 point. In the questionnaire, each of the item codes used in the data collection are presented in Table 4 (Paris, 2004).

The Affective and Cognitive Attitudes (14 and 15 items, respectively) of students have a good internal consistency of 0.85 and 0.83 respectively. That is, the items used to determine these attitudinal components were very reliable. However, the Behavioral Attitudes of students (14 items), the Cronbach Alpha Coefficient was 0.62 (Paris, 2004). The 5-point Likert Scale used in the research questionnaire may have contributed to the low Cronbach value (Palmer, 2001).

The classification of dependence between questionnaire items and the research questions are given Table 5 (Paris, 2004).

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Table 4. Definition of Questionnaire Item Codes

Code	Questionnaire Items
P1	Indicate your gender
P2	Indicate your age group
P3	How many computers do you have at home?
P4	Do you have access to a computer at school to do your school work?
P5	Do you have access to a computer in the classroom for school work
P6a	Do you have access to the Internet at home?
P6b	If YES to P6 - How often do you use the Internet for chatting (such as ICQ)?
P6c	If YES to P6 - How often do you use the Internet for school work?
6d	If YES to P6 - How often do you use the Internet for playing games?
P7a	Do you have your own email account?
P7b	If YES to P7 - How often do you use the Internet for e-mailing?
B1	I have problems using the mouse when using Web Pages
B2	I have problems using the keyboard when using Web Pages
B3	I have problems using the scroll bars on the Web Pages
B4	If given a choice I would first search for a book to find information for a school project before I search for a Web Site
B5	If given a choice I would get most of my diagrams for school projects from a text book than a Web Site
B6	I avoid using Web Sites whenever I can
B7	I have problems finding my way around a Web Site
B8	I learn to use new Web Sites by trial and error
B9	Other students look to me for help with Web Sites
B10	Using Web Sites has increased my interaction with other students
B11	I develop shortcuts, and more efficient ways to use Web Sites
B12	When I have a problem with a Web Site, I usually solve it on my own
B13	I can adjust Web Pages (such as Font sizes) to suit my needs
B14	I download objects (such as pictures and sound) from a Web Site for school use
F1	The Web Assisted activity terrified me
F2	The colors on the Web Assisted activity made it more interesting than the colors on the Paper Assisted activity
F3	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had animation
F4	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had sound
F5	I felt more uncomfortable using the Web Assisted activity than the Paper Assisted activity
F6	I found the Web Assisted activity more boring than the Paper Assisted activity
F7	School work that uses Web Sites for learning makes me feel happy
F8	If I had a choice I would prefer to learn from a book than from a Web Site
F9	I feel helpless when asked to use Web Sites for school work
F10	I feel confident with using Web Sites
F11	I feel threatened when others talk about Web Sites
F12	Web Sites frustrate me
F13	I preferred the graphics on the Web Site better than the graphics on the Paper Assisted activity
F14	I get a sinking feeling when I think of trying to use a Web Site
O1	The Web Assisted activity was easier to use than the Paper Assisted activity
O2	The Web Assisted activity was more difficult to read than the Paper Assisted activity
O3	The Web Assisted activity was more difficult to understand than the Paper Assisted activity
O4	Web Sites will take over Books in the future
O5	Working with Web Sites will not be important to me in my career
O6	There should be more school work that uses Web Sites
O7	All subjects in the future will use Web Sites for learning
O8	Students learn more using Web Assisted activities than Paper Assisted activities
O9	Web sites are difficult to learn from
O10	Finding your way around a Web Site is harder than finding your way around a Book
O11	Boys like using Web Sites more than girls do
O12	People who use Web Sites for work are seen as being more important than those who don't
O13	Working on Web Sites means working on your own, without contact with others
O14	To use Web Sites, you have to be highly qualified
O15	Learning from a Web Site is enjoyable because some include games and movies

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P = Personal, B = Behavior (Behavioral), F = Feelings (Affective), O = Opinions (Cognitive)

Table 6: The classification of questionnaire items and the research questions

Research Questions	Questionnaire Items
Differences in attitudes between PAL and OWAL	B4, B5, F1, F2, F3, F5, F6, F8, F13, O1, O2, O3, O4, O8, O10
Differences in attitudes towards OWAL between males and females	P1, P2, P3, P4, P5, P6, P7, F3, F5, F6, F7, F8, F9*, F10, F11*, F12*, F13, F14*, O1, O5*, O6, 011*, O13*, O15
*Correlation between Internet use and positive OWAL attitudes	P3, P4, P5, P6, P7, B1, B2, B3, B6, B7, B8*, B9*, B10*, B11*, B12*, B13, B14, F7, F8, F9*, F10, F11*, F12*, F14*, O5*, O6, O7, O9, O12*, O13*, O14*
*Publishing Elements that students find most appealing in OWAL	B5, B13, B14, F2, F3, F4, F13, O15

**Analyze of the research question is not added in this paper.*

Findings

Student Attitudes towards OWAL

Table 7.Mean ratings of attitudes to questionnaire Items

	Behavior			Affective			Cognition	
Code	Male	Female	Code	Male	Female	Code	Male	Female
B1	4.3	4.2	F1	3.7	3.5	O1	3.6	3.7
B2	4.3	4.3	F2	3.5	3.3	O2	3.8	3.6
B3	4.4	4.3	F3	3.4	3.7	O3	3.2	3.9
B4	4.5	4.2	F4	3.6	2.9	O4	4.1	4.0
B5	4.2	4.5	F5	3.2	3.4	O5	4.1	3.9
B6	4.1	3.8	F6	3.7	3.5	O6	4.0	4.0
B7	4.1	3.7	F7	3.4	3.8	O7	3.9	4.1
B8	3.6	3.4	F8	4.2	4.2	O8	3.6	3.9
B9	3.4	3.5	F9	4.5	4.3	O9	3.7	4.2
B10	3.4	3.3	F10	4.4	4.4	O10	3.9	3.6
B11	3.2	3.2	F11	4.1	4.1	O11	4.2	3.8
B12	3.5	3.9	F12	4.0	4.2	O12	4.3	4.0
B13	3.7	2.9	F13	4.3	4.1	O13	4.1	3.9
B14	3.4	4.2	F14	4.5	4.3	O14	3.8	3.7
						O15	3.9	4.1

According to the Table 7 provides an overall summary of the results from the questionnaire. As an example, it can be seen from questionnaire item coded B6 of "Behavioral" that the males Mean rating was 4.1 while the females Mean rating was 3.8, questionnaire item coded F12 of "Affective" that the males Mean rating was 4.0 while the females Mean rating was 4.2 and questionnaire item coded O2 of Behavioral that the males Mean rating was 3.8 while the females Mean rating was 3.6.From these score, we can say that both males and females rated OWAL favorably.

Differences in attitudes between PAL and OWAL

Table 8 shows that there is a strong positive tendency by students towards OWAL. It clearly appears that students prefer OWAL because they can get most of the diagrams required for school projects more readily from an Internet site than from a text book (B5, Table 8), they find the graphics on a Web site more appealing (F13, Table 8), students believe they can find additional information more easily from the Internet (B4, Table 8) and. Seventy-one percent of the students believed that OWAL will replace books in schools in the future (O4, Table 8) and 53 per cent of the students enjoyed the fact that OWAL has animations (F3, Table 8).

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Table 8. Differences in Attitudes towards PAL and OWAL (N=46)

Code	Questionnaire Item	Mean Rating	Frequency (%)				
			SD	D	U	A	SA
B4	If given a choice I would first search for a book to find information for a school project before I search for a Web Site	4.3	0	7	9	38	47
B5	If given a choice I would get most of my diagrams for school projects from a text book than a Web Site	4.4	0	6	10	30	55
F1	The Web Assisted activity terrified me	3.6	3	7	38	26	25
F2	The colors on the Web assisted activity made it more interesting than the colors on the Paper Assisted activity	3.4	4	18	34	27	18
F3	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had animation	3.6	4	8	37	27	26
F5	I felt more uncomfortable using the Web Assisted activity than the Paper Assisted activity	3.3	6	9	35	28	25
F6	I found the Web Assisted activity more boring than the Paper Assisted activity	3.6	4	6	38	27	24
F8	If I had a choice I would prefer to learn from a book than from a Web Site	4.2	2	5	18	22	53
F13	I preferred the graphics on the Web Site better than the graphics on the Paper Assisted activity	4.2	2	10	23	17	48
O1	The Web Assisted activity was easier to use than the Paper Assisted activity	3.7	3	7	42	27	20
O2	The Web Assisted activity was more difficult to read than the Paper Assisted activity	3.7	4	10	39	27	19
O3	The Web assisted activity was more difficult to understand than the Paper Assisted activity	3.6	5	6	40	23	23
O4	Web Sites will take over Books in the future	4.0	4	5	20	37	34
O8	Student learn more using Web Assisted activities than Paper Assisted activities	3.8	2	8	42	25	24
O10	Finding your way around a Web Site is harder than finding your way around a book	3.7	6	9	41	28	19

SD- Strongly Disagree; D-Disagree; U-Undecided; A-Agree; SA-Strongly Agree

Differences in attitudes towards OWAL between males and females

Table 9. Chi-Square Analysis of Gender Dependence and OWAL Attitudes (N=46)

	Behavior		Affective	Cognition	CASS
Chi-Square	0.514		0.190	0.005	0.136
Asymptotic Significance	0.498		0.679	0.853	0.606

Table 8 provides a summary of the relationship of gender to OWAL attitudes using Chisquare analysis. It indicates that there is no significant difference ($p<0.05$) in gender, and the behavior, affective, cognitive and CASS based attitudes. Table 8 showed no significant difference in attitudes towards OWAL for males or females (all students perceived OWAL in a positive attitude).

RESULT

In this study, we have found a number of outcomes to the research question,
What attitudes do business program students have about Online Web Assisted Learning (OWAL), as compared to paper assisted learning (PAL).OWAL activities motivates students better than PAL activities. There are no significant differences of students' attitudes between male and female.

Finally, it can be said that some students accept the use of OWAL to supplement their learning. The data indicate that OWAL classroom activities would aid in the learning process of students because students have positive attitudes towards the use of OWAL.

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References

De Vry, Janet R. and David G. Brown. (2000). A Framework for Redesigning a Course. In Brown, D.G. (Ed.) Teaching with Technology. Bolton, MA: Anker Publishing Company.

Feenberg, A. (1998). "The Written World: On the Theory and Practice of Computer Conferencing." In Mason, R. and Kaye A. (Eds), Mindweave: Communication, Computers, and Distance Education. Oxford: Permagon Press. (Excerpted at www.emoderators.com/moderators/feenberg.html)

Hong, K., Lai, K., Holton, D. (2001). Web based learning environments: Observations from a web based course in a Malaysian context. *Australian Journal of Educational Technology*, 17(3), 223-243. http://cleo.murdoch.edu.au/ajet/ajet17/hong.html [online 3/3/2002].

Jones, T., and Clarke, V. A. (1994). A computer attitude scale for secondary students. *Computers and Education*, 22(4). 315-318.

Palmer, S. R., and Bray, S. L. (2001). Longitudinal study of computer usage in flexible engineering education. *Australian Journal of Woodrow, J. E. (1994). The development of computer-related attitudes of secondary students. Journal of Educational Computing Research, 11(4). 307-338 Educational Technology*, 17(3), 313- 329.

Paris, P. G., (2004). E-Learning: A study on Secondary Students' Attitudes towards Online Web Assisted Learning. *International Education Journal* Vol 5, No 1.

Yıldız, U., Akhisar, Ü., Ar, İ., Harmankaya, O., Topal, A. D., Tunalı, A., Solak, S., Dağ, F., Altınışık, U. & Çopan, E., 2006). Temel Bilgi Teknolojileri. Ankara: Değişim Yayınları.

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COMPUTER PROGRAMMING STUDENTS' ATTITUDES IN DISTANCE EDUCATION

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ABSTRACT
Distance education or distance learning is the education of students who may not always be physically present at a school or a classroom. By the period that universities add the use of distance education and training in their education systems, education researchers need to discover how to make this educational method more attractive for students.
In this research, it is examined the opinions held by students, with respect to technology and its application to education. None of the students had any experience with online coursework. Q-methodology was used to identify opinions, shared among students, on issues they considered important about the application of technology to course instruction. The result suggests that approaches on how an educational program might fine its online delivery for maximum suitability and acceptability to the broadest group of learners in vocational school education.
Keywords: Teaching, Education, distance education, computer programming program.

INTRODUCTION

The research literature dealing with student attitudes toward technology and web-based computer- distance learning is growing in last years. Zhang (1999) states that some studies report the actual uses of Internet technologies in combination with other technologies in effective distance learning (Bergen, Kingston, 1999; Neal, Ramsay, Preece, 2007 & Stubbs, Burnham, 1990). Stubbs and Burnham (1990) focused that students' attitudes toward distance education are as important a metric as students' achievements in determining the effectiveness of distance education. In this paper, the main point of the authors for distance education are that online courses and distance education provide greater flexibility and student convenience, interaction with the teachers, better grades and a more positive learning experience. Neal at al. (2007) stated that the collaborative learning environment seems to better manipulate students individually in the learning process. They explained the negative way of this learning way as reduction in face-to-face interaction, an increased time at student workload and much costs to the student.

Positive aspects of the application of technology to distance education: we can abstract the positive ways of this special educational application from the literature (Guernsey, 1999; Richards and Ridley, 1999; Hiltz, 1998; Koch, 1998, Bee, 1999 & Jaffee, 2001) as bellow;

- Limitations on Interactivity: need to be with a "live person"
- Technological Problems: Students new to this way of particular technology
- Increased Workload: it takes much time to learn new software
- Lack of administrative and technical support: course resource materials
- Costs: equipment, online phone charges

Negative aspects of the application of technology to distance education: a short form of the negative aspects of the system resulted from the literature (Richards and Ridley, 1999; Koch, 1998, Bee, 1999; Jaffee, 2001; Barbrow, Jeong and Parks, 1999; Foell and Fritz, 2005 & Mastrian and Mc Gonigle, 2007) is as below;

- Limitations on Interactivity: need to be with a "live person"
- Technological Problems: Students new to a particular technology
- Increased Workload: it takes much time to learn new software

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- Lack of administrative and technical support: course resource materials
- Costs: equipment, online phone charges

METHODS

Fifty-one students from computer technology distance education program ofKocaeli vocational School participated voluntarily (30 males and 21 females, 58.8% and 41.2%, respectively. All students received the same Q-set developed by Valenta and Wigger (1997) having 23 statements (Appendix A). Q-methodology is used to make clear commonly shared opinions regarding a specific topic (Valenta and Wigger, 1997).The quantitative methods of Q use factor analytic data-reduction and emphasizes the subjective opinion of a population, not how many in the population share the opinion. The instructions for the Q- instrument were given to the participants to read and follow.

By-person factor analysis, Valenta and Wigger (1997) identified three opinion types (factors) that represented three different views regarding the use of distance education;

Factor 1: Time and Structure in Learning

Factor 2: Social Interaction in Learning

Factor 3: Convenience in Learning

FINDINGS

The analyze of the identification of students' opinions based on the similarities and differences by which they sort the statements in the Q-sample is categorized. It was identified three opinion types among our participants that represented three different views regarding the use of web-based instruction.Almost all of the participants were accounted for in the three factors. Table 1 summarizes the rankings among statements for each factor, as generated by the statistical software (SPSS). The classification of participant viewpoints results from the examination of that factor's statements, after ranking ordering the statements from +3 to –3 (Valenta and Wigger, 1997). The three factors were titled: (1) Time and Structure in Learning; (2) Social Interaction in Learning; and (3) Convenience in Learning.

Table 1. Students' points for factors

Statements	**Factors***		
	Time and Structure	Social Interaction	Convenience
1. Less sense of self-assessment in comparisons to others.	1	0	-3
2. Fewer subtleties in teaching; instructor observation, speech and immediate feedback.	-1	2	0
3. Fewer opportunities to meet new people; social interaction.	1	1	0
4. Less enrichment from other perspectives.	0	3	1
5. Less informal learning; side comments by teacher and students.	0	-1	1
6. Less discussion with participants.	0	2	0
7. Sometimes hard to find quiet time at home or school.	-3	0	-1
8. Sometimes computer time hard to get at home.	-3	-1	0
9. Provides flexible time management.	2	1	3
10. Potential interference with work obligations.	1	3	2
11. Saves travel time.	1	-1	3
12. Can work at home when I want.	3	2	2
13. Trouble getting access to Internet at home.	-3	-2	1
14. Requires basic skills in computer troubleshooting.	1	1	-1
15. Must pay home phone line costs.	-2	-3	-2
16. Access to Internet only through work.	-2	1	-3
17. No set class time.	0	0	-1
18. Requires self-discipline.	3	-3	0
19. Requires active learning and initiative.	2	-3	-1
20. You'll sure learn to use the Internet.	-1	-1	-3
21. Can learn at my own pace.	3	0	2
22. Saves commuting cost.	0	0	-2
23. Can work in your bathrobe.	-1	-2	-1

*Item rankings: -3 = most unimportant; 0 = ambivalent; +3 = most important

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Time and Structure in Learning

Web-based education provides flexible time management. It is important to the students that they can work at home when they want to. According to the students, self-discipline and active learning are important. On the other hand, having access to the Internet only through work, paying home phone bills, attaining quiet computer time at home and find quiet time at home or school are unimportant subjects for our students.

Table 2. Classification of issues from the time and structure important

İmportant	
Can work at home when I want.	3
Requires self-discipline.	3
Can learn at my own pace.	3
Provides flexible time management.	2
Requires active learning and initiative.	2
No-load	
Less enrichment from other perspectives.	0
Less informal learning; side comments by teacher and students.	0
Less discussion with participants.	0
No set class time.	0
Saves commuting cost.	0
Unimportant	
Sometimes hard to find quiet time at home or school.	-3
Sometimes computer time hard to get at home.	-3
Trouble getting access to Internet at home.	-3
Must pay home phone line costs.	-2
Access to Internet only through work.	-2

The statements in the table 2 were sorted on a continuum of –3 most unimportant to +3 most important. The numbers in the right column following each statement is the factor score for that item within this viewpoint of the students.

Social Interaction in Learning

Most important to the Social Interaction group was the potential for less participant discussion and fewer subtleties in teaching. Also, the other important statements were less enrichment from other perspectives and potential interference with work.

Unimportant to this group were being able to work in their bathrobe and learning to use the Internet. They were not concerned about having trouble accessing the Internet from home, paying home phone bills, or their need to be self-disciplined in learning. For this group expressed in a neutral way to statements such as being able to learn at one's own pace and having less of a sense of self-assessment in comparison to others.

Table 3. Classification of issues from social interaction important

Important	
Less enrichment from other perspectives	3
Potential interference with work obligations.	3
Fewer subtleties in teaching; instructor observation, speech and immediate feedback.	2
Less discussion with participants.	2
Can work at home when I want.	2
No-load	
Less sense of self-assessment in comparisons to others.	0
Sometimes hard to find quiet time at home or school.	0
Can learn at my own pace.	0
No set class time	0
Saves commuting cost.	0
Unimportant	
Must pay home phone line costs.	-3
Requires self-discipline.	-3
Requires active learning and initiative.	-3
Trouble getting access to Internet at home.	-2
Can work in your bathrobe.	-2

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The statements in the table 3 were sorted on a continuum of –3 most unimportant to +3 most important. The numbers in the right column following each statement is the factor score for that item within this viewpoint of the students.

Convenience in Learning

Most important to the Convenience group was that web-based education lets them work at home when they want to and save travel time. It provides flexible time management and learn at their own pace. Least important to this group were self-assessment in comparisons to others and access to Internet only through work. Also unimportant were issues such learning to use the Internetand paying home phone line costs. Neutral reactions were fewer subtleties in teaching as instructor observation, speech and immediate feedback, less discussion with participants, computer time hard to get at home and Requiring self-discipline.

Table 4. Classification of issues from the convenience important

İmportant	
Provides flexible time management.	3
Saves travel time.	3
Potential interference with work obligations.	2
Can work at home when I want.	2
Can learn at my own pace.	2
No-load	
Fewer subtleties in teaching; instructor observation, speech and immediate feedback.	0
Fewer opportunities to meet new people; social interaction.	0
Less discussion with participants.	0
Sometimes computer time hard to get at home.	0
Requires self-discipline.	0
Unimportant	
Less sense of self-assessment in comparisons to others.	-3
Access to Internet only through work.	-3
You'll sure learn to use the Internet.	-3
Must pay home phone line costs.	-2
Saves commuting cost.	-2

The statements in the table 4 were sorted on a continuum of –3 most unimportant to +3 most important. The numbers in the right column following each statement is the factor score for that item within this viewpoint of the students.

Results

In this study, three opinion types were identified: Students who identified with issues of Time and Structure in Learning, Social Interaction and convenience in Learning. These opinions can be used to aid educators in reaching the effectiveness of their online courses. Also, this study is qualitative and confined to Kocaeli University of a vocational high school. The three opinion types identified via this study. All three groups of students, representing the three opinion types, shared a belief in the importance of being able to work at home.

In our distance education system, the students access to course materials, discussion forums, virtual groups and chat, testing, grades, and electronic communication. There is a movement in both education and business to harness the power of the World Wide Web to disseminate information. Researchers must become invested in understanding the interactions of students and computing.

References

Barbrow E., Jeong M., and Parks S., (1999). Computer experiences and attitudes of students and preceptors in distance education. *Journal of the American Dietetic Association,* 96(12), 1269-1280.

Bee R. H., (1998). Differing attitudes of economics students about web-based instruction. *College Student Journal,* 32(2), 258-269.

Bergen C., Kingston P., (1999). A framework for analyzing the contribution of educational technology to learning. *British Journal of Educational Technology*, 25(1), 58-60.

Foell N.A., Fritz R.L., (2005). Association of cognitive style and satisfaction with distance learning. *Journal of Industrial Teacher Education,* 33(1), 46-59.

Guernsey L., (1999). Distance education for the not-so-distant. *Chronicle of Higher Education,* 45(3), 29-30

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Hiltz S.R., (1998). Impacts of college-level courses via asynchronous learning networks: some preliminary results. *Journal of Asynchronous Learning Networks*, 1(2), 76-85.
Jaffee D., (2001). Asynchronous learning: Technology and pedagogical strategy in a distance learning course. *Teaching Sociology*, (4), 262-277.
Koch J. V., (1999). How women actually perform in distance education. *Chronicle of Higher Education*, 5(3), 49-60.
Mastrian K.G., McGonigle D., (2007). Older student perceptions of technology based learning assignments. *On-Line Journal of Nursing Informatics*, 1(2), 19-30.
Neal L., Ramsay J., Preece J., (2007). Distance learning: A CHI 97 special interest group. *SIGCHI Bulletin*, 29(4), 76-78.
Richards C. N., Ridley D. R., (1997). Factors affecting college students' persistence in on-line computer-managed instruction. *College Student Journal*, 5(2), 490-505.
Stubbs S. T., Burnham B. R., (1990). An instrument for evaluating the potential effectiveness of electronic distance education systems. *The American Journal of Distance Education*, 4(3), 25-37.
Valenta A. L., Wigger U., (1997). Q-methodology: Definition and application in health care informatics. *Journal of the American Medical Informatics Association*, 4, 501-510.
Zhang P., (1999). A case study on technology use in distance learning. *Journal of Research on Computing in Education*, 30(4), 398-419.

Appendix A

Q-sample statements

1. Less sense of self-assessment in comparisons to others.
2. Fewer subtleties in teaching; instructor observation, speech and immediate feedback.
3. Fewer opportunities to meet new people; social interaction.
4. Less enrichment from other perspectives.
5. Less informal learning; side comments by teacher and students.
6. Less discussion with participants.
7. Sometimes hard to find quiet time at home or work.
8. Sometimes computer time hard to get at home.
9. Provides flexible time management.
10. Potential interference with work obligations.
11. Saves travel time.
12. Can work at home when I want.
13. Trouble getting access to Internet at home.
14. Requires basic skills in computer troubleshooting.
15. Must pay home phone line costs.
16. Access to Internet only through work.
17. No set class time.
18. Requires self-discipline.
19. Requires active learning and initiative.
20. You'll sure learn to use the Internet.
21. Can learn at my own pace.
22. Saves commuting cost.
23. Can work in your bathrobe.

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E-LEARNING SERVICE QUALITY AND USER SATISFACTION OF INSURANCE INSTITUTION IN TAMIL NADU, INDIA - AN EMPIRICAL STUDY

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ABSTRACT
The introduction of innovative learning technique called synchronous e-learning in giving learning and preparing has turned out to be main stream in the present e-learning condition. Be that as it may, the adequacy and student fulfillment towards its utilization are as yet dark. This examination is led utilizing the subjective technique to recognize the student fulfillment on the synchronous e-learning style and furthermore to distinguish what are the issues and difficulties that can be enhanced towards the execution of fruitful synchronous e-learning. This investigation has recognized the understudy's fulfillment level towards the utilization of synchronous e-learning and furthermore distinguished a few issues that is connected to the shortcomings of the framework and the difficulties looked by understudies.
Keywords: E-learning, Information quality, System quality, Service quality, User satisfaction

INTRODUCTION

E-learning courses of action exist for the two PCs and web; it just takes a better than average e-learning instrument for preparing to be empowered from in every practical sense wherever. Advancement has pushed so much that the land gap is crossed with the use of contraptions that impact you to feel just as you are inside the classroom. E-learning offers the ability to share material in an extensive variety of designs, for instance, chronicles, slideshows, word reports and PDFs. Driving on the web classes (live online classes) and talking with instructors by methods for talk and message exchanges is moreover a decision open to customers. There are a lot of different e-learning structures (likewise called Learning Management Systems, or LMSs for short) and procedures, which consider courses to be passed on. With the right device distinctive techniques can be motorized, for instance, a course with set materials and thus stamped tests.

E-learning is a direct (and frequently free) plan which outfits the understudies with the ability to fit learning around their lifestyles, effectively allowing even the busiest individual to energize an employment and increment new capacities. Without a doubt the most basic progressions in direction have happened since the dispatch of the web. These days' understudies are learned in the use of mobile phones, content advising and using the web so partaking in and running an online course has transformed into a fundamental illegal relationship. Message sheets, electronic informal communication and distinctive techniques for online correspondence empower understudies to remain in contact and look at course related issues, while pleasing a sentiment gathering. In the speedy paced universe of e-taking in the open advancements to make a course new and stimulating are constantly changing, and course substance can and should be revived quickly to give understudies the to a great degree latest information. This is especially basic if the e-getting the hang of planning is being given to specialists in a fragment were remaining up with the most recent on industry enhancements is completely basic. This is one motivation behind why various associations are by and by offering planning by methods for e-learning - distinctive reasons fuses low costs and the limit with regards to specialists to analyze time allowing and put. As a rule, standard learning is expensive, takes a long time and the results can change. The essentialness of E-learning is directly a given truth and it can offer an alternative that is impressively speedier, more affordable and conceivably better.

All though e-learning has not possessed the capacity to satisfy its guarantee in upsetting corporate preparing in India, there is little uncertainty that in future the method of learning will assume a noteworthy part in human asset advancement in India in light of the fact that the exploration completed on the fruitful execution of e-learning is for the most part in the western piece of world (Vivek Agrawal et al, 2017 & Yung-Ming Cheng, 2012) Information quality, benefit quality, framework quality, and teacher quality, as the predecessors of

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e-learning acknowledgment can give point by point records of the key powers supporting workers' discernment with respect to their convictions (i.e. seen convenience, saw usability, and saw delight), and this circumstance can additionally upgrade workers' utilization goal of the e-learning framework. Ian Roffe (2002) investigates the down to earth and hypothetical issues associated with the assessment, quality affirmation and engagement of working an e-learning program as a separation learning administration on a global reason for individuals in business. Yung-Ming Cheng (2014)Information quality, framework quality, bolster benefit quality, and educator quality contribute altogether to apparent helpfulness (PU), affirmation, and stream, which together clarify medical attendants' fulfillment with the use of the mixed e-learning framework, and this thusly prompts their proceeded with framework use goal.

Chiao-Chen Chang (2013) he found that esteem and fulfillment decides clients' continuation goals of e-learning frameworks in scholastic libraries. This examination addresses self-reported duration aims as a major aspect of the review; accordingly, it could have presented errors. The ramifications of proposed e-learning achievement demonstrate are talked about. Scholastic administrators ought to fortify the proficiency of e-learning frameworks to impact clients' eagerness to consistently utilize such frameworks. Ulf Daniel Ehlers (2009) despite the fact that the topic of value is disputably examined as of now while e-learning 1.0 showed up available, e-learning 2.0 makes considerably greater instability. This paper goes for noting the accompanying inquiries: what constitutes the new, creative component, which is depicted by Web 2.0 and e-learning 2.0? Does this advancement have results for how it guarantees, oversee and create quality in e-learning? In three stages, it is depicted what e-learning 2.0 constitutes, which essential components of Web 2.0 it expands on, and what has changed. In a moment, step the outcomes this suggests for quality advancements in e-learning are talked about.

Antonia Stefani et al (2006) separate learning has been broadly inquired about the previous couple of years; all things considered the concentrate has been more on its mechanical measurement. Planning, creating and supporting a huge scale e-learning application for Higher Education is as yet a testing assignment from various perspectives. E-learning is data-intensive, user-driven, and has expanding requirements for multiculturalism, productivity, adaptively and competiveness. In spite of the fact that the many-sided quality of such frameworks has expanded exponentially, the plan procedure still does not have a deliberate quality control strategy. In this work we address the expanding requirement for new strategies that boost ease of use, and consequently end-user fulfillment. We examine the mechanical, administrative and monetary components that influence the outline and sending of a huge e-learning stage with cutting edge benefits and propose an arrangement of new measurements for evaluating its quality.

Sway little (2003) TATA Interactive Systems (TIS), which has one of the world's biggest groups for the plan and improvement of custom-built e-learning arrangements, is focused on accomplishing the most demanding quality benchmarks. Towards the finish of a year ago, TIS turned into the primary organization giving custom-built e-learning answers for be evaluated at level 5 on the capacity development show (CMM) scale. The CMM is the most thorough quality standard world-wide and includes driving organizations, for example, Boeing, Raytheon, IBM, NASA and Motorola. Its esteem and esteem well-known inside the IT world – are starting to be perceived inside the e-learning scene as well. One key segment in TIS's drive for reliable high caliber is its use of "six sigma" procedures to its improvement and creation forms. This is investigated in the article, first by depicting an "outside-in" approach, at that point key ideas, and venture stages, changing business forms, a three-step cycle and criteria or mysteries for venture achievement.

REVIEW OF LITERATURE

Alistair Inglis (2008) six strategies for approval were found to have been utilized as a part of connection to improvement of the seven systems that were analyzed: assessing the exploration writing identified with viability in web based picking up; looking for contribution from a specialist board; undertaking observational research; undertaking overview examine; leading pilot tasks; and drawing on contextual analyses. From the assortment of methodologies utilized and the courses in which they were utilized it was inferred that a perceived arrangement of strategies for approval of value structures has not yet risen. This paper attracts consideration regarding the requirement for more thoughtfulness regarding be paid to the advancement of techniques for approval that are both goal and vigorous. Andrew Ettinger et al (2005) a social change needs to occur in associations for e-learners to participate all the while. Mixing e-learning with different types of learning can be a valuable prologue to the train, however eagerness soon wears off. Basic protections from the idea are investigated including absence of time and the forlornness of e-learning, and how the "anyplace, whenever" component of the arrangement can be as a lot of a block starting at an assistance. Andrew Ettinger et al (2006) E-learning ought to not really be utilized to supplant classroom preparing as it isn't appropriate for everything. You have to ensure that the learning or preparing needs drive the innovation as opposed to the next path round, and the innovation itself can represent a

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large number of issues. The time included is additionally ordinarily belittled, similar to the different scope of individuals who ought to be associated with the start-up group.

Baomin Li (2009) the utilization of e-learning in this pre-service instructor instructional class is effective on the grounds that it accomplishes the normal objective. The self-study capacity of pre-service instructors is moved forward. Students additionally take an interest effectively. Be that as it may, promote change should be done in educational modules outline instructor bolster. Debjani Bhattacharya et al (2012) seven develops as takes after; national centricity, exchange straightforwardness, specialized sufficiency, ease of use, finish data, protection and security and helpfulness of data were distinguished from the investigations, which can be utilized to survey the request side administration nature of government entryways. Regardless of a well-structured, national-level anticipate e-government and satisfactory subsidizing in India, a large portion of the activities under the plan are far beneath the desire level of residents. Technology-enabled applications have guaranteed simple access to taxpayer supported organizations with monetary pick up in specific cases, yet they have not guaranteed subjects' fulfillment. Enhanced administration quality in view of natives' need and desire can diminish the hole amongst outline and reality and go about as positive trigger for reception of e-government. This examination can help government gateway engineers get knowledge into clients' needs to enhance the plan and execution of online administrations. The issues are noteworthy and can't be disregarded practically speaking. Galamoyo Male and Colin Pattinson (2011) they found that how interface configuration can decidedly improve the quality characterizing attributes of learning in an e-learning domain. Methods for accomplishing these qualities of learning through powerful e-learning are accounted for. This is finished by tending to necessities for quality-learning through successful interface-design contemplations, towards meeting the general quality prerequisites of discovering that ought to be natural for an all encompassing e-learning condition. The estimation of human PC communication and the basic variables of advancing profitable association are tended to.

Hamed Taherdoost (2017) secrecy, trustworthiness, protection, confirmation, non-disavowal and accessibility are predecessors of customers' apparent security in e-benefit. Thinking about the high centrality of saw security, it is reasoned that upgraded sentiments of security will bring about enhanced view of value. Besides, it is discovered that clients will expect to utilize e-benefit on the off chance that they feel that the nature of e-benefit is high. Jennifer Ireland Helen Mary Correia and Tim Mark Griffin (2009) they distinguishes a few highlights of the new structure that vary from different models and clarifies the consideration of these highlights as far as the help they accommodate quality change at a college where scholastics are the fundamental planners of e-learning locales. Joan Buckley (2003) beginning confirmation proposes that e-service conveyance has more prominent potential for achievement out in the open division errands that have low or constrained levels of multifaceted nature. At last, the paper presumes that any talk of e-public benefit must take discernment of the specific circumstance, both inside and outside, in which e-service is conveyed.

Josephine Csete and Jennifer Evans (2013) it is suggested that e-learning ventures require watchful arranging, framework and overseeing. Likewise that guiding, assessment and formal revealing and also the accessibility of expert, specialized and instructional plan bolster are noteworthy factors in progress. This paper is preparatory work. Encourage discoveries and investigations are normal at the last fruition of all activities. An abundance of information is accessible in gathered task documentation and reports, incorporating singular undertaking assessments with quantitative and subjective information. Kevin Young (2002) takes a gander at the discoveries of a noteworthy e-learning benchmark contemplate led in July/August 2001 among senior level officials inside UK plc crosswise over industry/fabricating/retail, monetary administrations, government, training and IT/telecoms segments. Contrasts the discoveries and a comparable bit of research did in 2000 to build up how e-learning has created. Inspects current preparing and HR issues, preparing needs, zones in which preparing is given, the most prominent sorts of preparing conveyance, the status of e-learning, mindfulness and comprehension of e-learning, current utilization, purposes behind executing e-learning, benefits foreseen and as of now experienced by early e-learning adopters, rate of profitability and desires for what's to come.

Dwindle A.C. Smith and John Peters (1998) Considers the qualities of "activity getting the hang of", noticing a portion of the significant organizations which have used this approach, including the British Airports Authority. Takes a gander at an ordinary activity learning program which includes angles, for example, handling genuine issues and working in little gatherings or "sets", and notes advantages, for example, the way that the projects can be intended to suit the association and that the brightest individuals in the organization can be tested to take care of basic issues.

Raphaël K. Akamavi (2005) the way toward opening an understudy ledger is archived in a flowchart/stream arrange, which features operational advances and the perceive line amongst front-end and private alcove staff. This procedure mapping system/flowchart takes into account the conclusion and distinguishing proof of both

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potential and real bottlenecks in the current procedure, which kept a quality administration experience for the client. Subsequent to delineating this tricky territories/non-value included exercises, the embraced subjective triangulated methodological approach yields an overhauled flowchart showing these progressions. Besides, this paper proposes a re-engineered procedure (i.e. e-process or virtual process), which evacuates these bottlenecks efficiently.

Shirley Alexander (2001) the concentration of much e-learning action is upon the improvement of courses and their assets. Fruitful e-learning happens inside an unpredictable framework including the understudy understanding of taking in, instructors' methodologies, educators' arranging and considering, and the instructing/learning setting. Staff advancement for e-learning centers around the level of innovative conveyance systems when different issues, for example, the instructors' origination of learning affects the arranging of courses, improvement of showing techniques and what understudies realize. This article proposes a more exhaustive structure for the outline, improvement and usage of e-learning frameworks in advanced education

RESEARCH GAP

Despite the fact that it is of critical significance to have a wide applied model portraying the intricacy of e-learning usage, most e-learning research is sporadic and scattered in nature, and frequently yields opposing discoveries. It appears that these discoveries identified with look into on separate training are likewise relevant to the exploration on the computerized innovations. There is additionally an awesome requirement for more research on the part of culture and social contrasts in the usage of the advancements in various national locales and in differing instructive and preparing conditions Cost adequacy constitutes a huge issue in the usage of the electronic advances, especially at multi grounds colleges and separation educating suppliers. It appears that economies-of-scale gave by the expansive separation showing colleges, working on the premise of the mechanical model, additionally persuaded that concentrate through data and correspondence innovations ought to be financially savvy.

THE STUDY FRAMEWORK

The study assumes that system quality affect the efficiency of e-learning systems through three dimensions (information quality, system quality and service quality), and therefore the study evaluated each dimensions from the perspective of learners and teachers. The relationships between the study variables are shown in below:

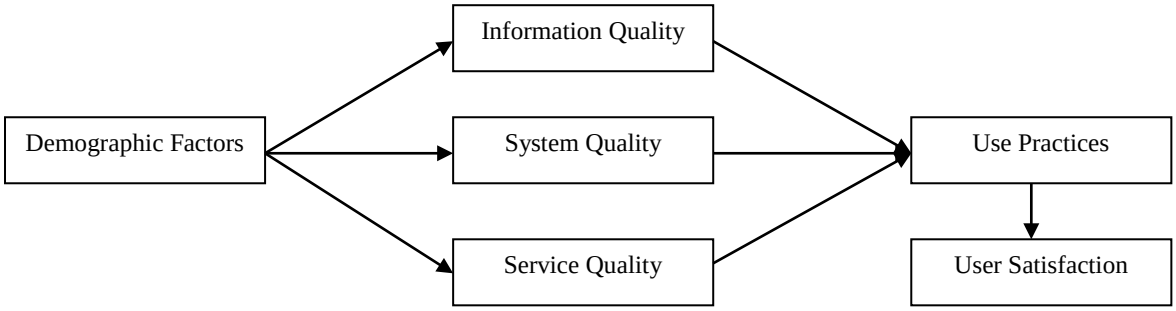

Figure 1: The Study Framework

RESEARCH METHODOLOGY

This evaluation of information technology in e-learning system was a cross-section survey performed on a sample selected from a population of students involved in academic work using e-learning or online learning methods in a regular basis. The questionnaire was distributed to the participants via e-mail because of fast response and low cost, and need for short time to collect information and data. The study used software application in Surveymethods.com and utilized an online survey, deploy the questionnaire via e-mail, and collect data and make analysis to the collected data from the participants. The questionnaire was divided to three parts: (1) A brief profile and demographic data of participants (2) Addresses the user's perception and attitude of e-learning systems and system quality in particular (3) Ask participants to rank dimensions of system quality from the perspective of e-learning. The study analysed the collected data from part 3 in the questionnaire using Statistical Package for the Social Sciences (SPSS) software package to identify impact of information

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quality, system quality and service quality dimensions on the efficiency of e-learning systems and to build the final quality conclusion and future framework.

RESEARCH OBJECTIVES

To identify demographic factors influencing towards e-learning quality in insurance institution
To determine the relationship between e-learning quality and user satisfaction

THE RESEARCH HYPOTHESIS

The study attempt to verify the following two hypotheses:
$H_0$1: There is no significance difference between gender and e-learning system
$H_0$2: There is no positive relationship between e-learning system and user satisfaction

RESULTS ANALYSIS AND DISCUSSION

The term 'analysis' refers to the calculation of certain measures along with searching for patterns of relationship among variables that exist between different data groups.

Table 1: Demographic Classification of the Respondents

Demographic Variables		Frequency	Total (Percentage)
Gender	Male	153 (83.6)	**265 (100)**
	Female	112 (16.4)	
Year	First	65 (24.5)	**265 (100)**
	Second	90 (33.7)	
	Third	110 (41.7)	

The analysis of the demographics in Table 1 shows that 83.6% of respondents are male and 16.4% are female. The percentage of female is showing a decline. According to the year wise of respondents, it shows that 24.5% of respondents are in the first years, 33.7% are second year and 41.7% of them are third year. Thus it can be interpreted that highest percentage was third year.

Table 2: Mean and SD Value of Information Quality

E- Learning Factors		Mean	SD
Information Quality	Completeness	3.62	1.07
	Well organized	3.51	1.03
	Effectively presented	3.84	0.98
	Of the right length	3.91	0.95
	Clearly written	3.49	1.08
	Useful	3.84	1.07
	Completeness	3.74	1.13
System Quality	Easy to use	3.62	1.07
	User friendly	3.51	1.03
	Stable	3.84	0.98
	Secure	3.91	0.95
	Fast	3.49	1.08
Service Quality	Prompt	3.62	1.07
	Responsive	3.51	1.03

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	Fair	3.84	0.98
	Knowledgeable	3.91	0.95
	Available	3.49	1.08
Use Practices	Power point slides	3.62	1.07
	Audio	3.51	1.03
	Script	3.84	0.98
	Discussion board	3.91	0.95
	Case studies	3.51	1.03
	Practice problems	3.84	0.98
	Excel tutorials	3.91	0.95
	Assignments	3.49	1.08

Source: Primary Data

By referring to demographic characteristics of private engineering institution faculty members in Tamil Nadu and PMS factors scores in table 3. Independent sample t-test has been conducted in order to examine the significance of relationships between them.

H_o 1: There is no significant difference between Gender and E-Learning factors

Table 3: T Test for Gender Vs. PMS Factors Scores

E-Learning factors		**N**	**Mean**	**SD**	**T**	**Sig**
Information quality	Male	153	3.71	0.72	.059	0.004
	Female	112	3.69	0.68		
	Total	265	3.71	0.71		
System quality	Male	153	3.71	0.72	.029	0.001
	Female	112	3.69	0.68		
	Total	265	3.71	0.71		
Service quality	Male	153	3.61	0.92	.042	0.008
	Female	112	3.47	0.65		
	Total	265	3.45	0.65		
Use Practices	Male	153	3.61	0.92	.039	0.006
	Female	112	3.41	0.75		
	Total	265	3.55	0.54		

Table 4 is the independent t-test analyses of perception of respondents based on gender. In the table, the E-learning factors and use practices mean, SD and significance value can be observed. In information, mean value of male is (M =3.71, SD = 0.72), female is (M = 3.69, SD = 0.68), enduring cited above for mean and SD value and there is a significant relationship between gender and Information quality, system quality and service quality because the significant value is less than 0.05. There is a significant relationship between gender and employee integration because the significant value is less than 0.05.

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H_o 2: There is no significant relationship between E-learning Quality and User Satisfaction

Table 4: Regression for E-learning Quality and User Satisfaction

R	R Square	Adjusted R Square		Std. Error of the Estimate	F	Sig
.246[a]	.060	.059		1.0034	63.17	.000[a]
Coefficients[a]		Unstandardized Coefficients		Standardized Coefficients	t	Sig
		B	Std. Error	Beta		
(Constant)		2.295	.170		13.52	.000
Information quality		.357	.045	.246	7.95	.001
System quality		.347	.044	.248	6.95	.020
Service quality		.337	.037	.252	6.85	.003

Source: Primary Data a. Dependent Variable: User Satisfaction

R is the coefficient of correlation, which is 0.246 and R square is coefficient of determination i.e. 0.060 which explains the change in E-learning quality may leads to change in user satisfaction in terms of ratio. More the R square better the model, F value is 63.17 which is more than threshold value of 4. Since significant value is <.05 so it is significant at minimum 5% level. Therefore, an E-learning quality variable positively influences user satisfaction. In this association null hypothesis is rejected.

FINDINGS AND SUGGESTIONS

This article has endeavored to unbundle the issue of characterizing a wide calculated system for the utilizations of electronic innovations in instructive and preparing settings, and additionally to analyze the obstructions intrinsic in their real usage. It appears that both the talk on e-learning and its related research are as of now in motion. The article made four noteworthy focuses. To start with, the talk on cutting edge advancements is portrayed by an extensive rundown of difficult to-recognize terms. This confounding wording originates from the way that the variable innovative capacities are rich and complex. It doesn't appear to be conceivable at this phase to total the various terms into one acknowledged term, to be utilized by all specialists and analysts in this field. It is probably, that new terms will enter the talk on innovations in picking up/showing forms as new advancements and new mechanical applications keep on developing.

Notwithstanding, it is conceivable to issue a supplication to all players in the e-learning field to clarify unmistakably the correct parts of the innovation, which they are alluding to in their exchange or potentially inquire about, to indicate whether the execution happens in grounds based, remove educating or mixed learning situations, and to relate the degree to which the innovation enlarges or replaces customary practices. Such an elucidation may help incredibly in merging the various bits of ebb and flow examines discoveries into a more sound system and in leading a coherent exchange. Second, the time appears to be ready to recognize the way that putting the understudies in the focal point of the learning procedure, and accepting that the data and correspondence advances have the energy of transforming them into self-coordinated and self-sufficient students have ended up being very gullible and unconfirmed presumptions. Most understudies, even computerized locals that were conceived with a mouse in their grasp, can't and unwilling to control completely or to a great extent their investigations. Educators ought not to be seen just as aides as an afterthought. They have an enormously essential part in executing the extensive variety of potential outcomes empowered by the new advancements. Be that as it may, their parts are not undeniable. Emerging the capability of the advancements in getting the hang of/showing settings does not mean simply transplanting the acts of up close and personal experiences to the innovative milieu.

The two understudies and educators should be prepared to wind up noticeably capable PC literates, and emotionally supportive networks ought to be given on a continuous premise all through the examination procedure. Certainly, these constitute testing undertakings which require speculation of cash, time and fitting mastery. Third, the examination on e-learning is set apart by huge holes, especially at the institutional and framework wide levels. There are as of now a huge number of scattered investigations at the small scale level of educating and learning in classroom settings, regardless of whether virtual or genuine. These investigations yield

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opposing outcomes, experience the ill effects of different predispositions, and for the most part don't yield hearty conclusions that empower approach creators to utilize them in an understandable way. Incredible exertion ought to be contributed by organizations and governments to design wide-scope thinks about, to enhance the nature of existing examinations on the utilizations of innovations in different settings, and to combine the numerous discoveries into a thorough structure that may serve arrangement producers, professionals, and specialists at various levels.

Fourth, both the exploration and routine with regards to e-learning are implanted with innate difficulties that ought to be handled by all members. Innovations create at a quickened rate that makes it hard to consider their effect reflectively. Basic factors in the usage procedure ought to be distinguished that are less delicate to the advancement of new innovations. The advantages of utilizing advancements ought to be considered in connection to their cost or included esteem. Not very many examinations exist right now on the expenses of applying the new advances. Advancements ought not to be executed by any methods since they are thought to be creative in nature. They ought to be actualized just on the off chance that they end up being to be better or less expensive. Furthermore, last, designers of new advances ought to know about the effect of creative advances on the narrowing or he augmenting of the computerized hole amongst rich and poor and amongst created and creating nations. Portable advancements today can possibly diminish the computerized separate, while some other imaginative advances are expanding the hole. Crossing over finished the advanced gap constitutes a consuming need in the worldwide and interconnected world in which we live.

CONCLUSION

The investigation inferred that framework quality is the fundamental factor the effectiveness of e-learning framework and consequently e-learning frameworks take thought on the measurements of framework quality. The us capacity factor was found as the most grounded measurement that influence the framework quality The examination suggests that future investigations should direct further assessment to different measurements for example, objectivity, fulfillment, and consistency, likewise analyze the connection between framework interface and data quality.

REFERENCES

Alistair Inglis (2008) "Approaches to the validation of quality frameworks for e-learning", Quality Assurance in Education, Vol. 16 Issue: 4, pp.347-362

Andrew Ettinger, Viki Holton and Eddie Blass (2005) "E-learner experiences: learning from the pioneers", Industrial and Commercial Training, Vol. 37 Issue: 6, pp.286-290

Andrew Ettinger, Viki Holton, Eddie Blass (2006) "E-learner experiences: key questions to ask when considering implementing e-learning", Industrial and Commercial Training, Vol. 38 Issue: 3, pp.143-147.

Antonia Stefani, Bill Vassiliadis, Michalis Xenos, (2006) "On the quality assessment of advanced e-learning services", Interactive Technology and Smart Education, Vol. 3 Issue: 3, pp.237-250

Baomin Li (2009) "The use of e-learning in pre-service teacher education", Campus-Wide Information Systems, Vol. 26 Issue: 2, pp.132-136

Bob Little (2003) “Six sigma” techniques improve the quality of e-learning", Industrial and Commercial Training, Vol. 35 Issue: 3, pp.104-108

Chiao-Chen Chang (2013) "Exploring the determinants of e-learning systems continuance intention in academic libraries", Library Management, Vol. 34 Issue: 1/2, pp.40-55.

Debjani Bhattacharya, Umesh Gulla and M.P. Gupta (2012) "E-service quality model for Indian government portals: citizens' perspective", Journal of Enterprise Information Management, Vol. 25 Issue: 3, pp.246-271

Galamoyo Male and Colin Pattinson (2011) "Enhancing the quality of e-learning through mobile technology: A socio-cultural and technology perspective towards quality e-learning applications", Campus-Wide Information Systems, Vol. 28 Issue: 5, pp.331-344

Hamed Taherdoost (2017) "Understanding of e-service security dimensions and its effect on quality and intention to use", Information & Computer Security, Vol. 25 Issue: 5, pp.535-559.

Ian Roffe (2002) "E-learning: engagement, enhancement and execution", Quality Assurance in Education, Vol. 10 Issue: 1, pp.40-50

Jennifer Ireland Helen Mary Correia and Tim Mark Griffin (2009) "Developing quality in e-learning: a framework in three parts", Quality Assurance in Education, Vol. 17 Issue: 3, pp.250-263

Joan Buckley (2003) "E-service quality and the public sector", Managing Service Quality: An International Journal, Vol. 13 Issue: 6, pp.453-462

Josephine Csete and Jennifer Evans (2013) "Strategies for impact: enabling e-learning project initiatives", Campus-Wide Information Systems, Vol. 30 Issue: 3, pp.165-173

Kevin Young (2002) "Is e-learning delivering ROI?", Industrial and Commercial Training, Vol. 34 Issue: 2, pp.54-61

Peter A.C. Smith, John Peters, (1998) "Learning about service quality", Managing Service Quality: An International Journal, Vol. 8 Issue: 2, pp.119-125

Raphaël K. Akamavi (2005) "Re-engineering service quality process mapping: e-banking process", International Journal of Bank Marketing, Vol. 23 Issue: 1, pp.28-53

Shirley Alexander (2001) "E-learning developments and experiences", Education + Training, Vol. 43 Issue: 4/5, pp.240-248

Ulf Daniel Ehlers (2009) "Web 2.0 – e-learning 2.0 – quality 2.0? Quality for new learning cultures", Quality Assurance in Education, Vol. 17 Issue: 3, pp.296-314

Vivek Agrawal, Sucheta Agarwal, Anand Mohan Agrawal, (2017) "Perception of employees toward e-learning service quality: exploratory factor analysis", Industrial and Commercial Training, Vol. 49 Issue: 7/8, pp.350-356

Yung-Ming Cheng (2014) "Extending the expectation-confirmation model with quality and flow to explore nurses' continued blended e-learning intention", Information Technology & People, Vol. 27 Issue: 3, pp.230-258

Yung-Ming Cheng, (2012) "Effects of quality antecedents on e-learning acceptance", Internet Research, Vol. 22 Issue: 3, pp.361-390

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EMERGING TRENDS OF WEB 2.0 TOOLS IN ADULT EDUCATION

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ABSTRACT:
The use of Web 2.0 technology in teaching and learning activity has given learners and lecturers many opportunities to establish intensive communication and interaction virtually. Some direct feedback can be given by the lecturer to the students using Web 2.0. Adult learners as self-directed learners in higher education with rich resources of learning experiences can potentially use Web 2.0 to support their collaborative learning activities. The emergence of Web 2.0 as a collaborative technology brings about effective interaction and communication virtually among students or with the lecturer. Online learning is one of the collaborative learning models usually used by adult learners. There are many Web 2.0 tools available such as Facebook, Twitter, YouTube, Blogs, Wiki, and Podcast for educational purposes. This paper provides a review of using Web 2.0 tools for adult learners.
Keywords: Web 2.0, adult learners, collaborative learning, online learning

INTRODUCTION

Technology has grown significantly in the world; it was begun in the 1400s with the appearance of the printing press until the invention of Website in the 1900s (Bishop & Verleger, 2013). In education, Websites are being used in educational settings especially in teaching and learning activities (Baltaci-Goktalay & Ozdilek, 2010). The Web is commonly used for accessing learning resources; learners can study online or download the learning materials easily (Allison, Miller, Oliver, Michaelson, & Tiropanis, 2012). Nowadays, more than a thousand learning materials called Open Courseware (OCW) or Open Educational Resources (OER) can be freely accessed on the Web. Richter and McPherson (2012) stated that Open Courseware provides free educational resources online and everyone is allowed to access it. Besides enabling sharing of learning resources, the Web plays a very significant role in establishing communication and interaction between teachers and students or among the students. Today, some technology tools have been used in teaching and learning activity as two way communication between the students and teachers (Adam & Nel, 2009).

The term Web 2.0 was firstly used in 2004 as a second generation of Website allowing users to create and share information or knowledge directly online (Pieri & Diamantini, 2014). Web 2.0 was invented as a second age of the Internet which established two way communications between users (Barnatt, 2008). Compared to traditional Web 1.0 which does is less interactive and does not allow the user to interact and communicate with other users, Web 2.0 is very much more interactive. Web 1.0 is defined as the Web where the user only can read while in the Web 2.0 the user can read and write (Baltaci-Goktalay & Ozdilek, 2010). With the use of Web 2.0, people can meet and talk directly even in different far locations through the computer. Nowadays, students can express and share their ideas through virtual technology Web 2.0 and the students can build good relationship with others not only in the classroom, but also outside it (Harris, & Rea, 2009).

Emergence of new Web 2.0 technology has supported two way communication among individuals in teaching and learning activity. Web 2.0 applications enable individuals to create, share, communicate, and collaborate on the web, regardless of geographical, temporal or technological skill constraints (O'Reilly, 2005). The advent of Web 2.0 has established the social learning interaction in education despite the learners being in different locations. Web 2.0 incorporates a strong social component, including user profiles and it allows users to share text, video, and photo postings along with comments, ratings and tags (O'Reilly, 2005). Web 2.0 gives space for users to share the information and build two way communication; everyone is allowed to share the video, audio, picture, and text on various different Web 2.0 tools. The new practice of teaching and learning activities has come to the world of education after reforming Web 1.0 to Web 2.0 (Bennett, Bishop, Dalgarno, Waycott & Kennedy, 2012).

WEB 2.0 FOR THE TEACHING AND LEARNING PROCESS

Although Web 2.0 applications were not originally designed for education, these tools finally gave the opportunities for student collaborative learning. In the teaching and learning process, Web 2.0 applications can

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support individual learning and allow learners to collaborate with each other (Hsu, Ching, & Grabowski, 2014). Web 2.0 is an interactive Web that allows multiple users to work together in a group, share and exchange information through text, audio or video conferencing (Allison et al., 2012). Web 2.0 tools are used to support the learners' collaborative learning activities whereby all are allowed to share and work together toward resolving issues or solving problems.

The characteristics of Web 2.0 consist of communication and collaboration (DiBlasi, 2010). The source of knowledge is not from the teacher but from every student; the learners are demanded to learn from and teach their peers even though they never meet physically face to face. Moreover, Web 2.0 tools allow the instructor to give immediate feedback on student work (Hsu, Ching, & Grabowski, 2013). By using Web 2.0 in the teaching-learning process, the learners are demanded to work collaboratively by exchanging ideas and information; they might use their previous knowledge to solve the problem of learning (Dewiyanti, Brand-Gruwel, Jochems, & Broers, 2007).

THE ROLE OF WEB 2.0 IN ADULT EDUCATION

Adult learners refer to graduate and postgraduate students in higher education (Serdyukov & Serdyukova, 2006). Adult learners study independently because they are mature enough and have previous knowledge and experience in their learning activities. Adult pedagogy is built based on self-directed learners where the learners have their previous knowledge or experience in a current learning situation (Serdyukov & Serdyukova, 2006). The use of Web 2.0 will guide adult learners to study autonomously. As mentioned by Knowles (1991), adult learners are based on self-directed learning skill, have the intrinsic motivation in learning activity and they learn based on personal experience and background. Self-directed learning is defined as an active learning based on constructivism learning theory; the students are goal-directed and have intrinsic motivation in learning (Pintrich & Zusho, 2002). Adult learners should be involved in learner-centered learning activity (Serdyukov & Serdyukova, 2006). Therefore, the adult learners can study autonomously with the guidance of Web 2.0 tools.

Characteristics of adult learners are based on collaborative approach (Brookfield, 1985). The use of Web 2.0 is relevant for adult learners because it is an interactive web designed based on collaborative learning (Ford, Bowden, & Beard, 2011). The application of collaborative learning as an active learning is relevant to adult learners as the active learners. Constructivist theory is the character of collaborative learning in which learners may construct knowledge by themselves by interacting and collaborating with group members and the environment (Su, Yang, Hwang, & Zhang, 2010). The collaboration in teaching and learning activities is not only to share the information in one way communication, but also to comment, discuss and give feedback on other peers' work (Maguire, Maguire, Hyland, & Marshall, 2014). The principle of Web 2.0 in education is based on user centered, social interaction and collaboration and related to the use of modern learning theory such as constructivism (Vygotsky, 1978).

Collaborative learning is usually applied for adult learners and more particularly an andragogical approach (Serdyukov & Serdyukova, 2006). Collaborative learning for adult learners is establishing both interactive learning and autonomous learning; the learners will collaborate with the instructor and the learners virtually (Ryan & Serdyukov, 2003). The emergence of Web 2.0 as a collaborative technology brings the effective interaction and communication virtually and online learning is one of learning models usually used by adult learners in teaching and learning activities (Hsu, Ching, & Grabowski, 2013). Online learning is conducted where the learners learn virtually in different locations and the teacher will guide, facilitate, instruct and give some feedback on their online learning work; the students also can use their own learning resources and procedures (Serdyukov & Serdyukova, 2006).

IMPLEMENTATION ON USING WEB 2.0 TOOLS FOR ADULT LEARNERS

The majority of adult learners are working people with a career; they are busy and need to balance their studies with their work and career (Bates, 2014). Therefore, the use of online learning through interactive website will benefit adult learners. They need less guidance from the instructor because they already have enough previous learning experience. Virtual learning or online learning can be conducted whether on campus or off campus (Moloney & Oakley, 2010). Most adult learners learn in an asynchronous learning that allows them to study at leisure (Hsu, Ching, & Grabowski, 2013). They do not need to spend much time face to face with the teachers or with their friends to discuss virtually at the same time or in synchronous learning; through self-directed learning skill, the learners can boost their motivation to study independently with the guidance of Web 2.0. An asynchronous online course is a self-paced learning designed for adult learners because they hate to waste learning time and many Web 2.0 tools can be used such as e-mail, Wikis, online discussion board, blogs and

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social media (Serdyukov & Serdyukova, 2006). Raj (2011) mentioned that discussion and chat room, e-mail, social media and video streaming are usually used as the media for online learning.

Online learning with asynchronous environment is very different from conventional learning because it is self-regulated learning; students do not physically present themselves or meet face to face in the classroom. The learners have their own responsibility of learning because they decide their own time and place of learning and everything depends on their convenient time and place (Wang, Shannon, & Ross, 2013). Therefore, the course is successful when students have self-directed learning skill and intrinsic motivation to support their individual learning (Marks, Sibley, & Arbaugh, 2005).

The main purpose of online learning is to establish student-centered learning activities; students learn based on their experience to enhance satisfaction of learning (DuCharme-Hansen & Dupin-Bryant, 2004). Historically, online learning was implemented to support part time higher education students who are usually busy with their work or career (Caywood & Duckett, 2003). Web 2.0 tools such blogs, social media, and Wikis are used for active learning. Web 2.0 is used not only to access the information, but also to share information with other users and to give responses or comment (Maloney, 2007).

The Web 2.0 offerings such as social networking websites, wiki and communication instruments which emphasize collaboration and sharing among users are easy to use. In fact, the Web 2.0 not only allows for content sharing, collaboration and communication among users, but also lets the users, even those with little experience with ICTs to produce content. The use of Web 2.0 in learning environments allows all the actors involved to actively participate in the learning process, giving them the possibility to generate and propose contents, to stimulate discussions and in general to create real learning communities (Pieri & Diamantini, 2014). All of these Web 2.0 tools can be applied for online learning. Social networking such as Facebook allows users to interact with other users even in different locations (Mazman & Usluel, 2010). The use of video conference as a method of student-student or student-teacher interaction within learning objects is possible through tools such as Skype and webinars (Meskill & Anthony, 2007). By using these tools, the students can see body language, view facial expressions, have enhanced perception of voice inflections, and deeper understanding of classmate and teacher contributions where simple text based interaction may create a sense of transactional distance (Stein, Wanstreet & Calvin, 2009). Using these tools will increase collaboration and improve their social interaction among students.

WEB 2.0 TOOLS TO ENHANCE ADULT LEARNING

This part suggests practical ways of using different Web 2.0 tools such as Blog, YouTube, Twitter, Facebook, Podcast and Wiki to promote collaborative learning between adult learners and teachers. According to Ford et al. (2011), Web 2.0 tools such as blogs, wikis, and YouTube can be used to facilitate learner-instructor collaboration. These technology tools will help to create online social interaction where the individuals can create the content according to their interests and needs; the tools are used both in the formal or informal learning context (Bisgin, Agarwal, & Xu, 2012; Musiał, & Kazienko, 2013). Social network tools play an important role to support collaboration in the teaching and learning process, knowledge sharing, and establishing interaction and communication between users in different places (Brandtzæg & Heim, 2007). Social networks are known as virtual group interactions that establish the collaboration, social connections, and exchange of information among the users. The social networks also act as the media connecting people around the world to exchange information and everyone can chat with friends and talk through video call despite huge distances between them (Calvi, Cassella, & Nuijten, 2010; Lee & McLoughlin, 2008)

Facebook is a form of social media facilitating students to discuss and communicate with each other virtually (Metzger, Finley, Ulbrich & McAuley, 2010). Millions of people use Facebook for various purposes; it connects people around the world to communicate easily and every user can share information and give comments to other users (Mazman & Usluel, 2010). It allows the students to meet virtually outside the classroom to exchange ideas about the course (O'Keeffe & Clarke-Pearson, 2011). Twitter is also the same with Facebook as a popular social media playing a significant role in producing rich discussion among students (Junco, Heiberger, & Loken, 2010). Twitter brings the learners together through in collaborative learning and they can work with peers and exchange ideas (Morgan, 2014). Twitter encourages students to do better work because they have to present or publish their work on this media and other users will read and give comments (Howard, 2011).

YouTube, another Web 2.0 video-sharing site, is a good example of an application that enables users to upload or share the content freely. Video-sharing sites usually allow users to share and comment on the content, which could also engage viewers in social interaction and knowledge construction (Hsu, Ching, & Grabowski, 2013). Most adult learners in the United States accessed online video in 2013. DeCesare (2014) mentioned that the

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access of online video by adult Americans especially YouTube has increased from 69 percent in 2009 to 78 percent in 2013. Many online video courses provided on YouTube can be adopted by adult learners as the instructional video of learning (Raths, 2014). With free online YouTube video, the students can access learning material everywhere and anytime outside the classroom (Hamdan et al**.,** 2013).

Blog is a collaborative tool of Web 2.0 used to publish ideas and thoughts, communicate and interact with peers, often to solve a problem (Popescu, 2014). A blog is an online diary allowing learners to create an account, write and publish their writing, photos and video on their own Web page; it also includes the discussion space and comments from visitors (Alexander, 2006; Castenade, 2007). People can publish information collected from various resources and it establishes the relationship with other users in the blog discussion space to exchange the ideas. Blog can enable building of communities of practice for learning (Luehmann & Tinelli, 2008). Blog providers offer brief online tutorials to assist the user in creating his or her free blog.

Wiki is a collaborative writing task and the member can write and edit the writing on the Wiki (Popescu, 2014). Wiki is a community portal page used for collaborative learning and quite similar with blog that allows the users to write and post comments on the page, also to edit other users' writing (Platt & Peach 2014). The use of Wiki will increase the students' motivation on writing skill, since they are allowed to write, publish and edit the text on Wiki (Martinsen & Miller, 2012). In addition, Podcasting is a digital media that can be used to support adult learning (Lee, McLoughlin, & Chan, 2008; Maikat, Martinez, & Jorstad, 2007). Podcasting is used based on iPod which involve audio making and recording (Ting, 2014).

CONCLUSION AND SUGGESTIONS FOR FUTURE STUDIES

The emergence of new Web 2.0 technology has supported two way communication among individuals in teaching and learning activity. Adult learners as self-directed learners who have much experience in learning activities are potential users of Web 2.0 in their learning. Face to face or traditional learning can be altered by using virtual learning or online learning. Web 2.0 tools such as Facebook, Twitter, YouTube, Wiki, Blogs, and Podcast are potentially very useful tools to use in virtual learning with collaborative activity. The use of these Web 2.0 tools will facilitate learner-instructor collaboration in online learning.

However, the use of Web 2.0 is not only limited applied for adult learners in higher education, but also applied for schools students in the blended learning model. One example of future research is on using Web 2.0 for blended learning in the secondary school. In blended learning, students will have physical or face to face meeting in the classroom and use Web 2.0 when outside the class. Students can use Web 2.0 tools when doing homework such as using YouTube Edu to watch learning material or using Wiki to practice writing at home.

In addition, Web 2.0 also can be applied in the flipped classroom model. In the flipped classroom, the students learn outside the class by watching the lecture video and do discussion while in the classroom. There are so many free lecture videos provided on the Web such as YouTube or Ted Talk; the students can directly give comments after watching them. A future study on applying of Web 2.0 media to support the flipped classroom model will be very interesting. Therefore, future research can be potentially conducted on the implementation of the flipped classroom model supported by Web 2.0 media.

REFERENCES

Adam, S., & Nel, D. (2009). Blended and online learning: Student perceptions and performance. *Interactive Technology and Smart Education, 6*(3), 140-155.

Alexander, B. (2006). Web 2.0: A new wave of innovation for teaching and learning? *Educause Review, 41*(2), 32.

Allison, Miller, Oliver, Michaelson, & Tiropanis (2012). The Web in education. *Computer Network, 56,* 3811-3824.

Baltaci-Goktalay, S., & Ozdilek, Z. (2010). Pre-service teachers' perceptions about web 2.0 technologies. *Procedia-Social and Behavioral Sciences, 2*(2), 4737-4741.

Barnatt, C. (2009). Higher Education 2.0. *The International Journal of Management Education, 7*(3), 47-56.

Bates, A. (2014). Instructional design for distance learning. *Instructional Design: International Perspectives II: Volume I: Theory, Research, and Models: volume Ii: Solving Instructional Design Problems*, 369.

Bennett, Bishop, Dalgarno, Waycott, & Kennedy, (2012). Implementing Web 2.0 technologies in higher education: A collective case study. *Computers & Education, 59,* 524–534.

Bisgin, H., Agarwal, N., & Xu, X. (2012). A study of homophily on social media. *World Wide Web, 15*(2), 213-232.

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Bishop, J. L., & Verleger, M. A. (2013). The flipped classroom: A survey of the research. In *ASEE National Conference Proceedings, Atlanta, GA.*

Brandtzæg, P. B., & Heim, J. (2009). Why people use social networking sites. In *Online communities and social computing* (pp. 143-152). Retrieved from http://www.academia.edu/907531/Why_People_Use_Social_Networking_Sites

Brookfield, S. (1985). The Continuing Educator and Self-Directed Learning in the Community. In S. Brookfield (Ed.), *New directions for Continuing Education 25* (Self-Directed Learning: From Theory to Practice). San Francisco, CA: Jossey-Bass.

Calvi, L., Cassella, M., & Nuijten, K. (2010). Enhancing users' experience: A content analysis of 12 university libraries Facebook profiles. In *ELPUB 2010 International Conference on Electronic Publishing*, Helsinki (Iceland), 16-18 June, 258-269.

Caywood, K., & Duckett, J. (2003). Online vs on-campus learning in teacher education. *Teacher Education and Special Education, 26*(2), 98-105.

DeCesare, J. A. (2014). The expanding role of online video in teaching, learning, and research. *Library Technology Reports, 50*(2), 5-12.

Dewiyanti, S., Brand-Gruwel, S., Jochems, W., & Broers, N. J. (2007). Students' experience with collaborative learning in asynchronous computer-supported collaborative learning environments. *Computers in Human Behavior, 23*(1), 496-514.

DiBlasi, H. (2010). Tools for schools: What's new with web 2.0. *Middle Ground, 13*(3), 8-9.

DuCharme-Hansen, B. A., & Dupin-Bryant, P. A. (2004). Distance education plans: Course planning for online adult learners. *TechTrends, 49*(2), 31-39.

Ford, N., Bowden, M., & Beard, J. (2011). Learning together: Using social media to foster collaboration in higher education. *Cutting-edge Technologies in Higher Education, 2*, 105-126.

Hamdan, N., McKnight, P., McKnight, K., & Arfstrom, K. (2013). *A review of flipped learning.* Retrieved from http://www.flippedlearning.org/review

Harris, A. L., & Rea, A. (2009). Web 2.0 and virtual world technologies: A growing impact on IS education. *Journal of Information Systems Education, 20*(2), 137-144

Howard, M. E. (2011). Not an unfeasible "extra." *Science and Children, 49*(4), 32-35.

Hsu, Y. C., Ching, Y. H., & Grabowski, B. L. (2014). Web 2.0 applications and practices for learning through collaboration. In *Handbook of research on educational communications and technology* (pp. 747-758). New York, NY: Springer.

Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. *Journal of Computer Assisted Learning, 27*(2), 119-132.

Knowles, M. (1991). In *Adult Education: Evaluation and achievements in a developing field of study*. John M. Peters (Ed.), San Francisco, CA: Jossey-Bass.

Lee, M., McLoughlin, C., & Chan, A. (2008). Talk the talk: Learner-generated podcasts as catalysts for knowledge creation. *British Journal of Educational Technology, 39*(3), 501-521.

Luehmann, A. L., & Tinelli, L. (2008). Teacher professional identity development with social networking technologies: Learning reform through blogging. *Educational Media International, 45*(4), 323–333.

Maguire, P., Maguire, R., Hyland, P., & Marshall, P. (2014). Enhancing collaborative learning using pair programming: Who benefits? *AISHE-J: The All Ireland Journal of Teaching and Learning in Higher Education, 6*(2).

Maikat, R. P., Martinez, R. D., & Jorstad, J. A. (2007). Podcasting for your class. *The Journal of Physical Education, Recreation & Dance, 78*(5), 14-16.

Maloney, E. (2007). What Web 2.0 can teach us about learning? *Chronicle of Higher Education, 25*(18), B26.

Marks, R. B., Sibley, S. D., & Arbaugh, J. B. (2005). A structural equation model of predictors for effective online learning. *Journal of Management Education, 29*(4), 531-563.

Martinsen, R. A., & Miller, A. (2012). Collaboration through wiki and paper compositions in foreign language classes. *The IALLT Journal, 42*, 72-95.

Mazman, S. G., & Usluel, Y. K. (2010). Modeling educational usage of Facebook. *Computers & Education, 55*(2), 444-453.

Meskill, C., & Anthony, N., (2007). The Language of Teaching Well with Learning Objects. *MEROLT Journal of Online Learning and Teaching, 3*(1), 79-93.

Metzger, A. H., Finley, K. N., Ulbrich, T. R., & McAuley, J. W. (2010). Pharmacy faculty members' perspectives on the student/faculty relationship in online social networks. *American Journal of Pharmaceutical Education, 74*(10).

Moloney, J. F., & Oakley II, B. (2010), Scaling online education: Increasing access to higher education. *Journal of Asynchronous Learning Networks, 14*(1), 55-70.

Morgan, H. (2014). Enhancing instruction and communication with twitter. *Childhood Education, 90*(1), 75-76.

Musiał, K., & Kazienko, P. (2013). Social networks on the internet. *World Wide Web, 16*(1), 31-72.

 Copyright © The Online Journal of Distance Education and e-Learning

O'Reilly, T. (2005). *What is Web 2.0: Design patterns and business models for the next generation of software*. Retrieved from http://oreilly.com/pub/a/web2/archive/what-is-web-20.html?page=1

O'Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents, and families. *Pediatrics, 127*(4), 800-804.

Pieri, M., & Diamantini, D. (2014). An E-learning Web 2.0 Experience. *Procedia-Social and Behavioral Sciences, 116*, 1217-1221.

Pintrich, P. R., & Zusho, A. (2002). The development of academic self-regulation: The role of cognitive and motivational factors. In A. Wigfield & J. S. Eccle (Eds.), *Development of achievement motivation* (pp. 249–284). San Diego, CA: Academic Press.

Platt, R. G., & Peach, E. B. (2014). Active Learning 2.0 or Wiki is not a 4-Letter Word. *Developments in Business Simulation and Experiential Learning, 35*.

Popescu, E. (2014). Providing collaborative learning support with social media in an integrated environment. *World Wide Web, 17*(2), 199-212.

Raj, R. (2011). Evaluating the innovation of Online Learning Systems in Higher Education. *International Journal of Management Cases, 13*(4), 12-23.

Raths, D. (2014). Nine video tips for a better flipped classroom. *The Education Digest, 79*(6), 15-21.

Richter, T., & McPherson, M. (2012). Open educational resources: Education for the world? *Distance Education, 33*(2), 201-219.

Ryan, M., & Serdyukov, P. (2003). Online education for adults: An andragogic approach. In EdMedia 2003 World Conference on Educational Multimedia, Hypermedia & Telecommunications, Honolulu June 2003.

Serdyukov, P., & Serdyukova, N. (2006). Adult learners in an online college class: Combining efficiency and convenience of E-learning. In *Education for the 21st Century: Impact of ICT and digital resources* (pp. 205-214). Springer US.

Stein, D.S., Wanstreet, C.E. & Calvin, J. (2009). How a Novice Adult Online Learner Experiences Transactional Distance. *The Quarterly Review of Distance Education, 10*(3), 305-311.

Su, A., Yang, S. J., Hwang, W. Y., & Zhang, J. (2010). A Web 2.0-based collaborative annotation system for enhancing knowledge sharing in collaborative learning environments. *Computers & Education, 55*(2), 752-766.

Ting, K. Y. (2014). Blended learning as a theoretical framework for the application of podcasting. *English Language Teaching, 7*(5), 128.

Vygotsky, L.S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Wang, C., Shannon, D. M., & Ross, M. E. (2013). Students' characteristics self-regulated learning, technology self-efficacy and course outcomes in online learning. *Distance Education, 34*(3), 302-323.

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KNOWLEDGE SHARING AMONG FACULTY MEMBERS IN RESEARCH INSTITUTES IN IRAN

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ABSTRACT
This study aimed to explain the status of knowledge sharing among Iranian faculty members of research institutes and to study the effective factors on it. The research method was qualitative. For data collection, an interview was conducted with 16 experts and faculty members of research institutes. After interviewing, the findings were analyzed by open source coding. The results of interviews showed that the prerequisite for the sharing of tacit knowledge and experience in Iranian research institutes were: academic policies, legal support, organizational climate, academic culture, and individual culture. Also, there was knowledge sharing in research institutes and only in some cases due to the lack of prerequisites or factors facilitating the sharing of knowledge or the existence, it has been interrupted or ineffective. However, the main focus of the phenomenon of knowledge sharing among faculty members was their individual factors in sharing knowledge with colleagues.
Keyword: Higher education, knowledge sharing, faculty members, research institutes

INTRODUCTION

Nowadays and in the society of knowledge, knowledge is a considerable resource (Kende et al., 2007). knowledge can be defined as "information processed by individuals including ideas, facts, expertise, and judgment relevant for individual, team, and organizational performance" (Wang and Noe, 2010). There are two types of knowledge, including: (1) explicit knowledge and (2) tacit knowledge. Explicit knowledge is the type of knowledge that is easy to disseminate. in contrast, Tacit knowledge is not easily articulated and exists within a person's mind and can be seen in his actions, but may be difficult to codify (Jones and Leonard, 2009). By shifting from natural resources to intellectual assets, the importance of knowledge and Knowledge Management has been widely accepted. Knowledge Management can be identified as a framework for designing the strategy, structures, and processes of an organization. Thus, the organization is able to use what it knows to create economic and social value for the customers and the wider community (Olubunmi Omotayo, 2015). Knowledge Management can transform organizational new levels of effectiveness, efficiency, and scope of operation. (Dhamdhere, 2015). So, it has increased in popularity as a management tool and as a research discipline, as well (Joy Cranfield and Taylor, 2008). As other organizations, knowledge management is a significant issue of higher education institutions. Higher learning institutions are no longer just disseminating knowledge to students, but they serve as a storage of knowledge (Sohail and Daud, 2009). So, since knowledge and creativity are the essential elements of thriving societies (Joy Cranfield and Taylor, 2008), it is important that Higher education institutions improve their knowledge management to better respond to internal and external need of their environments (Pircher and Pausits, 2011).

Knowledge Management can be classified in three processes, including: knowledge acquisition, knowledge sharing and knowledge utilization (Tiwana, 2002). In other words, one of the key activities of effective Knowledge Management is Knowledge sharing (Ekeke, 2011; Olatokun and Nwafor, 2012). Knowledge Sharing is defined as Processes that "involve exchanging knowledge between individuals and groups" (Yu et al., 2010). It is the act of disseminating and making available the knowledge that is already known (Tiwana, 2002). By Knowledge sharing, individuals' knowledge and experiences can be transferred as an important asset of organization and maintained for creating new knowledge (Liaw, et al., 2008). In other words, during the knowledge sharing process, individuals exchange their knowledge (both explicit and tacit knowledge) and produce a new knowledge. This process has two stages: knowledge presenting and knowledge reception (Van den Hoof & de Leeuw Van Weenen, 2004; cited in Salimi, 2012). Studies have been done about knowledge sharing in Higher Education (e.g. Sohail and Daud, 2009; Ramayah et al., 2009; Howell & Annansingh, 2012), however, the studies in this field are relatively less. Sohail and Daud (2009) found that nature of knowledge and working culture played a significant role in improving knowledge sharing among the teaching staffs. Yassin et al. (2013), in their study, found that positive and significant correlation existed between organizational factors and behavioral intention of teachers to use ICT in knowledge sharing. Bock and Kim (2002) suggested that reward and recognition were among the factors that could motivate people to share knowledge. Yang (2007) stated that there was a strong and positive relationship between a collaborative culture and the effectiveness of knowledge sharing. Table 1. Shows findings of some researches on knowledge sharing in academic settings

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Table1. A samples of researches about knowledge sharing in academic settings

researcher	Objectives, method, population and country	Main findings
Howell & Annansingh (2012)	To examine knowledge sharing of creation in universities. Constructive approach and focus group. Two focus groups of two faculty members in two universities, in England	The results showed that organizational culture and cultural expectations play an essential role in higher education institutes' tendency to knowledge sharing and creation.
Salimi (2012)	Designing a model for knowledge sharing among faculty members, Public Universities, Tehran, Iran	Some factors influence knowledge sharing including: enjoying helping others, attitude toward sharing (internal and personal motivations), three motives for promotion in organization, the nature of being a faculty member, and the motivation for gaining financial benefits (external and organizational motivations).
Zawawi et al (2011)	Exploring factors and obstacles of knowledge sharing behavior or among non-faculty staff of universities. The method is correlational descriptive and case study of 156 employees in Malaysia	There is a negative relationship between lack of self-efficacy (individual factor), lack of information and communication technology (technological factor and organizational rewards (organizational factor) as obstacles of practical knowledge sharing.
Ma & Yuen (2011)	Studying motivational factors of online knowledge sharing. The method is a survey including 581 students in Hong Kong	The results showed that online received motivations and commitment has a positive and significant relationship with online knowledge sharing.
Xue et al (2011)	To examine the effect of team atmosphere and empowering leadership on individual's knowledge sharing behavior. The survey was used of 434 samples of students in US.	The results showed that team atmosphere and empowering leadership have a significant impact on students' knowledge sharing behavior through affecting their attitude.
Teh et al (2010)	Studying the relationship between internet self- efficacy, computer self- efficacy and cultural factors that affect knowledge sharing. A survey and significant of 135 Chinese students in Malaysia	Computer, offering a face knowledge has a positive relationship with knowledge sharing behavior and face to face knowledge reception has a negative and significant relationship with knowledge sharing behavior
Chang et al (2009)	Studying the effect of individual, organizational and technological factors on knowledge sharing of faculty members. A survey of 60 faculty members in Malaysia	The results showed that reward systems and individual expectations have impact on knowledge sharing. But resorting to force faculty members to participate is not a suitable policy.

Reference: Salimi, 2012

According to the importance of knowledge sharing in organizations in general, and in research institutes in particular; this research addresses the knowledge sharing among faculty members of research institutes in Iran and so, can be considered as an important study in the field of higher education research in Iran.

METHODS

The main objective of this research is to study the sharing of tacit knowledge (experiences) among faculty members of Iranian research institutes. This qualitative research is applied and exploratory study, which is part of a larger project on the status of organizational experiences documentation of directors and deputies in research institutes of Iran. The statistical population of this study included faculty members of research institutes in Iran. By targeted

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sampling, a list of eligible individuals for the interview (about 30 people) was selected initially, and after communicating with those, only 18 individuals responded positively for interview. They were also asked to submit their suggestions, and they would introduce people who shared better tacit knowledge or documented and transmitted their experience. For data collection, deep interview conducted, interviews were recorded and implemented. Interviews continued until theoretical saturation reached after 16 interviews. Data analysis done through open source coding, and for its validity, participants were simultaneously assisted in analyzing and interpreting the data.

Data Analysis and Findings

After analyzing the interviews, the findings showed that the prerequisite for the sharing of tacit knowledge and experience in the research institutes and Iran were: academic policies, legal support, organizational climate, academic culture and individual culture. In other words, it is the individual culture that provides the basis for sharing tacit knowledge and internal experience, and it was influenced by social culture. Also, academic culture was influenced by the organizational climate of the research institute, which impacted the process of registration and sharing of tacit knowledge. The findings showed that research institutes needed policy and legal infrastructures to create the basis for sharing of tacit knowledge.

Table 2. Results of coding

Prerequisite of knowledge sharing	Incentives	Barriers of knowledge sharing
Policy infrastructures	Regulations	Administrative bureaucracy
legal infrastructures	promotion regulations	Bad governance in research institutes
organizational climate	The support of the heads of research institutes	Lack of support and encouragement of knowledge sharing
academic culture	Information Technology	In-group and intra-organizational inadequate competition
social culture	Financial privileges	Organizational silence
individual culture	religious factors	Individual anti-ethical features of some members
---	Media and social networks	---
---	Internationalization of research institutes	---
---	Competitiveness of higher education and research institutes	---
---	work Teams	---
---	Organizational Agility	---

Also, based on the findings from the interviews, the current status of research institutes faculty members in terms of knowledge sharing is as follow (Table 3):

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Table 3. Status of research institutes' faculty members regarding knowledge sharing

Personal status	Organizational status	Knowledge status	Status of external factors In the Department of Science	National factors status	International status
Ethics	Internal work teams	Subject knowledge	external work teams	International research interactions	International research interactions
Religious beliefs	Information Technology	Content knowledge	Research interactions, and academic implementation (consulting, testing, project, etc.)	Traditional and virtual national teams	International lectures
Individual Beliefs and Attributes (Ownership or Fellowship)	The support of the heads of research institutes	Experimental and Organizational Knowledge	Cooperation Memorandums	Lectures	International articles
Insights	Organizational Media	---	Internal media	Scientific Articles	International research fellowships (consulting, testing, projecting, etc.)
Attitudes	---	---	---	workshops	International virtual science teams
Professional capability	---	---	---	Teaching (face to face and electronically and ...)	workshops
Brand of the faculty	---	---	---	Media (social and ...)	Teaching (face to face and electronically and ...)

DISCUSSION AND CONCLUSION

The findings showed that there was knowledge sharing among Iranian research institutes and only in some cases, due to lack of prerequisites or factors facilitating knowledge sharing, or due to preventive factors, it was interrupted or slowly and incompletely implemented. The experience of participants showed that the main focus of knowledge sharing among faculty members in Iranian research institutes was their individual factors in sharing knowledge with colleagues. In other words, factors, such as organizational factors, only played a supportive role in sharing of knowledge. And it is a faculty member who is the ultimate decision maker in knowledge sharing on the basis of his/her knowledge and individual and personality factors. These factors were influenced by the brand of the faculty member, his professional abilities, attitudes, professional ethics, religious beliefs, and personal characteristics. Also, individual factors regarding organizational knowledge sharing (organizational experiences) about performance or unethical behavior play barrier role. It is notable that in the interviews, it was emphasized that for sharing of knowledge, the individual factors in both the knowledge transmitter and the person receiving the knowledge are important and emphasized. Other results of the study were that some lack of regulations and financial support and lack of legal infrastructure prevented the sharing of knowledge among faculty members, and this issue, is more serious regarding the content of the knowledge of organizational experience. Therefore, financial

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incentives and promotion, as well as legal and judicial support, are suggested for knowledge sharing among faculty members of research institutes. Also, it is suggested that in order to accelerate the sharing of knowledge, and particularly, the knowledge of organizational experiences, it is suggested that policymaking is carried out at the national, inter-organizational and internal level. So, knowledge sharing, especially tacit knowledge, in the organizational culture of research institutes being done.

REFERENCES

Bock, G. W., and Kim, Y.G. (2002). Breaking the Myths of Rewards: An Exploratory Study of Attitudes about Knowledge Sharing. Information Resources Management Journal, 15(2), 14-20.

Cheng M.Y, Ho J, S. Y, and Lau P. M. (2009). Knowledge Sharing in Academic Institutions: a Study of Multimedia University Malaysia. Electronic Journal of Knowledge Management, 7(3), 313 - 324.

Dhamdhere, S.M. (2015). Importance of knowledge management in the higher educational institutes. Turkish Online Journal of Distance Education-TOJDE, 16(1), 162-183.

Ekeke, H. E. (2011) Knowledge management in the Nigerian public service. Unpublished Thesis, School of Management and Business, Aberystwyth University, Wales.

Jones, K. and Leonard, L. (2009). From Tacit Knowledge to Organizational Knowledge for Successful KM. Annals of Information System, 27-39.

Joy Cranfield, D. and Taylo, J. (2008). Knowledge Management and Higher Education: A UK Case Study. Electronic Journal of Knowledge Management, 6(2), 85-100.

Kende, G., Noszkay, E. & Seres, G. (2007). Role of the knowledge management in modern higher education – the e-learning. AARMS, 6(4), 559-573.

Kende, G., Noszkay, E. & Seres, G. (2007). Role of the knowledge management in modern higher education – the e-learning. AARMS, 6(4), 559-573.

Liaw, S; Chen, G. & Huang, H. (2008). User's attitude towards web-based collaborative learning systems for knowledge management, Computers and Education, 50(3), pp.950-961.

Ma, Will W. K. & Yuen, Allan H.K. (2011).Understanding online knowledge sharing: An interpersonal relationship perspective. Computers & Education, 56, (1), 210-219.

Olatokun, W. and Nwafor, C. I. (2012). The effect of extrinsic and intrinsic motivation on knowledge sharing intentions of civil servants in Ebonyi state, Nigeria. Information Development, 28(3), 216-234.

Olubunmi Omotayo, F. (2015). Knowledge Management as an important tool in Organisational Management: A Review of Literature. Library Philosophy and Practice.

Pircher, R. and Pausits, A. (2011). Information and Knowledge Management at Higher Education Institutions. Management Information Systems, 6 (2), 8-16.

Ramayah, T., Ignatinus, J. & Yeap Ali Leen, J. (2009). Knowledge Sharing among Academics in Institutions of Higher Learning: A Research Agenda. International Education Studies, 2(1), 3-7.

Salimi, Gh. (2012). Designing A Model for Explanation of knowledge Sharing Among Faculty Members in Public Universities in Tehran. PhD thesis, Shahid Beheshtiy University.

Sohail, M.S. & Daud, S. (2009). Knowledge sharing in higher education institutions: Perspectives from Malaysia. VINE Journal of Information and Knowledge Management Systems, 39(2), 125-142.

Teh PL, Ho JSY, Yong CC, Yew SY. (2010). Internet self-efficacy, computer self-efficacy and cultural factors on knowledge sharing behavior. African Journal of Business Management, 4(18), 4086-4095.

Wang, S. and Noe, R. A. (2010). Knowledge sharing: A review and directions for future research. Human Resource Management Review, 20(2), 115-131

Xue, Y, Bradley, J & Liang, H. (2011). Team climate, empowering leadership, and knowledge sharing. Journal of Knowledge Management, 15 (2), 299 – 312.

Yang, J.T. (2007). Knowledge sharing: Investigating appropriate leadership roles and collaborative culture. Tourism Management, 28(2), 530-543.

Yassin, F., Salim, J., Sahari, N. (2013). The Influence of Organizational Factors on Knowledge Sharing Using ICT among Teachers. The 4th International Conference on Electrical Engineering and Informatics (ICEEI 2013).

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Yu, T, Lu, T. & Liu, T. (2010). Exploring factors that influence knowledge sharing behavior via web logs, Computers in human behavior, 26(1), pp.32-41.

Zamani, A. (2017). A study on the status of documentation of organizational experiences of research institutes directors and deputies, Ministry of Science. Unpublished research project. Institute for Research and Planning in Higher Education, Iran.

Zawawi, et al. (2011). The Study of Barrier Factors in Knowledge Sharing: A Case Study in Public University. Management Science and Engineering, 5, (1), 59-70.

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ON THE ATTITUDES OF CONSTRUCTION TECHNOLOGY STUDENTS TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY

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ABSTRACT
Integrating Information and Communications Technology into education seems to be an important study area for education researchers in the world. However, if teachers cannot make effective use of the information and communications technology tools, the contribution of this subject to education is going to be a waste. In this study, it is analyzed that the attitudes of Construction TechnologyStudents from a Vocational High School towards a specific type of technology based learning, that of Online Web-Assisted Learning.
Data were collected to examine differences in attitudes between traditional learning (teacher centered instruction) and Online Web-Assisted Learning, of differences in attitudes towards Online Web-Assisted Learning between males and females, the correlation between Internet use and Online Web-Assisted Learning attitudes, and the items that students find fascinating in Online Web-Assisted Learning.The research study has generated a number of outcomes to the research question and the results indicate that some students engage in and accept the use of Online Web-Assisted Learning to supplement their learning.
Keywords: information and communications technology, e-learning, students' attitude, instructional technology program

INTRODUCTION

The term online learning (or, distance learning) includes a number of computer-assisted instruction methods. Online teaching and learning is classroom-delivered instruction via the Internet. Online instruction includes real-time (synchronous) and anytime, anywhere asynchronous) interactions (Vry at al., 2000). According to Feenberg (1998), two parallel processes take place in an online environment:

- Students become more active, reflective learners.
- Students and teachers engage in learning through the use of technology and become more familiar with technology by using it.

He stressed that 'online learning is most effective when delivered by teachers experienced in their subject matter. The best way to maintain the connection between online education and the values of traditional education is through ensuring that online learning is "delivered" by teachers, fully qualified and interested in teaching online in a web-based environment'. Online Web Learning (OWL) has turned out as one of the fastest moving trends in education today (Palmer et al., 2001).

Instructors have interaction with students by face to face at a classroom in traditional education system. When the electronic communication tools are coming in the world technology, the way of life is becoming to change in various ways and at various areas. The term "e-learning" has been thrown around a wide using in recent years, many people in education family are still unaware of what it actually means and how it can help them achieve success in the education and social life. When e-learning comes to education system, teaching was in a classroom of students and a teacher who led the educational activities. At that times, any type of learning was questionable at best. Then the computer evolution happened and it radically changed the learning approaches.

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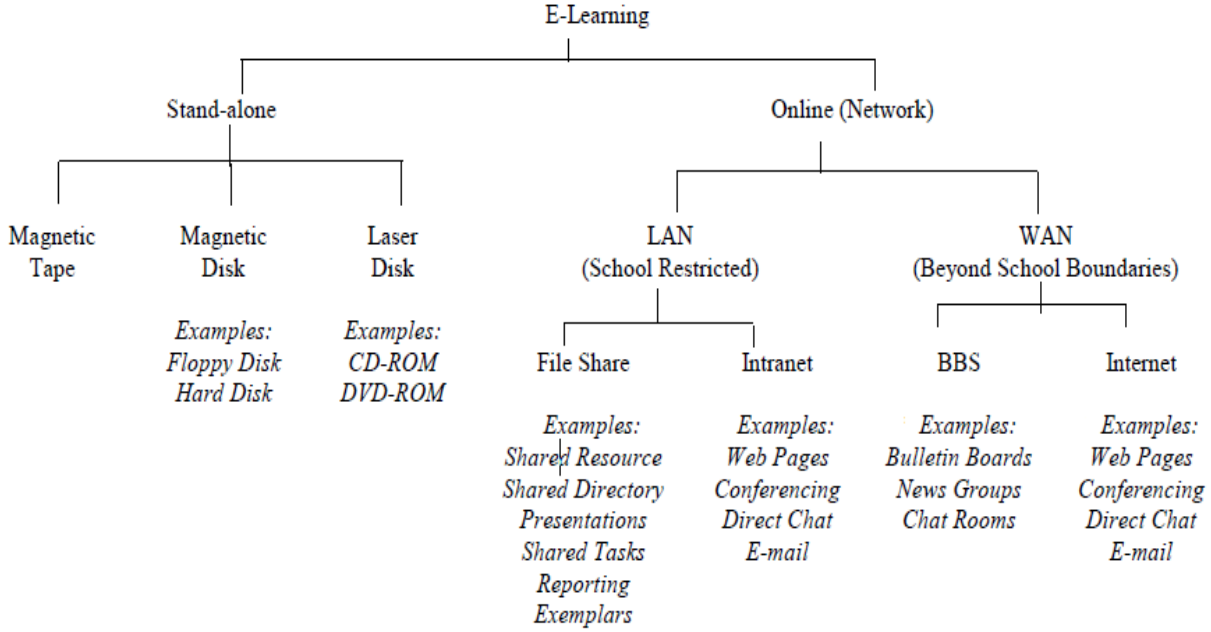
the quest for e-learning (electronic-learning), that is, using a computer to aid in the learning process, at the school level had been usable in the 1980's (Hong at al., 2001). Move clearly, e-learning is a computer based educational tool or system that enables people to learn anywhere and at any time. But, today e-learning is mostly delivered though the internet connection, although in the past it was delivered using a blend of computer-based methods like CD-ROM or hard disk.

Using of an important technological material in schools has made many positive impacts and developments into teaching and learning. However, it can be said the adaptation of Information and Communication Technologies (ICT) into schools has been slow. However, Woodrow (1991) noticed that teacher and student attitudes for this system was significant for acceptance, success and developing of the new system. Paris (2004) give a figurative classification of E-learning that covers a broad area within ICT Education and comes in many media formats as seen in Table 1 (Paris, 2004).

Table 1. A figurative classification of E-learning



An important approach for the key concept 'E-learning' was made by Hong at al., (2001); if a computer is used in teaching, then educational format is Computer Learning (CL). It can be used as two way that;

- Computer Based Learning (CBL), which involves the computer taking the place of the teacher as in distance education
- Computer Assisted Learning (CAL), which involves a teacher using electronic materials about the lecture to make more efficient his/ or her face to face teaching.

In CL, if the computer in the class networked to the Internet with web page access, then Computer learning is expressed as Online Web Learning (OWL). It can be used as two way that;

- Online Web Based Learning (OWBL)
- Online Web Assisted Learning (OWAL)

A figurative version of Hong and his friends' approach explained about is presented in Tablo 2 and Tablo 3, (Paris, 2004).

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Table 2. Parts of computer learning (CL)

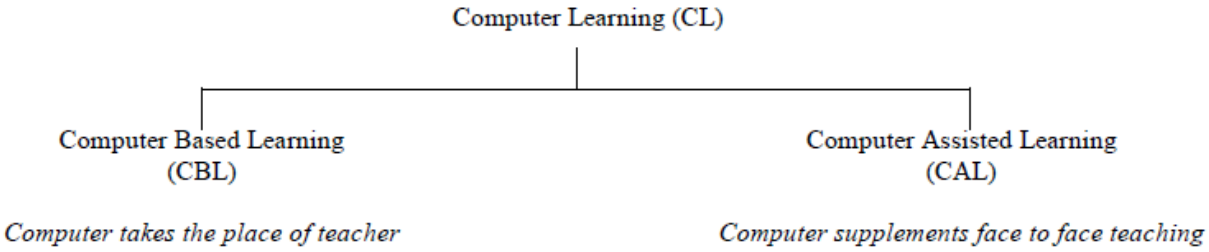
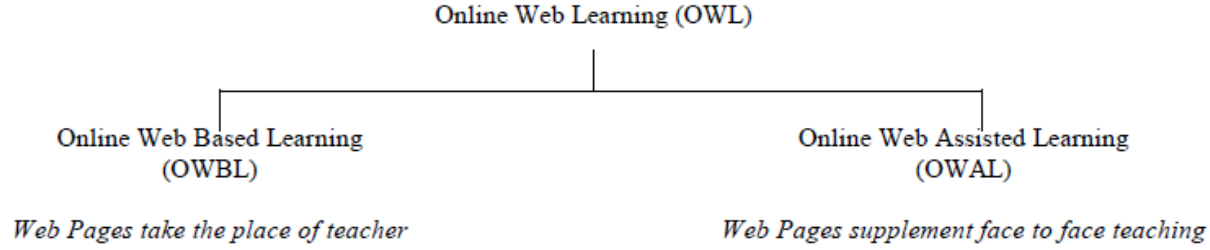


Table 3: Parts of online web learning (OWL)



Trollip and Alessi (1991) noticed some valuable recommendations about developing good e-learning material for students. They consider the following publishing elements:

- Text: "A critical factor affecting the quality of a (e-learning) tutorial is the length of information presentation"
- Graphics and Animation: "Pictures, especially animated ones, capture attention more than text"
- Color: "Color is effective for attracting attention"
- Transitions: "It is difficult for a student to distinguish a change in display that represents a continuation, from one that represents changing to an entirely different topic, the equivalent of changing chapters in a book"
- Help Menus: "(Students) … frequently need help of two types, procedural and informational"
- Questions and Responses: "A lesson which presents information without demanding interaction with the student will not be successful"

METHOD

Sixty-one students (34 males and 16 females, 68% and 32%, respectively) from the Construction Technology department from a vocational high school selected for the study. The students were grouped into two subgroups of 61 students. Basic Information Technology text book (Yıldız at al., 2006) was used to each subgroup in every week at one semester (PAL activity) in the Basic Information Technology Lecture of the program. An OWAL activity was administered that involved multiple linked web pages as its resource. Both the PAL and OWAL activities included colorful photos and graphics. the web pages also included animation and sound presentations in OWAL (Paris, 2004). *There is a unique application difference between the subgroups of the program;* in the lectures of one subgroup, PAL activities were applied activity first; for the second subgroup, the OWAL activities were first

At the end of the semester, the students were applied to an online questionnaire. This questionnaire had four sections of the different information gathered from the students (Paris, 2004):

- Section 1: student personal details and ICT experiences;
- Section 2: students' "behavioral attitudes" towards OWAL;
- Section 3: the "affective attitudes" of students;
- Section 4: the students' "cognitive attitudes".

The items for the questionnaire were obtained from two sources;
One source came from responses provided by a group of 25 randomly selected the program students. The students were asked to provide a written response to two open-ended questions as follows:

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1. When learning for school work, which do you enjoy the most; a book or a Web Site?
2. If you have answered a Web Site, then please continue by answering the following question: What makes learning from a Web Site more enjoyable?

The other source came from the Jones and Clarke's (1994) Computer Attitude Scale (CASS). The scoring for the questionnaire was established as follows: Strongly Agree: 5 points; Agree: 4 points; Undecided: 3 points; disagree: 2 points, and; strongly disagree: 1 point. In the questionnaire, each of the item codes used in the data collection are presented in Table 4 (Paris, 2004).

The Affective and Cognitive Attitudes (14 and 15 items, respectively) of students have a good internal consistency of 0.85 and 0.83 respectively. That is, the items used to determine these attitudinal components were very reliable. However, the Behavioral Attitudes of students (14 items), the Cronbach Alpha Coefficient was 0.62 (Paris, 2004). The 5-point Likert Scale used in the research questionnaire may have contributed to the low Cronbach value (Palmer, 2001).

The classification of dependence between questionnaire items and the research questions are given Table 5 (Paris, 2004).

Table 4. Definition of Questionnaire Item Codes

Code	Questionnaire Items
P1	Indicate your gender
P2	Indicate your age group
P3	How many computers do you have at home?
P4	Do you have access to a computer at school to do your school work?
P5	Do you have access to a computer in the classroom for school work
P6a	Do you have access to the Internet at home?
P6b	If YES to P6 - How often do you use the Internet for chatting (such as ICQ)?
P6c	If YES to P6 - How often do you use the Internet for school work?
6d	If YES to P6 - How often do you use the Internet for playing games?
P7a	Do you have your own email account?
P7b	If YES to P7 - How often do you use the Internet for e-mailing?
B1	I have problems using the mouse when using Web Pages
B2	I have problems using the keyboard when using Web Pages
B3	I have problems using the scroll bars on the Web Pages
B4	If given a choice I would first search for a book to find information for a school project before I search for a Web Site
B5	If given a choice I would get most of my diagrams for school projects from a text book than a Web Site
B6	I avoid using Web Sites whenever I can
B7	I have problems finding my way around a Web Site
B8	I learn to use new Web Sites by trial and error
B9	Other students look to me for help with Web Sites
B10	Using Web Sites has increased my interaction with other students
B11	I develop shortcuts, and more efficient ways to use Web Sites
B12	When I have a problem with a Web Site, I usually solve it on my own
B13	I can adjust Web Pages (such as Font sizes) to suit my needs
B14	I download objects (such as pictures and sound) from a Web Site for school use
F1	The Web Assisted activity terrified me
F2	The colors on the Web Assisted activity made it more interesting than the colors on the Paper Assisted activity
F3	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had animation
F4	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had sound
F5	I felt more uncomfortable using the Web Assisted activity than the Paper Assisted activity
F6	I found the Web Assisted activity more boring than the Paper Assisted activity
F7	School work that uses Web Sites for learning makes me feel happy
F8	If I had a choice I would prefer to learn from a book than from a Web Site
F9	I feel helpless when asked to use Web Sites for school work
F10	I feel confident with using Web Sites
F11	I feel threatened when others talk about Web Sites
F12	Web Sites frustrate me
F13	I preferred the graphics on the Web Site better than the graphics on the Paper Assisted activity

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F14 I get a sinking feeling when I think of trying to use a Web Site
O1 The Web Assisted activity was easier to use than the Paper Assisted activity
O2 The Web Assisted activity was more difficult to read than the Paper Assisted activity
O3 The Web Assisted activity was more difficult to understand than the Paper Assisted activity
O4 Web Sites will take over Books in the future
O5 Working with Web Sites will not be important to me in my career
O6 There should be more school work that uses Web Sites
O7 All subjects in the future will use Web Sites for learning
O8 Students learn more using Web Assisted activities than Paper Assisted activities
O9 Web sites are difficult to learn from
O10 Finding your way around a Web Site is harder than finding your way around a Book
O11 Boys like using Web Sites more than girls do
O12 People who use Web Sites for work are seen as being more important than those who don't
O13 Working on Web Sites means working on your own, without contact with others
O14 To use Web Sites, you have to be highly qualified
O15 Learning from a Web Site is enjoyable because some include games and movies

P = Personal, B = Behavior (Behavioral), F = Feelings (Affective), O = Opinions (Cognitive)

Table 6: The classification of questionnaire items and the research questions

Research Questions	Questionnaire Items
Differences in attitudes between PAL and OWAL	B4, B5, F1, F2, F3, F5, F6, F8, F13, O1, O2, O3, O4, O8, O10
Differences in attitudes towards OWAL between males and females	P1, P2, P3, P4, P5, P6, P7, F3, F5, F6, F7, F8, F9*, F10, F11*, F12*, F13, F14*, O1, O5*, O6, 011*, O13*, O15
*Correlation between Internet use and positive OWAL attitudes	P3, P4, P5, P6, P7, B1, B2, B3, B6, B7, B8*, B9*, B10*, B11*, B12*, B13, B14, F7, F8, F9*, F10, F11*, F12*, F14*, O5*, O6, O7, O9, O12*, O13*, O14*
*Publishing Elements that students find most appealing in OWAL	B5, B13, B14, F2, F3, F4, F13, O15

**Analyze of the research question is not added in this paper.*

FINDINGS

Student Attitudes towards OWAL

Table 7.Mean ratings of attitudes to questionnaire Items

	Behavior			Affective			Cognition	
Code	Male	Female	Code	Male	Female	Code	Male	Female
B1	4.6	4.3	F1	4.0	3.6	O1	3.9	3.8
B2	4.4	4.2	F2	3.7	3.5	O2	3.8	3.9
B3	4.0	4.2	F3	3.6	3.7	O3	3.2	3.7
B4	4.2	4.0	F4	3.6	3.2	O4	4.0	3.9
B5	4.4	4.4	F5	3.4	3.7	O5	4.2	4.0
B6	4.4	3.9	F6	3.8	3.8	O6	4.2	4.1
B7	4.2	3.9	F7	3.6	3.9	O7	3.9	4.1
B8	3.9	3.7	F8	4.2	4.2	O8	3.6	3.8
B9	3.7	3.6	F9	4.6	4.5	O9	3.9	4.1
B10	3.7	3.5	F10	4.7	4.4	O10	3.9	3.7
B11	3.3	3.5	F11	4.2	4.0	O11	4.2	3.9
B12	3.5	3.8	F12	4.1	4.0	O12	4.4	4.1
B13	3.9	3.3	F13	4.4	4.3	O13	4.3	4.0
B14	3.7	4.0	F14	4.6	4.4	O14	3.9	3.8
						O15	4.0	4.1

According to the Table 7 provides an overall summary of the results from the questionnaire. As an example, it can be seen from questionnaire item coded B6 of "Behavioral" that the males Mean rating was 4.4 while the females Mean rating was 3.9, questionnaire item coded F12 of "Affective" that the males Mean rating was 4.1 while the females Mean rating was 4.0 and questionnaire item coded O2 of Behavioral that the males Mean

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rating was 3.8 while the females Mean rating was 3.9. From these score, we can say that both males and females rated OWAL favorably.

Differences in attitudes between PAL and OWAL

Table 8 shows that there is a strong positive tendency by students towards OWAL. It clearly appears that students prefer OWAL because they can get most of the diagrams required for school projects more readily from an Internet site than from a text book (B5, Table 8), they find the graphics on a Web site more appealing (F13, Table 8), students believe they can find additional information more easily from the Internet (B4, Table 8). Their average of that "The Web assisted activity was more difficult tounderstand than the Paper Assisted activity", (O3, Table 8) is fortypercent, and seventy-one percent of the students believed that OWAL will replace books in schools in the future (O4, Table 8) and fifty-three percent of the students enjoyed the fact that OWAL has animations (F3, Table 8).

Table 8. Differences in Attitudes towards PAL and OWAL (N=50)

Code	Questionnaire Item	Mean Rating	Frequency (%)				
			SD	D	U	A	SA
B4	If given a choice I would first search for a book to find information for a school project before I search for a Web Site	4.2	0	8	10	38	45
B5	If given a choice I would get most of my diagrams for school projects from a text book than a Web Site	4.4	0	4	12	33	52
F1	The Web Assisted activity terrified me	3.9	2	9	41	26	23
F2	The colors on the Web assisted activity made it more interesting than the colors on the Paper Assisted activity	3.6	5	19	34	25	18
F3	I preferred the Web Assisted activity instead of the Paper Assisted activity because it had animation	3.6	4	9	36	26	28
F5	I felt more uncomfortable using the Web Assisted activity than the Paper Assisted activity	3.5	3	12	37	24	26
F6	I found the Web Assisted activity more boring than the Paper Assisted activity	3.8	5	6	39	27	24
F8	If I had a choice I would prefer to learn from a book than from a Web Site	4.2	3	6	19	22	52
F13	I preferred the graphics on the Web Site better than the graphics on the Paper Assisted activity	4.3	0	11	21	21	47
O1	The Web Assisted activity was easier to use than the Paper Assisted activity	3.9	2	10	41	28	18
O2	The Web Assisted activity was more difficult to read than the Paper Assisted activity	3.8	3	11	38	28	19
O3	The Web assisted activity was more difficult to understand than the Paper Assisted activity	3.4	4	8	41	23	21
O4	Web Sites will take over Books in the future	4.0	2	7	20	37	34
O8	Student learn more using Web Assisted activities than Paper Assisted activities	3.7	5	8	42	25	21
O10	Finding your way around a Web Site is harder than finding your way around a book	3.8	8	8	42	30	19

SD- Strongly Disagree; D-Disagree; U-Undecided; A-Agree; SA-Strongly Agree

Differences in attitudes towards OWAL between males and females

Table 9. Chi-Square Analysis of Gender Dependence and OWAL Attitudes (N=46)

	Behavior	Affective	Cognition	CASS
Chi-Square	0.604	0.28	0.006	0.125
Asymptotic Significance	0.487	0.570	0.951	0.691

Table 8 provides a summary of the relationship of gender to OWAL attitudes using Chisquare analysis. It indicates that there is no significant difference ($p<0.05$) in gender, and thebehavior, affective, cognitive and

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CASS based attitudes. Table 8 showed no significant difference in attitudes towards OWAL for males or females (all students perceived OWAL in a positive attitude).

RESULT

In this study, we have found a number of outcomes to the research question, What attitudes do Construction Technology program students have about Online Web Assisted Learning (OWAL), as compared to paper assisted learning (PAL). OWAL activities motivates students better than PAL activities. There are no significant differences of students' attitudes between male and female.

Finally, it can be said that some students accept the use of OWAL to supplement their learning. The data indicate that OWAL classroom activities would aid in the learning process of students because students have positive attitudes towards the use of OWAL.

REFERENCES

De Vry, Janet R. and David G. Brown. (2000). A Framework for Redesigning a Course. In Brown, D.G. (Ed.) Teaching with Technology. Bolton, MA: Anker Publishing Company.

Feenberg, A. (1998). "The Written World: On the Theory and Practice of Computer Conferencing." In Mason, R. and Kaye A. (Eds), Mindweave: Communication, Computers, and Distance Education. Oxford: Permagon Press. (Excerpted at www.emoderators.com/moderators/feenberg.html)

Hong, K., Lai, K., Holton, D. (2001). Web based learning environments: Observations from a web based course in a Malaysian context. *Australian Journal of Educational Technology*, 17(3), 223-243. http://cleo.murdoch.edu.au/ajet/ajet17/hong.html [online 3/3/2002].

Jones, T., and Clarke, V. A. (1994). A computer attitude scale for secondary students. *Computers and Education*, 22(4). 315-318.

Palmer, S. R., and Bray, S. L. (2001). Longitudinal study of computer usage in flexible engineering education. *Australian Journal of Woodrow, J. E. (1994). The development of computer-related attitudes of secondary students. Journal of Educational Computing Research, 11(4). 307-338 Educational Technology*, 17(3), 313- 329.

Paris, P. G., (2004). E-Learning: A study on Secondary Students' Attitudes towards Online Web Assisted Learning. *International Education Journal* Vol 5, No 1.

Trollip, S. R & Alessi, S. M., (1991). Computer-Based Instruction: Methods and Development (2nd ed.). Prentice Hall, NJ.

Yıldız, U., Akhisar, Ü., Ar, İ., Harmankaya, O., Topal, A. D., Tunalı, A., Solak, S., Dağ, F., Altınışık, U. & Çopan, E., 2006). Temel Bilgi Teknolojileri. Ankara: Değişim Yayınları.

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REINFORCING DISTANCE EDUCATION THROUGH E-LEARNING AND E-ASSESSMENT PRACTICES USING ICT

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ABSTRACT
Assessment is an essential fundamental aspect to be carried out in all the distance learning centers, to identify the level of learners understanding and thereby the teaching methodologies can be enhanced to attain the desired outcome. Especially in distance education, learners and teachers contact are minimal, level of learning by the learners will vary and recent researchers proved that these voids can be filled with e-learning techniques. So, this research is to identify the challenges in e-distance education and reinforcing those using information and communication tools and has been experimented for the analytical subjects with four instructors and 45 students in mechanical engineering under graduate discipline. The three modules of this research are formulation of e-learning concept maps, types of e-assessment methods and solution methodologies for the better online distance education learning environments. The research concludes with recommendations synthesizing the better results and enhanced learning for the e-distance education.
Keywords: distance education; online learning; e-learning; online assessment; assessment challenges;

1.INTRODUCTION

Revolution in the communication and internet of things opens an era for online learning in distance education. Distance education university students are interested in taking online courses by utilizing Information and Communication Tools (ICT) for better understanding compared to the subjects thought in traditional ways (Ravichandran & Arulchelvan, 2017). Because enormous recourses starting from scratch history till the latest research developments are available in the internet. Now-a-days researchers believed that the education directly and indirectly helps in the development of a country and e-learning enrolments in a country continue to grow at a much faster rate (Allen & Seaman, 2010). More widely, the success of the e-learning depends on the delivery formats and become the most significant aspect of transnational higher education (Walsh, 2009). The delivery plan should be formulated such a way that should be suitable for all categories of the learners starting from slow learners till the researchers. In addition, the delivery plan should not provide misperception of the topics to the learners, as the learners studying through distance education, i.e. it requires synchronous communication (Boulos et al., 2005). As this new mode of learning becomes more prevalent and more effective in sharing the knowledge (Mapopa William Sanga., 2017), on the other hand, it is a challenging task to design and teaching the online courses, as the learners is physically far away from the instructor (John & Kwaku, 2017). Thus a necessity arises to develop an effective methodology and test the performance. The main objective of this research is to develop a concept map based e-learning module for the design of gears, identifying the challenges with e-learning, instructors and learners and finally enhancing the methodology based on the feedback. Thereby highlighting effective practices in the e-learning environment and empirically tested for the performance.

The area of focus that deserves special attention and entire performance of all the modules depends on the assessment of student learning (Moore & Anderson, 2003). This encompasses, how the instructors assess the student progress in online, how the grades are distributed among the students, graded activities for different courses, correction methodology, identifying level of understanding, assessing the course outcomes, comparing the attainment level, analysing the mapping of course outcome with programme outcome, effective feedback methodology and exploring the possible strategies to address these challenges. The purpose of this research is to explore such challenges and enhance the practices among a group of instructors teaching design course through online. Neumann et al., 2002 made a conceptual analysis on multi-disciplinary subjects. In recent years, implementing e-learning is more in higher education universities, so in this research, experimentation had carried out for under graduate mechanical students at an engineering college in India. Booth et al., 2013, developed the effective system for assessing the learner's performance through online for the students from vocational group.
In Phase one, syllabi for the subject 'Design of Machine Elements' has been considered for experimenting online course and four instructors at doctorate levels were reviewed in order to discover the types of teaching methodology being used for teaching through online. For online teaching and learning technique, Moodles (a

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web based online platform for learning) have been used in this research and the assessment of student learning also done with the same platform. The subject has been taught using concept map approach. In the second phase, assessments have been done under the following categories for the distance education learners: (1) assignments, (2) online discussion (Gilbert & Dabbagh, 2005) (Baker, 2011), (3) application implementation, (4) quizzes (Yang & Tsai, 2010) and (5) examinations (Muilenburg & Berge, 2000). Phase 2 consisted of a focused group of 45 students. In the third phase, assessment reports have been analyzed by the department assessment and mentor board. The pitfalls and the impact of challenges such as communications, language, pre-requisite subject knowledge, workload, time management issues, collection of assignments and feedback had been analyzed and effective practices in online assessment had been suggested based on the feedback. The works carried out in this area of research are given in the following section.

2. **LITERATURE REVIEW**

Various forms of researches are ongoing in the area of e-learning and e-assessment and in this section, some of the related research work have been discussed.

2.1 **ASSESSMENT CHALLENGES IN ONLINE LEARNING**

Snyder, 1971 is the first researcher who coined the term "the hidden curriculum" to describe how students infer and the ways in which their learning were assessed. Joughin, 2010 analyzed the learning and assessment methods and concluded that the existing traditional way of studying and learning was limited. Bloxham and Boyd, 2007 continue the research on learning and assessment to find value and generativity in the nation. Generally, in online/distance learning, face-to-face interaction is less and even available, it will be a difficult task to answer/satisfy all the learners (Gibbs & Simpson, 2005). Also instructors have been particularly challenged to convey their intentions as desired to make the students to achieve the targeted learning objectives. Hannafin et al., 2003 found that the online-based approaches of teaching and learning render difficulty in observational and participatory assessments. Oncu & Cakir, 2011 observed the challenges in e-learning and its assessment for the online instructors, because of the non-existence of direct contact with the learners. Beebe et al., 2010 reiterate an online environment with time management, student responsibility, structure of the online courses, its complexity and assessment. Kim et al., 2008 and Robles et al, 2002 identified the authentic assessment activities for online learning. Kennedy et al., 2000 and Simonson et al., 2006 concentrated on the academic integrity. Meyer, 2006, Vonderwell et al., 2007 and Naismith et al., 2011 conducted experiments in identifying the challenges involved in assessing online discussions and associated collaborations. Biglan, 1973 analyzed the characteristics of the subject in different areas.

2.2 **ASSESSMENT METHODS IN ONLINE LEARNING**

Three different types of assessments are ‘Assessment by Learning’, ‘Assessment of Learning’ and ‘Assessment for Learning’. Very few researches have been carried out in the types, attainment and distribution of assessments to attain the outcomes. Swan, 2001 experimented 73 online courses having discussion forums, written assignments, mini projects, quizzes and final examinations and found that the online discussion and tests or quizzes having more impact compared to other methods. Followed to that, Arend et al, 2007 conducted 60 online courses having online discussion, exams, written assignments, experimental assignments, problem assignments, quizzes, journals, projects, and presentations. Gaytan & McEwen, 2007 conducted research with the online instructors to identify best assessment methods to make the e-learning more effective for the learners and having methods like projects, portfolios, self-assessments, peer evaluations, peer evaluations with feedback, timed tests and quizzes, and asynchronous discussion. Effective practices and feedback from the online instructors will help to enhance and reinforce the framework for studying and practicing e-learning. Therefore, this research concentrates on the formulation of material using concept maps, methods of assessment (Suskie, 2009) and feedback based enhancement. Kalyani and Rajaram, 2017 conducted experimentation on e-learning for the VLSI subject.

3. **E-LEARNING METHODOLOGY**

The objectives of this research have been achieved in three phases. First phase is the formulation of the e-learning concept maps for analytical subjects, in focus, for the subject Design of machine elements for under graduate mechanical engineering students. In the second phases, different types of online assessment tools have been used to assess the learner’s level of understanding and those assessment methods are assignments, written assignment, online discussion, application implementation, quizzes and examinations. Third phase is the feedback-based enhancement by satisfying the e-learning constraints.

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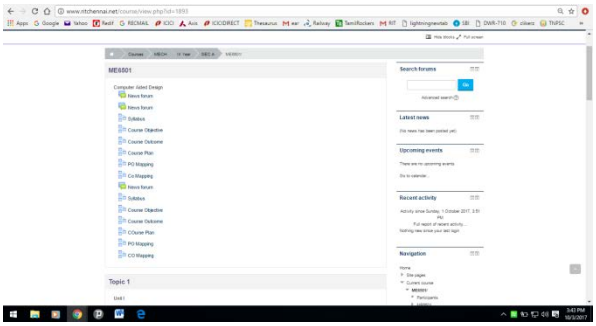

Figure 1: Moodle platform for gear Design

3.1 **CONCEPT MAP FORMULATION**

The study was carried out in an engineering college in India with the mechanical engineering department students and instructors. All the courses were offered on chalk and board as the major teaching method along with the animations and presentations. In phase I, instructors, mentors and advisory/assessment board were reviewed the course syllabi in order to discover the types of assessment being used to attain the course outcome through e-learning. The courses have been developed in the Moodle environment and the sample image of the Moodle platform for the course is shown in the Figure 1.

In the Moodle platform, the complete materials and the problem solving procedures have been uploaded by the instructors and verified by the mentors. The students can enroll the course through online. Once the students completed the course provided in the Moodle platform, then to summarize/review the learning, concept map have been formulated. The sample concept map developed for the course is given in the Figure 2.

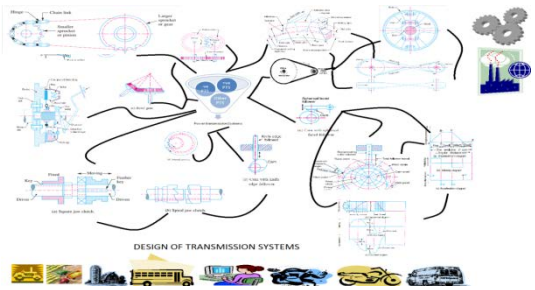

Figure 2: Concept map for gear Design

In Figure 2, the types of gears, its nomenclature, design procedure, applications are given in graphical way with links for details having videos, animations, question forum, etc. So that the student can navigates to any stage for clear understanding and clarification in the taught course.

3.2 **ASSESSMENT TOOLS**

For assessment of the learners, in this research, it has been categorized as direct assessment and indirect assessment. In direct assessment, the learners understanding have been assessed by giving tutorials, assignments, and examinations (Kerka & Wonacott, 2000). In indirect assessment, the learners understanding have been assessed by giving presentation, field work, quiz and online discussion.

3.3 **FEEDBACK AND ENHANCEMENT PHASE**

In the feedback phase, three types of feedback such as written feedback, online feedback and brainstorming have been obtained from learners and instructors. The obtained feedbacks have been summarized to the assessment and advisory board for further enhancement. The written and online feedbacks consist of course exit survey, course outcome survey and course committee survey obtained from the learners. In brainstorming, interviews have been conducted with the online instructors about the challenges faced and the remedial practices to be followed for effective e-learning and assessment. The summarized result of the obtained feedback for the e-learning course is shown in the Figure 3.

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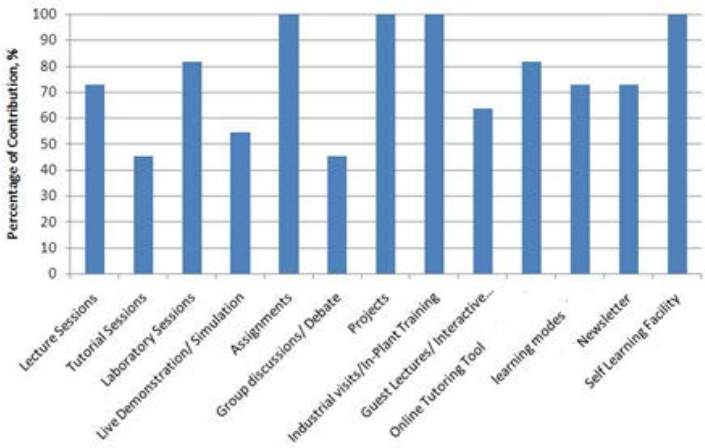

Figure 3: Summary of the Feedback

4. **RESULTS AND DISCUSSION**

Based on the implementation, the challenges faced by the learners and the instructors and the enhancement tools given by the assessment / advisory committee is given as follows.

1. Physical distance between instructor and student.

In order to reduce the challenges in face to face contact, several telephone conference calls, open discussion forums and online chatting sessions with instructors of online courses can be arranged periodically.

2. Challenges in creating and deploying assessments for the online courses

The assessments can be done for the following parameters

Remember &Knowledge: Every online session should start with pre requisite topics. The ICT tools used are quizzes, one word question and answers, procedures to solve the problem, design data book reference page numbers, animations, application videos, etc.

Comprehension: Every online session should ends with summary and assessment of the session attainment. The ICT tools used are exploring the need and use, quizzes, one word question and answers, animations, application videos, etc.

Application: Every completion of a topic in the e-learning courses closes by assessing the understanding level. The ICT tools used are the identifying the need and answering five levels of what if and why not questionnaires through the same Moodle web portal.

Analysis: Examination assessment, assignments, and tutorial questions should be such a way to conduct an analysis in the selected topic. For example, if the number of gear teeth's are in odd number, is it possible to manufacture?, which machine can be used ?, is it obey the standardization rules?, etc.

Synthesis: The designed gear should optimal based on the application i.e. maximizing the efficiency, reducing the size and weight by satisfying the constraints. The tutorial problems and the assignments problems have been formulated with multiple objectives and conflicting constraints.

Evaluation: once the learner submitted the online assignments, the Moodle portal compares the learners answer and the actual answer, then allots the mark for that question. If needed, option provided to the learners to do re-assignments to get higher grades.

3. Feedback Sessions for reinforcing the session

Feedback modules have been created at the end of every session and the learners have to answer the question. Thereby the forth coming topics can be enhanced to the learners need. Some of the sample questions are as follows. What assessment practices have you used online that have been particularly effective? How has your online teaching impacted your assessment practices in your F2F classes?, etc

4. E-learning Assessment techniques

The five categories of assessment experimented in this research are as follows:

1) *Written assignment:* This large category encompasses written assignments.

2) *Online discussion:* Assessments based on the discussion activity in the forum.

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3) Projects: This is a special type of written assignment requiring students to collect data real time applications.
4)Test/quiz/exam: For experimentation, internal assessment exams have been conducted with 10 multiple-choice or short answer questions, 10 brief questions and 2 design problems. The quiz questions have been formulated with multiple-choice questions.
5) Presentation: The learners have to present their understanding in the presentation and to deliver the same in the online environment.

The most frequently used assessment methods by the instructors are the written assignments and examinations as it is more formal than the online discussions. For online discussion, instructor have to post some questions and quires, sometimes, students have to assigned into small groups and no hard exist for assessing the grade for their discussion. Workload and time management for the instructor will be increased for the first time and the same material can be enhanced digitally for the forthcoming learners. When assignments in these classes involved complex and multi-step skills, then for effective practice, tutorials will be conducted in the specified time with the guidelines from the instructors. Further e-tutorial also provided to the learners as prerequisite to solve the online tutorial problems. The major challenges faced in the assessments are the formulation of the rubrics by highlighting the important features, communicating target performance, simplify instructors grading, etc. once the rubric have been formulated along with the check list for each activity, it guides the learners properly and the target can be achieved (Kalaivani et al, 2017).

5. CONCLUSION

This research had been conducted in three phases. In Phase one, with reference to the syllabi, e-learning course material had formulated based on concept mapping. In the phase two, different types of assessment methods had formulated and given to the learners. Gaining a sense for the level of contribution of each type made to the overall course grade. In Phase Three, four of the course instructors participated in either a focus group or a one-on-one interview to discuss assessment challenges they faced along with the feedback sessions in moving their courses in an effective way. Practices to address those challenges are identified with the mentor and the assessment committee. Finally, an examination with thinking and decision-making questions results in effective learning environment.

REFERENCES

Allen, I. E., & Seaman, J. (2010). Class differences: Online education in the United States, 2010.
Arend, B. (2007). Course assessment practices and student learning strategies in online courses. Journal of Asynchronous Learning Networks, 11(4), 3-13.
Baker, D. L. (2011). Designing and orchestrating online discussions. MERLOT Journal of online Learning and Teaching, 7(3), 401-411.
Beebe, R., Vonderwell, S., & Boboc, M. (2010).Emerging patterns in transferring assessment practices from F2F to online environments. Electronic Journal of e-Learning, 8(1), 1 -12.
Biglan, A. (1973). The characteristics of subject matter in different academic areas. Journal of Applied Psychology, 57(3), 195-203. doi:10.1037/h0034701
Bloxham, S., & Boyd, P. (2007). Developing effective assessment in higher education: A practical guide. Maidenhead, UK: Open University Press.
Booth, R., Clayton, B., Hartcher, R., Hungar, S., Hyde, P., & Wilson, P. (2003). The development of quality online assessment in vocational education and training: Vol. 1. Adelaide, Australia: Australian National Training Authority.
Boulos, M. N. K., Taylor, A. D., & Breton, A. (2005). A synchronous communication experiment within an online distance learning program: A case study. Telemedicine and e-Health, 11(5), 583-593.
Gaytan, J., & McEwen, B. C. (2007). Effective online instructional and assessment strategies. The American Journal of Distance Education, 21(3), 117-132. doi:10.1080/08923640701341653
Gibbs, G., & Simpson, C. (2004-2005). Conditions under which assessment supports students' learning. Learning and Teaching in Higher Education, 1, 3-31.
Gilbert, P. K., & Dabbagh, N. (2005). How to structure online discussions for meaningful discourse: A case study. British Journal of Educational Technology, 36(1), 5-18. doi:10.1111/j.1467-8535.2005.00434.x
Hannafin, M., Oliver, K., Hill, J. R., Glazer, E., & Sharma, P. (2003). Cognitive and learning factors in web-based distance learning environments.
John K. Edumadze & Kwaku Anhwere Barfi (July 2017).Perceptions Of Senior High School Students Towards E-Learning Platform In Some Selected Senior High Schools In Cape Coast Metropolis. The Online Journal Of Distance Education and E-Learning ,Contents 2017 Vol 5 Issue 3.
Joughin, G. (2010). The hidden curriculum revisited: A critical review of research into the influence of summative assessment on learning. Assessment and Evaluation in Higher Education, 35(3),335-345. doi:10.1080/02602930903221493

 Copyright © The Online Journal of Distance Education and e-Learning

Kalaivani P, Mohamed Mansoor Roomi S and Annalakshmi M (2017). A Comprehensive Frame Work For Learning Events. The Online Journal of Distance Education and e-learning, Contents July 2017 Vol 5 , Issue 3

Kalyani K & Rajaram S (July 2017). The Standard E-Learning Techniques On VLSI Design. The Online Journal Of Distance Education, Contents 2017 Vol 5 Issue 3

Kennedy, K., Nowak, S., Raghuraman, R., Thomas, J., & Davis, S. F. (2000). Academic dishonesty and distance learning: Student and faculty views. College Student Journal, 34(2), 309-314.

Kerka, S., &Wonacott, M. E. (2000). Assessing learners online: Practitioner file. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. Retrieved from ERIC database.

Kim, N., Smith, M. J., &Maeng, K. (2008). Assessment in online distance education: A comparison of three online programs at a university. Online Journal of Distance Learning Administration, 11(1).

Mapopa William Sanga (July,2017). Closing Gap between Learning and Use:Operationalizing The Situated Cognition Construct To Create Authentic Online Learning Contexts. The Online Journal Of Distance Education and E-Learning, Contents 2017 Vol 5 Issue 3.

Meyer, K. A. (2006). The method (and madness) of evaluating online discussions. Journal of Asynchronous Learning Networks, 10(4), 83-97.

Moore M. G. & Anderson W. G. (Eds.), Handbook of distance education, 2003.

Muilenburg, L., & Berge, Z. L. (2000). A framework for designing questions for online learning.

Naismith, L., Lee, B.-H., & Pilkington, R. M. (2011). Collaborative learning with a wiki: Differences in perceived usefulness in two contexts of use. Journal of Computer Assisted Learning, 27(3), 228-242. doi:10.1111/j.1365-2729.2010.00393.x

Neumann, R., Parry, S., &Becher, T. (2002). Teaching and learning in their disciplinary contexts: A conceptual analysis. Studies in Higher Education, 27(4), 405-417.

Oncu, S., &Cakir, H. (2011). Research in online learning environments: Priorities and methodologies. Computers & Education, 57(1), 1098-1108. doi:10.1016/j.compedu.2010.12.009

Ravichandran.K & Arulchelvan.S (July 2017). A Study On The Impact Of E-Content News Among The Audience Of Tamil Nadu .The Online Journal Of Distance Education and E-Learning, Contents 2017 Vol 5 Issue 3.

Robles, M., &Braathen, S. (2002). Online assessment techniques. Delta Pi Epsilon Journal, 44(1), 39-49.

Simonson, M., Smaldino, S. E., Albright, M., &Zvacek, S. (2006). Teaching and learning at a distance: Foundations of distance education (3rd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall.

Snyder, B. R. (1971). The hidden curriculum. New York, NY: Alfred A. Knopf.

Suskie, L. (2009). Assessing student learning: A common sense guide(2nd ed.). San Francisco, CA:Jossey-Bass.

Swan, K. (2001). Virtual interaction: Design factors affecting student satisfaction and perceived learning in asynchronous online courses. Distance Education, 22(2), 306-331.doi:10.1080/0158791010220208

Vonderwell, S., Liang, X., & Alderman, K. (2007). Asynchronous discussion and assessment in online learning. Journal of Research on Technology in Education, 39(3), 309-328. Retrieved from ERIC database. (EJ768879)

Walsh, P. (2009). Global trends in higher education, adult and distance learning. Oslo, Norway: International Council for Open and Distance Education.

Yang, Y. F., & Tsai, C.-C. (2010). Conceptions of and approaches to learning through online peer assessment. Learning and Instruction, 20(1), 72-83. doi:10.1016/j.learninstruc.2009.01.003.

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THE EFFECT OF BASIC WEBQUEST COURSE ON CLASSROOM TEACHER CANDIDATES' ATTITUDES TOWARDS USE OF COMPUTER BASED EDUCATION

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ABSTRACT
The purpose of this study is to determine the effect of preparing a sample WebQuest, which is a Computer Based Education material, on attitudes of prospective classroom teachers toward using Computer Based Education. This study employed the single group pretest-posttest design. The study group included 112 freshman students who had enrolled in the Classroom Teaching Undergraduate Program of a public university and received the "Computer II" course. Participation was on voluntary basis. The study group continued the Computer II course for 14 weeks.The study was carried out for 14 weeks within the scope of the Computer II course. Each week, prospective teachers received 2 hours of theory and 2 hours of practice. "The Personal Information Form" and "The Attitude Scale towards Computer Based Education" developed by Arslan in 2006 were used for data collection.
Based on findings, it can be said that basic WebQuest training had a positive effect on attitudes of prospective classroom teachers toward using Computer Based Education, gender had a positive and significant effect on attitudes of prospective classroom teachers toward using Computer Based Education, owning a personal computer did not have a significant effect on attitudes of prospective classroom teachers toward using Computer Based Education and academic average did not have a significant effect on attitudes of prospective classroom teachers toward using Computer Based Education.
Keywords: basic webquest course, computer based education, classroom teacher candidates

INTRODUCTION

Computer Based Education is utilization of the computer as a tool that assists the teacher during teaching - education activities in order to enrich the educational process and increase its quality (Arslan, 2006). "Computer Based Education" is defined as applications involving the use of computers in teaching-learning activities such as presenting course contents directly, repeating previously taught contents, problem solving, and doing exercises (Akçay, Tüysüz, and Feyzioğlu, 2003).

When it comes to CBE, we should not consider a computer and a student only. CBE is an interconnected system involving the software, the hardware, and the teacher as well. We must consider these three elements in order to achieve CBE-related goals in a healthy manner (Arslan, 2003). Providing the highest benefit in Computer Based Education programs depends on the teacher. Because it is the teacher who decides how much time students will spend with Computer Based Education programs and how students will interact with computers, and guides them accordingly (Kızılırmak, 2008, p. 21).

Attitude may be defined as the individual's tendency to accept or reject a given event, idea, person, institution, etc. (Özgüven, 2004). In other words, it is possible to define attitude as the individual's tendency to react positively or negatively to a stimulant (Oppenheim, 1992, as cited in Baykara, 2011). Attitude cannot be observed directly. It can only be predicted based on observable behaviors. It is suggested that attitude has three dimensions: cognitive (the individual's knowledge about the object of attitude), affective (the individual's observable emotional reactions to the object of attitude), and behavioral (the individual's observable behaviors toward the object of attitude) (Gagne, 1985, as cited in Baysarı, 2007). According to Tavşancıl (2006), characteristics of attitude may be listed as follows:

1. Attitude is not innate; it is gained through experience.
2. Attitude does not change quickly; it continues for a certain time.
3. Attitude causes individuals to act biased.
4. Attitude is a tendency to react.
5. Attitude may lead to positive or negative behavior.

The success of Computer Based Education programs is closely related with the training of teachers who carry out such applications, as well as their preparedness, attitudes, self-efficacies, expectations, opinions, and recommendations related to Computer Based Education. Teachers have a huge role in efficient use of computers

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in education (Kocasaray, 2003). Teachers to carry out Computer Based Education programs must be trained in Computer Based Education (Daldal, 2010, p. 18).

It is known that teachers gain most cognitive, affective, and psychomotor skills that they need in their professional lives through experience. It is important to know attitudes and concerns of prospective teachers, teachers of the future, related to computers as well as their self-efficacies so that efficient results are obtained from Computer Based Educationpractices in educational institutions and computers are used efficiently in learning-teaching processes (Baki, Kutluca, and Birgin, 2008).

University is one of the most critical periods when prospective teachers should receive training related to Computer Based Education and it is of great importance that attitudes and perceived self-efficacies of prospective teachers related to Computer Based Education are evaluated and prospective teachers are advised related to the subject (Kutluca and Ekici, 2010).

There are many systems being developed to allow students to study and carry out learning activities over the internet. Teachers who desire to have an internet-connected classroom or laboratory or use the internet in their course environment may take advantage of various internet projects. It does not matter whether the course in which the internet project is to be used is a computer-related course or not. Computer skills may be used as a tool within the course (Akçay, 2009, p. 14)

Given the benefits of the internet use in educational environments, it is necessary to use it efficiently. Developed by Bernie Dodge in 1995 for this purpose, WebQuest is a teaching model containing inquiry-based activities where all or most of the information is obtained from sources on the internet and the learner interacts with the computer (Çığrık, 2009, p. 7). WebQuest is described as “a web page prepared for the purpose of learning”. WebQuest is an inquiry- and application-based educational activity where students work individually or in groups to complete interesting tasks and find sources necessary to achieve results on the internet (Şahin, 2010, p. 14).

WebQuests contain activities which require students to work individually or collaboratively on the internet. There are certain steps which students must follow while performing activities. WebQuests are web pages which contain the following steps (Çığrık, 2009, p. 8-9):

1. Introduction: The introduction is the step where students are prepared for inquiry and motivated for the solution of the basic problem.
2. Task: Expectations from students are defined at this step. What is expected from students is the product obtained as a result of their inquiry.
3. Process: Students are explained what to do to complete the task step by step. Roles of group members in the inquiry and how to organize the inquiry are explained at this step.
4. Resources: If resources are given in one of the previous steps, this step may be redundant. Otherwise, resources necessary for students to complete the task such as web pages, books, graphics, maps, diagrams, audio recordings, or video recordings are listed at this step.
5. Evaluation: At this step, a rubric which covers the entire process and shows how the process will be evaluated according to certain standards is developed.
6. Conclusion: This step contains an activity which summarizes what has been learned and generalizes learning subjects. At this step, students find the opportunity to share their results with their peers and others.

The Purpose of the Study

The purpose of this study is to determine the effect of preparing a sample WebQuest, which is a Computer Based Education material, on attitudes of prospective classroom teachers toward using Computer Based Education. For this purpose, answers for the following questions are sought:

1. Does basic WebQuest training have a significant effect on attitudes of prospective classroom teachers toward using Computer Based Education?
2. Do gain scores of prospective classroom teachers related to attitude toward using Computer Based Education differ by;
   a) gender,
   b) owning a personal computer, or
   c) academic average?

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METHOD

Research Model

This study employed the single group pretest-posttest design. In this design, a measurement is performed for the study group prior to the implementation, then the implementation is carried out, and finally another measurement is performed after the implementation (Karasar, 2004).

Sample

The purposive sampling method was used in the study. In this sampling method, a situation which is available nearby and convenient is selected (Yıldırım and Şimşek, 2005). The study group included 112 freshman students who had enrolled in the Classroom Teaching Undergraduate Program of a public university and received the "Computer II" course. Participation was on voluntary basis. The study group continued the Computer II course for 14 weeks.

"The Attitude Scale towards Computer Based Education" was applied at the beginning and the end of the semester.

Implementation of the Study

The study was carried out for 14 weeks within the scope of the Computer II course. Each week, prospective teachers received 2 hours of theory and 2 hours of practice.

For the first 5 weeks, prospective teachers learned how to prepare effective MS PowerPoint presentations, how to prepare concept maps in Inspiration, how to prepare worksheets in MS Word and found the opportunity to put what they learned into practice. In the 6th week, prospective teachers received basic information about WebQuest. In the 7th, 8th, and 9th weeks, they learned how to prepare web pages using WebQuest and put what they learned into practice. In the last 5 weeks, prospective teachers prepared WebQuests for 3th and 4th grade curriculum outcomes of their choice.

WebQuest preparation criteria were as follows:

1. Please do not use Turkish characters in file names.
2. Please change the heading of the page to "your name and last name".
3. All links must be functional. Please check if there are broken links.
4. Please check if images/photos are viewed properly when connected to the internet. There must be at least 5 images/photos on your site.
5. The Table of Contents must include links to following pages:
   a) Main Page: This page must include a message that welcomes the student.
   b) Introduction: The environment must be introduced to the student including the place and the time.
   c) Process: This page must explain the student's role and what is expected from the student.
   d) References: Links to worksheets, notes, and other websites must be given on this page. (You must prepare the worksheets and notes yourself.)
   e) Task: This page must explain what is expected from the student clearly and give the student tasks. (Completing the worksheet, preparing a presentation, making a model, etc.)
   f) Evaluation: You must create your own table which shows how certain behaviors are evaluated.
   g) Conclusion: You must conclude the task and state that the student completed the task successfully.
   h) About: This page must include your photo, name, last name, university and department, grade, and e-mail as contact information.
6. Please make sure other websites such as the main page of H.Ü. and websites appropriate for the student's level open in new tab. Your site must include at least 3 links to other websites.
7. Please make sure your documents such as worksheets or concept maps open in new tab. Your site must include at least one worksheet (Word), one report (Word), one presentation (PowerPoint), and one concept map (prepared in Inspiration and transferred to Word)(Word).
8. Please pay attention to Turkish grammar rules in your texts.
9. If a given text does not belong to you, please indicate the source at the bottom of the page.
10. Please pay attention to coherence in your design.
11. Please pay attention to characteristics such as readability of texts or visibility of links.

Data Collection Tool

"The Personal Information Form" and "The Attitude Scale Towards Computer Based Education" developed by Arslan in 2006 were used for data collection.

The personal information form included questions related to gender, owning personal computer, and academic average.

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"The Attitude Scale towards Computer Based Education" contains a total of 20 items, 10 positive and 10 negative. Scale items are scored from 1 to 5 as "strongly agree", "agree", "neutral", "disagree", and "strongly disagree". For items with positive statements, 1 was accepted as "strongly disagree", 2 as "disagree", 3 as "neutral", 4 as "agree", and 5 as "strongly agree". For items with negative statements, 1 was accepted as "strongly agree", 2 as "agree", 3 as "neutral", 4 as "disagree", and 5 as "strongly disagree". In Arslan's study, the Cronbach's Alpha reliability coefficient of the scale was found to be 0.93. In our study, the Cronbach's Alpha reliability coefficient of the scale was found to be 0.89.

DATA ANALYSIS

"The Attitude Scale towards Computer Based Education" is a 5-point Likert scale and the possible score from each item varies from 1 to 5. The following classification is obtained from the entire scale:

1.00 – 1.80: Strongly Disagree
1.81 – 2.60: Disagree
2.61 – 3.40: Neutral
3.41 – 4.20: Agree
4.21 – 5.00: Strongly Agree

Median, arithmetic average, skewness, and kurtosis values were determined and the Shapiro Wilks test was applied in order to reveal whether the Attitude Scale Towards Computer Based Education pretest and posttest scores of prospective teachers showed normal distribution.

T test was used to reveal whether there was a significant difference between the Attitude Scale towards Computer Based Education pretest and posttest scores of prospective teachers. Independent samples t test was used to determine whether gain scores of prospective teachers from the Attitude Scale Towards Computer Based Education differed by gender and owning a personal computer, and one-way independent samples ANOVA was used to determine whether gain scores of prospective teachers differed by academic average. SPSS 11.5 and Microsoft Office Excel were used for analysis. The significance level was accepted to be 0.05.

FINDINGS

It was firstly necessary to determine whether the data obtained from the Attitude Scale towards Computer Based Education showed normal distribution. Various descriptive statistics such as skewness coefficient, arithmetic average, median, and mod may be used to determine whether the data obtained from a continuous variable shows normal distribution or not. Tests of normality may also be used to this end (Büyüköztürk, 2009). Median, arithmetic average, skewness, and kurtosis values were thus calculated for the data obtained from pretest and posttest applications of the Attitude Scale Towards Computer Based Education. If the p value is calculated to be over 0.05, it is considered that the data does not show a significant deviation from normal distribution (Büyüköztürk, 2009). Table 1 shows examinations performed to determine whether the data showed normal distribution.

Table 1. Examining Whether the Data Related to Attitudes of Prospective Classroom Teachers toward Using Computer Based Education Showed Normal Distribution

	Arithmetic mean	***Median***	***Skewness***	***Kurtosis***	***Shapiro Wilks test***
Pretest	3.71	3.74	– 0.41	0.43	0.51
Posttest	4.35	4.41	– 0.54	– 0.52	0.16

As shown in Table 1, it was found that the data obtained from pretest and posttest applications of the Attitude Scale Towards Computer Based Education did not show a significant deviation from normal distribution since median and arithmetic average values were close, skewness and kurtosis coefficients were in the ± 1 range, and the results of the Shapiro Wilks test were significant on a α=0.05 significance level. For this reason, it was appropriate to use parametric tests to determine whether there was a significant difference between the Attitude Scale towards Computer Based Education pretest and posttest scores of prospective teachers.

Table 2. Comparing Average Scores Obtained by Prospective Classroom Teachers from Attitude Scale toward Using Computer Based Education

	N	$\overline{X}$	ss	sd	t	p
pretest	112	3.71	.26	111	3.56	.00*
posttest	112	4.35	.31			

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Table 2 shows that the average pretest score obtained by prospective teachers from the Attitude Scale towards Computer Based Education was in the "agree" range, whereas the average posttest score was in the "strongly agree" range. T test was performed to determine whether this change in the average score was significant or not. According to the results of the t test, the increase in the average score obtained by prospective teachers from the Attitude Scale Toward Using Computer Based Education was significant (p<0,05). **Given this finding, it can be said that basic WebQuest training had a positive effect on attitudes of prospective classroom teachers toward using Computer Based Education.**

Table 3. Comparing Gain Scores of Prospective Classroom Teachers Related to Attitude toward Using Computer Based Education by Gender

	N	$\overline{X}$	ss	sd	t	p
Female	73	0.63	.26	111	3.56	.00*
Male	39	0.27	.31			

Table 3 shows a comparison between gain scores of prospective classroom teachers related to attitude toward using Computer Based Education by gender. As shown in Table 3, gain scores obtained by both female and male participants in posttest increased compared to pretest. According to the results of independent samples t test, the increase in gain scores of female prospective teachers was significantly higher compared to the increase in gain scores of male prospective teachers (p<0.05). Based on this finding, it can be said that gender had a positive and significant effect on attitudes of prospective classroom teachers toward using Computer Based Education.

Table 4. Comparing Gain Scores of Prospective Classroom Teachers Related to Attitude toward Using Computer Based Education by Owning a Personal Computer

	N	$\overline{X}$	ss	sd	t	p
Owns a personal computer	81	0.45	.26	111	3.56	.12
Does not own a personal computer	31	0.36	.31			

Table 4 shows a comparison between gain scores of prospective classroom teachers related to attitude toward using Computer Based Education by owning a personal computer. As shown in Table 4, gain scores obtained in posttest by both those who owned a personal computer and those who did not own a personal computer increased compared to pretest. According to the results of the independent samples t test, there was no significant difference between gain scores of those who owned a personal computer and those who did not own a personal computer (p<0.05). Based on this finding, it can be said that owning a personal computer did not have a significant effect on attitudes of prospective classroom teachers toward using Computer Based Education.

Table 5. Descriptive Statistics Regarding Gain Scores of Prospective Classroom Teachers Related to Attitude toward Using Computer Based Education by Academic Average

Academic Average	***n***	$\overline{X}$	***sd***
2.51 – 3.00	58	0.49	0.59
3.01 – 3.50	32	0.46	0.55
3.51 – 4.00	22	0.54	1.08

Table 5 shows descriptive statistics regarding gain scores of prospective classroom teachers related to attitude toward using Computer Based Education by academic average. As shown in Table 5, gain scores obtained in posttest by prospective teachers in all three of the academic average categories increased compared to pretest. One-way independent samples ANOVA was considered to be appropriate to determine whether this change in gain scores was significant.

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Table 6. Comparing Gain Scores of Prospective Classroom Teachers Related to Attitude toward Using Computer Based Education by Academic Average

	Sum of squares	*sd*	*Average of squares*	*F*	*p*
Between the groups	0.07	2	0.04	0.10	0.91
Within the groups	11.26	110	0.36		
Total	11.33	112			

Table 6 shows a comparison between gain scores of prospective classroom teachers related to attitude toward usingComputer Based Education by academic average. As shown in Table 6, gain scores of prospective teachers did not change depending on academic average. Based on this finding, it can be said that academic average did not have a significant effect on attitudes of prospective classroom teachers toward using Computer Based Education.

CONCLUSION

Based on findings, it can be said that

- Basic WebQuest training had a positive effect on attitudes of prospective classroom teachers toward using Computer Based Education.
- Gender had a positive and significant effect on attitudes of prospective classroom teachers toward using Computer Based Education.
- Owning a personal computer did not have a significant effect on attitudes of prospective classroom teachers toward using Computer Based Education.
- Academic average did not have a significant effect on attitudes of prospective classroom teachers toward using Computer Based Education.

REFERENCES

Akçay, H., Tüysüz, C. ve Feyzioğlu, B. (2003). Bilgisayar Destekli Fen Bilgisi Öğretiminin Öğrenci Başarısına ve Tutumuna Etkisine Bir Örnek: Mol Kavramı ve Avogadro Sayısı. TheTurkish Online Journal of EducationalTechnology-TOJET, 2(2).

Arslan, A. (2006). Bilgisayar Destekli Eğitime İlişkin Öz Yeterlik Algısı Ölçeği. Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, 6(1).

Arslan, B. (2003). Bilgisayar Destekli Eğitime Tabi Tutulan Ortaöğretim Öğrencileriyle Bu Süreçte Eğitici Olarak Rol Alan ÖğretmenlerinBDE'e İlişkin Görüşleri. TheTurkish Online Journal of EducationalTechnology-TOJET, 2(4).

Baki, A., Kutluca, T., Birgin, O. (2008).Matematik Öğretmen Adaylarının Bilgisayar Destekli Eğitime Yönelik Öz-yeterlik Algılarının İncelenmesi. IETC 2008. 8th International Educational Technology Conference.

Büyüköztürk, Ş. (2009). Sosyal Bilimler İçin Veri Analizi El Kitabı. Pegem A: Ankara.

Çığrık, E. (2009). İlköğretim 6. Sınıf Fen Öğretiminde Webquest Tekniğinin Öğrenci Başarı ve Tutumuna Etkisinin İncelenmesi. Yayımlanmamış Yüksek Lisans Tezi. Uludağ Üniversitesi, Bursa.

Daldal, D. (2010). Genel Kimya Dersindeki Gazlar Konusunun Bilgisayar Destekli Eğitime Dayalı Olarak Öğretiminin Öğrenci Başarısına Etkisi. Yayımlanmamış Yüksek Lisans Tezi. Dokuz Eylül Üniversitesi, İzmir.

Kızılırmak, F. (2008). İlköğretim İngilizce Öğretmenlerinin Bilgisayar Destekli Eğitime İlişkin Görüşleri (Isparta İli Örneği). Yayımlanmamış Yüksek Lisans Tezi. Süleyman Demirel Üniversitesi, Isparta.

Kocasaraç, H. (2003). Bilgisayarların Öğretim Alanında Kullanımına İlişkin Öğretmen Yeterlilikleri. TheTurkish Online Journal of EducationalTechnology-TOJET, 2(3).

Kutluca, T. Ve Ekici, G. (2010). Öğretmen Adaylarının Bilgisayar Destekli Eğitime İlişkin Tutum ve Öz-yeterlik Algılarının İncelenmesi. Hacettepe Üniversitesi Eğitim Fakültesi Dergisi, 38.

Şahin, N. (2010). 6. Sınıf Bilişim Teknolojileri Dersinde Ağ Araştırması (Webquest) Aracı Kullanarak Oluşturulan Eğitim Ortamının Akademik Başarı ve Derse Karşı Olan Tutuma Etkisi. Yayımlanmamış Yüksek Lisans Tezi. Gazi üniversitesi, Ankara.

Uzun, N., Ekici, G. ve Sağlam, N. (2010). İlköğretim İkinci Kademe Öğrencilerinin Bilgisayar Öz-yeterlik Algıları Üzerine Bir Çalışma. Kastamonu Eğitim Dergisi, 18(3).

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