

E-LEARNING EXPERIENCE AT VARIOUS UNIVERSITIES: ACADEMICS PERSPECTIVE

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Subject review

E-learning has become an increasingly popular mode of instruction in higher education all over the world. In spite of proliferation of e-learning, few studies/cases have attempted to investigate the differences in e-learning processes from faculty perspective. This paper presents observations on e-learning experiences at three premier universities which provide online courses for students and professionals. Based on some important characteristics supported by literature review, a comparative view is presented and discussed. Furthermore, suggestions based on the outcome of our study are made for further reference. The objective of this paper is to discuss significant e-learning experiences as current practices at different universities from the perspective of the faculty.

Keywords: *e-learning, experience, faculty, learning universities, online course*

Iskustvo e-učenja stečeno na različitim sveučilištima: stajalište sveučilišnog nastavnika

Pregledni članak

E-učenje postaje sve popularniji način podučavanja u visokom obrazovanju širom svijeta. Unatoč širenju e-učenja postoji samo nekoliko studija u kojima se pokušavaju proučavati razlike u metodama e-učenja sa stajališta nastavnika. U ovom se radu daju zapažanja o e-učenju stečena na tri glavna sveučilišta koja organiziraju online tečajeve za studente i profesionalce. Na osnovu nekih važnih značajki spomenutih i u priloženom pregledu literature, izlažu se i diskutiraju komparativni stavovi. Nadalje, daju se prijedlozi za daljnju uporabu, bazirani na rezultatima našega istraživanja. Cilj ovog rada je razmotriti stečeno iskustvo e-učenja kakvo se provodi na različitim sveučilištima, sa stajališta nastavnika.

Ključne riječi: *e-učenje, iskustvo, nastavno osoblje, online tečaj, sveučilište*

1 Introduction

Uvod

Online teaching is becoming a common practice these days in providing higher education. Distance online education is defined as “a general term used to cover the broad range of teaching and learning events in which the student is separated (at a distance) from the instructor, or other fellow learners” [1]. Introduction of e-learning has become the technology imperative, since it improves both teaching and learning and develops habits and routines referring to lifelong learning [2]. With the advent of e-learning technologies in the past decade, the accessibility of training, teaching, and learning has drastically increased. E-learning has grown into a revolutionary way of learning due to the rapid development of information and communication technologies [3] and has received considerable attention as a means of providing alternatives to traditional face-to-face, instructor-led education [4]. At Interactive Data Corporation (IDC), the IT intelligence analysts set the total global e-learning market at \$8 billion and predict that it will grow up to \$13 billion in the next five years [5].

This mode of learning provides flexibility to teachers as well as to students in terms of place and time. The evolving needs of students have been changed considerably due to the impact of several factors including graduate students' increased geographic mobility, increased numbers of women returning to the work force with related needs for updated competencies and knowledge, longer and more flexible hours required by employers, older, employed students who desire knowledge and skill augmentation, and increased commute times due to impacted traffic conditions adjacent to universities, especially those located in major cities [6]. The swift developments in technologies and business environment are also demanding comprehensive skills upgradation. The flexibility of time and place in e-learning provides students with an opportunity to improve

their academic qualifications and professional skills without disrupting their work and family responsibilities.

Online learning may not be suitable for every type of course. Online learning is excellent for most academic courses and training programs requiring cognitive learning - where students use memorization, learn concepts, use analytical skills, evaluate data and use this knowledge to arrive at solutions, for example augmenting one's knowledge of accounting, economics, political science, psychology [7]. Taylor [7] further observed that programs that seek to change student attitudes, such as dealing with cultural differences or behavioral training (for instance: welding, auto mechanics, flying etc.) do not work online.

Although some researchers have found that the effectiveness of online learning equals or exceeds that of classroom learning [8], the quality of online programs is still being debated [9]. In their study, Ponzurick et al. [10] noted that students, interestingly, appear to favor distance courses more for convenience than for quality. Despite the increase in the number of institutions offering on-line degree programs, little is known about the teaching practices that contribute to effective on-line course design and delivery [11]. Research pertaining to effective teaching practices for Internet-based courses is just beginning to emerge as its own unique field of study [12]. With the continuous growth of the e-learning, however, there is a lack of discussions in terms of the experience and perspective of the faculty.

The objective of this paper is to:

- report on the experience gained through teaching online courses to diverse students at different universities.
- identify the attributes to compare different online courses and to understand their contribution towards the success of an online course.
- gauge the perception and views of the faculty from a comparative perspective.
- appraise the differences to understand the factors that encourage the success of e-learning.

The remainder of this paper is organized as follows: The following section presents a literature review related to e-learning attributes considered for comparison. The comparative view is then presented in a tabular form followed by discussions. The paper concludes with lessons learned and directions for further research.

2

Literature review

Pregled literature

This section reviews related literature on e-learning attributes considered significant to compare the faculty's perspective in three different universities.

2.1

Effect of student background and experience on e-learning

Utjecaj prethodnog školovanja i stečenog iskustva studenta na e-učenje

Some educational experts observed that online courses were more interactive in nature than the traditional ones [8]. Wan et al. [13] found that prior experience with ICT and virtual competence were two influential factors that affected e-learning and had a positive influence on its outcomes. On the other hand, a lack of ICT experience and skills may inhibit e-learning; without some ICT experience, learners may suffer from anxiety and be unable to function properly [14]. Usually, individuals with more ICT experience tend to perform better [13]. Further, online education made it easier for slow learners, who may need more response time to participate [15].

2.2

Cultural differences in online education

Kulturne razlike u online obrazovanju

Due to the globalization of online education, higher education institutions and corporate organizations are increasingly offering online programs, classes, and trainings that involve students and learners from multiple countries and cultures. Cultural difference also has an important effect on e-learning. According to Milani [16], regarding the issue of cultural impact on e-learning, the most evident feature is the almost exclusive focus on the cultural differences emerging from western and non-western learning contexts, non-western being, in most cases, Asian and to a lesser extent Arabian students. On the other hand, Moore et al. [17] have reported that the major part of the current reflections on this issue seem to concentrate only on the students' behavior. Thus, being aware of cultural differences and knowing how to deal with such differences in online learning environments are critical for the success of such online learning programs. In multicultural and multilingual societies, the implicit pedagogical assumptions of e-learning environments need to be made explicit [18].

2.3

Learners' motivation in e-learning

Motivacija učenika kod e-učenja

Technology offers many innovative features that can be used to make instruction more appealing to learners. The

primary conclusion to be drawn from the research up to now is that it is possible to implement systematic approaches to identify the motivational requirements of learners in e-learning settings and to design motivational enhancements that will predictably improve learner motivation and performance [19]. As technology develops, it will become cheaper and will meet the needs of all types of learners. Faculty can play a vital role towards motivating the learners.

2.4

Delivery methods in e-learning

Nastavne metode u e-učenju

Tang and Byrne [20] have reported that some researchers who compared all three (Face-to-Face, blended, e-learning) delivery modalities found that all students acquire course content equally regardless of the mode of delivery. Liao and Lu [21] observed in their research that a relationship existed between user perceptions of the characteristics of the e-learning website and motivation behind the use of the technology. They further observed, specifically, users' perceptions of the relative advantage and compatibility of the e-learning website, with their adoption intentions. Chute et al. [22] suggested three major elements to be considered while developing a distance learning system. These facts include: (1) equipment (faculty and student), (2) communication services, (3) facilities. Flexibility [23] is the fourth construct which focuses on when and from where courses/programs can be accessed [24].

2.5

Need of faculty support

Potreba davanja podrške nastavnom osoblju

Faculty support is among the significant issues in the e-learning environment. Therefore, a well-designed faculty support system creates a constructive learning environment in which everyone ends up learning from each other [25]. King [26] recommended urgent need of the faculty for the professional development, because it is difficult for them to keep up with changing technology and it may sometimes be intimidating or frustrating. Therefore, continuous training is essential in keeping them tuned to the new system. There was a general recognition of the need for staff training, but being aware of time as a commodity in limited supply, the staff was reluctant to commit themselves [27]. Webb et al. [27] further argued that different skills were required for online communication compared to face-to-face interaction and that it was not just about using software.

2.6

E-learning success and faculty participation

Uspješno e-učenje i sudjelovanje nastavnog osoblja

In the implementation process of an e-learning system, teaching staff should be well-prepared and highly competent as they play a central role in the effectiveness of online delivery, and it is not the technology but the instructional implementation of technology that determines the effects on learning [28]. Webster and Hackley [29] suggested the three faculty characteristics influencing the learning outcome such as attitude towards technology, teaching style and control of the technology. Bailey and Card [30] conducted interviews with experienced, award

winning e-learning instructors and found eight effective pedagogical practices for effective online teaching: fostering relationships, engagement, timeliness, communication, organization, technology, flexibility and high expectations. Golden et al. [31] found that faculty's use of e-learning is associated more with their own attitudes and confidence than with their personal background or the context of their institution.

2.7

Flexibility of location and time

Fleksibilnost u odnosu na mjesto i vrijeme

Collis and Moonen [32] provide an in-depth analysis of flexibility by describing several dimensions of this construct. They present five major dimensions of flexibility that include: (1) flexibility with regard to time; (2) flexibility relative to course/program content; (3) flexibility regarding course/program entry requirements; (4) flexibility associated with instructional approach (pedagogy/andragogy); and (5) flexibility concerning delivery and logistics.

Lack of convenience from a student's perspective often correlates quite well with problems associated with access and flexibility. Mason [33] has proclaimed that "time is the new distance"; lack of time, rather than long distance, has become one of the primary reasons behind students withdrawal from courses. The top most faculty motivator for teaching online is the flexible schedules due to the fact the teaching can be done any time and at any place where an Internet connection can be obtained [34].

2.8

Importance of discussion forum

Važnost održavanja diskusija

Discussion questions focused on comprehension, evaluation, and opinion are more likely to stimulate thoughtful discussions among students and promote deeper level of understanding [12]. Webb et al. [27] reported that faculty's being an effective motivator is important and just making a discussion forum available is not enough.

2.9

E-learning resources and text book

Udžbenici i literatura za e-učenje

The effective organization of learning content originates from the effective description and combination of learning resources [35]. E-learning resources should be enriched. Support of e-textbooks is also an important option other than customized content and instructor's notes on CDs. The quality of text books including e-books, other e-learning resources and assessment methods also contribute towards the success of e-learning.

2.10

Challenges and de-motivators

Izazovi i demotivatori

While addressing various issues faced by the student community in virtual learning, Larsen et al. [36] observed that online students may not be able to determine their academic needs, concerns, and other pedagogical attributes

of education. The main de-motivator for faculty teaching online is that they perceive that online teaching requires more time and energy than face-to-face teaching yet the compensation is inadequate [34]. For online classes, the number of days with some activity is higher than for traditional teaching; the total number of activities is also higher than for traditional sections but the average length of each activity is shorter [37]. In terms of actual effort, a large number of shorter duration activities may increase the effort to teach by increasing cognitive overhead [37]. In a study exploring the burnout among online instructors, participants reported a high degree of depersonalization and low sense of personal accomplishment when teaching online courses [38].

3

Case study and discussions

Analiza slučaja i diskusija

Lead author of this paper taught in the following three prestigious e-universities as an adjunct faculty member and also received an excellence in on-line education award based on students' evaluation of faculty on various attributes. International University of USA is based in California and is accredited by the Accrediting Commission for Senior Colleges and Universities of the Western Association of Schools and Colleges. Another one is a consortium conducting courses for an old reputed U.K. University. Premier Online University is situated in Singapore and is supported by a number of research intensive and prestigious universities all over the world. These three universities are imparting online education mainly in business, computing and allied areas. We have found many significant common factors which provide the basis of comparison of online teaching perceptions from a faculty's perspective and well supported by researchers. Comparison of these universities has been provided in Tab. 1. Generally, the case study method is a preferred strategy when "how" and "why" questions are being posed, and the researcher has little control over events [39]. The case study method, a qualitative and descriptive research method, looks intensely at an individual or small participants, drawing conclusions only about the participants or group and only in the specific context [39].

Students' background is significant in e-learning as this mode is more suitable for experienced people rather than conventional students. It is particularly useful for students whose first language is not English, because they have more time to organize their thoughts and present them in a coherent manner [40]. E-learners are faced with many academic challenges, including need of being highly self-motivated and self-disciplined. E-learners must also demonstrate an ability to be comfortable with participation, open-mindedness, and communication. Netiquette, or universally known as *internet etiquette*, is an often overlooked, though extremely important aspect in becoming a successful e-learner [41].

To increase dialogue, one has to assure that class sizes are reasonable, this means approximately 25 or fewer would be an ideal class size. There is a need to implement a pedagogy that provides a high degree of integration among students [6]. International and cultural diversity always makes learning experience more interesting and fruitful. Leung et al. [42] have found that extensiveness of multicultural experiences was positively related to both creative performance (insight learning, remote association,

*Table 1 Comparison of experience from universities imparting e-learning from three regions
 Tablica 1. Usporedba iskustva stečenog na univerzitetima koji provode e-učenje u tri područja*

Factors ↓ / University →	International University (USA)	International Online Consortium, UK	Premier Online University, Singapore
Students background	Mostly from US defense forces (army, air, and navy) and allied staff	Mostly software engineers and management professionals	Managers, engineers with mid-long experience
Students Experience	Average less than 5 years and mainly from defense and allied sectors	Mixed group of students from software and management background	Mid-long and mixed kind of experience (techno management) from the top organizations
Catchment Area	Mostly US service personnel or posted in conflict zones	From number of countries from Europe, Middle East and Africa	India, China, Hong Kong, Middle East, Africa, UK, Europe
Cultural Factors	Mostly US	Moderate Mixed from different countries	Ideally an International group
Learner's Motivation	Moderate	High	Extremely High
Size of Class	Around 40	Around 25	Around 30
Level of Instruction	Undergraduate and Master	Graduate/Master level	Graduate/Master level
Type of E-learning	Purely Online	Purely Online	Purely Online
Types of Courses	Computer Science, Information Technology, Health Sciences	Business, Information Technology, Software Engineering, Health Sciences	Information Technology, Business Administration, Tourism
Delivery Methods	Portal and CDs	Web Portal	Web Campus
Web Portal Structure	Moderate infrastructure	Very Good portal with very good usability features	Excellent virtual campus with high usability features
Management Tools (As personal tasks, personal calendar, system announcements, etc.)	Partially Available	Partially Available	Yes
Web Learning Environment	WebCT	Blackboard	Learning Management System (LMS)
Faculty development/Continuous training	Initial faculty induction training only	Rigorous faculty induction training provided	Initial faculty induction training and continuous webinars related to e-learning issues
Availability of Mentor during Faculty development/Continuous training	One coordinator is assigned to supervise online instructors	One mentor lead will always be available to guide the instructors	One adjunct lead will always be available to guide
Training to students to get them acquainted with web system	Initial one week was assigned as part of this task	It was expected that students will get familiar with their virtual learning system during course	First one week was allocated for such orientation purpose
Text Book Provision	Suggested but not essential	Yes and also provided	Yes, provided and is part of curriculum
Flexibility (Study Pattern)	Moderate and flexible	Rigorous with strict deadlines	Rigorous but Flexible
Flexibility of schedule for teacher	Moderate flexibility in terms of overall schedule	Rigorous schedule	Flexibility of 1-2 weeks is allowed in schedule
Flexibility of schedule for students	Moderate depending on student emergencies and field posting of defense personnel	Strict deadlines with final one week extension in the case of any emergencies	Yes, but within 1-2 weeks
Synchronous communication between Teacher and student	Through e-mail within the e-learning system	Through e-mail within the e-learning system and also inbuilt IM (Instant Message) sub system	Excellent chat mechanism inbuilt inside virtual campus

Table 1 Comparison of experience from universities imparting e-learning from three regions (continuation)
 Tablica 1. Usporedba iskustva stečenog na univerzitetima koji provode e-učenje u tri područja (nastavak)

University →		International University (USA)	International Online Consortium, UK	Premier Online University, Singapore
Assessment System		Term end and final examinations. Little weightage given to discussions.	Discussions, Assignments, Projects and final examinations	Discussions, Assignments, Projects and final online examination at Prometric Centres
Assessment	Individual Assignment	Around 20 %	Around 40 %	Around 30 %
	Team Assignment	Less	Moderate	Much Emphasis
	Discussion comments	Mostly Asynchronous	Not significant in the grade evaluation process	Significant part of the learning system in the evaluation process
	Objective type Questions	Good number of such questions were part of evaluation process	Few questions were part of grade evaluation process	Very few questions were just for self review
	Subjective Questions	Yes, but with less weightage	Moderate weightage in terms of evaluation	High weightage in the evaluation process
	Project Work	Minor emphasis on project work/case study	One middle level project completion required	One major project/case study completion required
Prepared by	Individual Assignment	University	University	University
	Team Assignment	Options provided by the University	There was flexibility to choose projects among available	There was flexibility to select case study among available
	Discussion Topic	Specified by the University	Discussion topics provided by the course mentor	Group of discussions topics provided by Lead Adjunct
	Objective type Questions	Teacher selects from the pool of questions provided by University	Provided by the University	Provided by the University for self assessment by the students; not used in final evaluation
	Subjective Questions	Provided by the University	Teacher selects from the pool of questions provided by University	Teacher has the flexibility of selecting his/her own questions and minor case-studies
	Project Work	Small projects specified in the curriculum	Group of projects provided by the University	Students may select live software/information system projects by their own
Significant Challenges		Mostly emphasis was on assignments. Limited discussion and participation	Very good in terms of recent real-life problems of software engineering and management	Yes, assignments in general are from HBR (Harvard Business Reviews) and company's reports, White paper etc.
Quality Assurance		Affiliated to one US University	One premier traditional University	EQUIS, AACSB (Provisional)

and idea generation) and creativity-supporting cognitive processes (retrieval of unconventional knowledge, recruitment of ideas from unfamiliar cultures for creative idea expansion). Therefore, in e-learning group exercises, multicultural aspects should be encouraged.

Presently e-learning is more popular for business and computing related courses as in these areas job growth is higher, and people are more interested in taking e-learning

courses while holding jobs.

An e-learning web portal with good features would facilitate the learning process for both students and faculty. In this regard, experienced students either from engineering or management backgrounds did better in comparison to fresh or less experienced students, which was observed in all three universities. The Internet provides many features and resources beneficial to graduate management education

such as immediate access to global information, desk-top multimedia capabilities, and communication and dissemination of materials outside traditional class venues and hours [43].

The Learning Management System (LMS) primarily focuses on competencies, learning activities, and the logistics of delivering learning activities. While Learning Content Management Systems (LCMS) help create, reuse, locate, deliver, manage and improve learning content, these systems are primarily based on a collaborative learning instructional paradigm rather than the self-instructional model of multimedia authoring systems [44]. The Blackboard software facilitates a number of different communication options including both synchronous and asynchronous discussions and e-mail [27]. In dialogue the degree of student-faculty communications is the basis for a quality faculty-student relationship, and can, therefore, be seen as a predictor of quality in graduate management education [6]. The Virtual campus of the University in Singapore is an excellent one with a very good library and e-resource facilities for students. In fact, graduate students of management/information technology departments need such environment for learning. For undergraduate students at the university in USA, books and other resources provided on CDs were sufficient. For graduate level programs it is also important to suggest good text and reference books. These are good for students' further reading. Case studies, white papers and reviews from the industry are always helpful in understanding theories from real life perspectives for management and applied science students. A good content management system allows ease in learning to all stakeholders.

E-learning is no longer a core business for only those universities with a mission to educate from a distance. Although the table represents experiences from the instructor's perspective at three universities located in three different countries (Singapore, UK, USA), when e-learning is used to complement face-to-face experiences, it brings with itself substantial challenges that are similar in some aspects but also different to those faced by universities which predominately educate from a distance. This new teaching and learning (e-learning) strategy is aimed at promoting greater flexibility in learning styles and strategies and supporting them through staff development programs. Faculty members in many departments (at universities) are starting to explore computer-supported learning to meet the aspirations of new students; however, many complain about the lack of direction or support for development in this area [45]. Thus, staff development seminars should be organized on a regular basis. In this regard, the online university at Singapore provides such series of webinars on different interesting topics such as the impact of faculty interaction on online education, use of blogs in online management education, enriching e-learning experience through effective feedback and assessment etc. These assessment-results can enhance the E-learning System's outcome in terms of the quality of education. Universities in UK and USA provided initial faculty induction training, but such webinars should also be initiated as part of staff development.

One of the important aspects of e-learning is flexibility and dynamism of learning. By immersing students in this e-learning culture, student-centeredness, student-directed learning and student autonomy will be the principal drivers of learning. In e-learning mode, rigorous but flexible study pattern is always best. Millson and Wilemon [6] have noted

that many students, especially working students, are initially faced with the educational issues of access and flexibility. Therefore, these issues need to be addressed prior to the development of graduate management courses in conjunction with the concepts of dialogue and structure. Here it is important to note that in e-learning mode most of the students and faculty are working and some of those students even have family and other responsibilities. Therefore, there should be good flexibility in terms of time management for assignment submission and discussions postings. We found that universities in Singapore and in USA were quite good in this aspect. Many students and even faculty members find time at weekends to complete their work.

Team assignments and group learning are feasible in e-learning like traditional classroom learning. In e-learning, the curriculum is partially delivered through the Internet and is accessible by means of an electronic learning environment. In this way, students may have access to the most up-to-date information about projects, classes and other related stuff and can study whenever and wherever they want to. Lectures should be organized in classical ways and for this purpose the first week can be organized as an orientation week in which teacher and students can be introduced to each other, as well as working modes, commitments, deadlines, course assessment and other rules related with the course can be established [2]. Every course has syllabi, online notes, teaching methods, student assessment and examination methods, course assessment and course credits. ELO (electronic learning objects) also enables students to keep them in touch with fellow-students and lecturers [46]. Web-based learning will be enhanced if a server exists for teachers to use such as a hub for storage of lesson plans, lesson notes and assignments, deadlines and preparatory readings.

The creation of academic chat-rooms focused on specific topics will also encourage "anytime, anywhere" discussion. Discussions may be used as a form of mutual communication between students on one side, and students and teachers on the other. In this way students can ask both their fellow students and teachers for help. Teachers will need to shift curricula design to focus on immediacy and exploit the advantage of learning on-site style, reaching out to and tapping on a rich and diverse source of information and alternative "teachers" in the pool of experts from the non-school community.

Another aspect which should be taken into consideration is the role of the educator in the online learning community. McLoughlin and Oliver [47] suggested that "social feedback from peers may be more helpful than direct corrective feedback from a teacher".

Quality is always a significant issue in e-learning. Given the increasing presence of online courses offered by various schools through e-learning environments in higher education system, the quality of e-learning has become a major concern for both learners and educators [48].

4 Conclusion Zaključak

Learning is a lifelong process, especially for faculty. Keeping up with technology is a must for every teacher and trainer. Technology is changing the face of education and online learning offers much to learn about and provides many interesting opportunities. These opportunities may

complicate faculty life until members become proficient in the realm of online learning [7]. Since there is no constraint of time and place, e-learning will expand and be popular in the future for both traditional students and professionals as well. We have discussed e-learning experience from the faculty's perspective on different attributes and contexts in a comparative view. According to our experiences, the following should be managed towards successful e-learning teaching:

- Teachers should be well trained and motivated to facilitate e-learning.
- Students should also be provided pre-training before the course commences.
- The contents and effectiveness of the delivery in e-learning mode is significant.
- Course content development and user interface design should be done by the professionals.
- E-learning is more effective for experienced professionals and students in comparison to new students.
- Web learning environment should provide excellent user-interface designed to ease learning for both students and instructors.
- There should be continuous series of webinars to provide knowledge on recent issues to faculty members.
- Research and development information related to e-learning and latest educational technologies should be given to faculty members on a regular basis.
- For graduate level courses, text books should always complement online course material content and pointers for additional readings.

As a future work, it would be interesting to evaluate e-learning experiences empirically on different variables, dimensions and environments (like blended mode of learning). It would also be interesting to study differences of students' participation behavior, the impact of cultural differences on asynchronous online learning environment, student's perception of instructor's participation behavior and vice versa.

Acknowledgement

Zahvala

The authors would like to thank technical editor Prof. Dr. Milan Kljajin and reviewers for providing valuable comments to improve the paper.

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