Contents lists available at Science-Gate

International Journal of Advanced and Applied Sciences

Journal homepage: http://www.science-gate.com/IJAAS.html

Cultural context and e-practice: an assessment on USA institutions

Sayed Hadi Sadeghi *

Faculty of Education and Social Work, the University of Sydney, Sydney, Australia

ARTICLE INFO

Article history:
Received 10 October 2015
Received in revised form
7 December 2015
Accepted 16 December 2015

Keywords:
Cultural context
E-practice and USA institutions

ABSTRACT

The overall aim of this study was to further cultural understanding of e-practice in American context, using one American university as examples The theoretical focus was on the cultural context as well as on practice in the e-learning area. The variables of instructivism and constructivism were explored for cultural context. This study used a quantitative methodology in order to ascertain the current status of e-learning. Participants were students, lecturers and administrative staff of an American university engaged with e-learning programs. The results of this study showed that the dominant e-learning approach of the American university was toward constructivism. From this perspective applying the pattern and technology that has been used in the American university could help to guide other e-learning system practice in the future.

1. Introduction

E-learning, as argued, is influenced by culture and thus embedded in a cultural context. Correspondingly, it is impossible to decontextualize and separate these initiatives from their context and the circumstance in which they are going to be used. In a same vein, teaching and learning are embedded in the cultural context and, as Henderson (1996) put forward, cannot and do not exist outside of cultural contexts. Subsequently, cultural dimensions are an integral part of every aspect of the educational system including e-learning (Edmundson, 2003).

Ehlers (2009) provided a culturally-sensitive model for enhancing quality in online learning programs. The claim is that e-learning programs should be relevant to the context of the culture in which they have been applied. To achieve greater success from e-learning programs developed countries like the United States of America attempt to investigate how to individualize characteristics, technology and contexts of their e-learning system (Anderson and Gronlund, 2009).

Cultural context and cultural dimensions are essential aspects of e-learning systems that both directly and indirectly affect their quality (Edmundson, 2003). Therefore cultural factors can be seen as the foundation for furnishing improved e-learning systems that can modify the whole e-learning structure (Kujala and Lillrank, 2004). Cultural aspects such as educational paradigms, origin of motivation, experimental values, value of errors, role of instructor, user activity, learner control, accommodation of individual differences and collaborative learning (Edmondson, 2004; Gamble, 2009; Henderson, 1996; Masoumi and Lindström, 2012; Washburn, 2012) focus on the pedagogical context of e-practice which may be oriented towards either constructivism or instructivism.

A large number of studies (Butter et al., 2015; Chen et al., 2012; Collis, 1999; Edmundson, 2004; Henderson, 1996; Masoumi and Lindström, 2012) have investigated cultural issues in online learning. In fact many researchers, such as Henderson (1996) and McLoughlin (1999) have focused specifically on designing models for assessing the cultural dimensions of education and educational artifacts, such as e-learning.

The aim of this current study is to assess the dominant cultural dimensions in an American university in order to ultimately improve the quality of online learning courses in American universities. Accordingly, Edmundson's questionnaire addressing the cultural dimensions was adopted. To provide a comprehensive understanding of the cultural dimensions, these dimensions are summarized in Table 1.

The results of this study are reported by considering these factors based on student, lecturer and administrative staff perspectives (See method section for more information). Each factor based on these variables has been analyzed separately in each country and then the results of comparing the countries on that factor are reported to identify similarities and differences in their dominant cultural dimensions.

* Corresponding Author.
Email Address: ssad2473@uni.sydney.edu.au (S.H. Sadeghi)

The last part of this study is the discussion. In the discussion the final conclusion regarding the results, their means as well as a short summary of other research that has been conducted previously are reported. Because the researcher could not locate any research assessing America based on their cultural dimensions, the results of assessing America have been summarized for each factor drawn from the work of Edmonson (2004) who has focused on comparing India and America, Gamble (2009) who compared China and America, Washburn (2012) who analyzed Asian and American e-learning systems. At the end of the discussion some limitations of the current study are described and some suggestions for further research are provided.

Table 1: Cultural dimensions

Dimensions	Instructivism	Constructivism
Educational paradigm	Behavioural approach Predetermined goals based on knowledge acquisition	Constructivist approaches unfocused Goals based on knowledge transfer
Experimental values	Learning practices based on abstract approaches	Learning practices based on real world
Role of instructor	lecturer-centred teaching	student-centred teaching
Value of errors	Fulfil a instruction course without making mistakes	mistakes as part of the learning process
Origin of motivation	External interest and needs	Internal motivation and true desire
Accommodation of Individual Differences	Single –faceted consideration on learners affective and physiological differences accommodated in learning environments	Multi-faceted consideration on learners' needs and preferences based on affective and physiological differences
Learner control	Students learning program is predetermined and fully controlled	Students have power to choose what section, and/or what paths to follow.
User activity	Students access various representations of content limited in predetermined path	Students engage in the learning process for creating and managing knowledge as main user
Collaborative learning	limited support and no facilities for setting up collaborating learning	Variety of different facilities and support are provided for setting up collaborative learning

2. Method

Participants; 106 participants from an American University were recruited to participate in this study through an online invitation email requesting volunteers. From United States of America, 61 participants were female, and 45 were male. They reported their age as 20-30 years (n = 35), 30-40 years (n = 41) and 40-50 years (n = 30). Seventy two participants were students, 21 were lecturers and 13 were administrative staff. Participants reported their online experiences as beginner to average (n = 64), and average to expert (n = 42). Normality of distributions and homogeneity of variances were checked. The results indicated no outlier. Table 3.2 is a summary of the demographic makeup of the participants.

Measures; To explore the comparative evaluation of e-learning e-practice factors in American universities, a researcher-constructed survey was applied consisting of 18 questions measuring 6 cultural pedagogical factors namely educational paradigm, collaborative learning, value of errors and accommodation of individual differences and role of instructor and learner control. Each factor was measured by two or three questions with two statements which examined different dimensions of instructivism or constructivism. Reliability, content validity and construct validity of this questionnaire have been reported by Edmundson (2004).

Because this questionnaire did not cover different dimensions of cultural-pedagogical construct, three more factors from Masumi (2012) were added to the Edmundson questionnaire which has been included in this research study. Further three more factors namely experimental values, user activity and origin of motivation have been taken from Henderson (1996) and added to the main questionnaire. Similar to the Edmundson questionnaire, these factors have been represented by two or three items with two statements to measure the dimensions of instructivism and constructivism, so the final questionnaire included 21 items in total.

It is to be noted that questions 1, 2 and 3 measured the factor of educational paradigm, questions 4, 5 and 6 measured the factor of experimental value, questions 7 and 8 have measured the factor of the role of instructor, questions 9 and 10 measured the factor of value of errors, questions 11, 12 and 13 measured the factor of origin of motivation, questions 14 and 15 measured accommodation of individual differences, questions 16 and 17 measured the factor of learner control, questions 18 and 19 measured the factor of user activity and finally questions 20 and 21 measured the factor of collaborative learning. The researcher modified two versions of this questionnaire, one for students and one for lecturers or administrative staff.

Design and procedure; The researcher first started to investigate American universities offering e-learning courses according to rankings of the universities and their program details in order to find the universities with the best e-learning courses.

The University of Minnesota was selected as the sample of American university. Several American universities including Pennsylvania State University, Boston University and University of Florida were approached but the University of Minnesota was the one that accepted. After selecting Minnesota University, the researcher started to investigate different online courses in the faculties. In the University of Minnesota of the faculties of business, IT, engineering and health sciences, just the school of public health agreed to participate in this study. Finally the participants were chosen based on their availability and willingness to participate. Ethical approval was obtained to conduct this study and the survey was made by applying Lime Survey software. Thereafter, the link of the survey was sent by email to students, lecturers and administrative staff.

After collecting data, SPSS program was applied for analyzing the data. The researcher coded each response to each question of the questionnaire in which 1 represented the instructivism orientation and 0 represented the constructivism orientation of each dimension. A descriptive analysis including frequencies and percentage of each question was conducted for each country based on academic position. To compare the results of Australia and America, a chi-square test was applied which has been reported in the result section.

3. Results and key findings

This section is concerned with the cultural aspects of the United States of America. The two dimensions of instructivism and constructivism are dealt with in relation to these cultural dimensions. The results of each individual factor in relation to these variables within the American sample are dealt with. Subsequently comparison of the results of each individual factor within the American sample is discussed.

The results about Educational paradigm show that 58.3% of students (n = 42), 23.8% of lecturers (n = 5) and 23.1% (n = 3) of administrative staff believed in a sharply focused path to learn of students based on Knowledge acquisition in their e-learning system. However, 41.7% of students (n = 30), 76.2% (n =16) lecturers and 76.9% of administrative staff (n = 10) believed that students try to create and explore their own path to learn unfocused based on their e-learning environment. From this perspective, more than half of the students believed in instructivism in the path to learn for students, whereas the majority of lecturers and administrative staff believed in a constructivism path to learn for students. Based on the Chi-square test, there were significant differences between students, lecturers and administrative staff's perspectives in America on this factor [X2 (2, N = 106) = 11.22, p = .004]. This difference between American students on one hand and American lecturers or administrative staff on the other hand about choosing a path to learn can be explained by comparing the academic positions of participants. It seems that ideally, lecturers and administrative staff in America prefer that students design and follow their own path to learn, however, from the perspective of students; they tend to follow a well-defined, logical path to learn that has been defined to them by the system. This tendency in students may be due to their lack of knowledge, their skills or abilities to define their own path to learn. Also miscommunications between lecturers or administrative staff and students about the importance of defining a self-fitted path to learn may cause this difference in their perspectives. Teaching how to define your own path to learn and how important it is to students may fill this gap between the perspective of lecturers or administrative staff and students.

The results in America about *Experiential Value* show that 66.7% of students (n = 48), 71.4% of lecturers (n = 15) and 46.2% of administrative staff (n = 6) believed in an abstract congruence of learning with reality. However, 33.3% of students (n = 24), 28.6% of lecturers (n = 6) and 53.8% of administrative staff (n = 7) claimed that there is concrete consistency between what people learn and how they apply that learning in their real life. As has been revealed, two-thirds of American students and lecturers believed in the abstract contingency of learning with reality which shows the dominant aspect of instructivism. However, it seems that more than half of administrative staff believed in the concrete consistency of learning with reality which shows that the dominant aspect for them is toward constructivism. These differences in the results to questions between students and lecturers on the one hand and administrative staff on the other hand reflect the fact that students and lecturers more than administrative staff have been engaged with the consistency of learning with reality. Indeed they may believe that students learn from any kind of example as long as it makes sense even when it is not related to their work or personal life. However, based on the results of Chi-square test, there were no significant differences between students, lecturers and administrative staff's perspectives about experiential value [X2 (2, N = 106) = 2.93, p = .23].

Also, the results of *Role of instructor* questions showed that 63.9% of students (n = 46), 61.9% of lecturers (n = 13) and 38.5% of administrative staff (n = 5) believed in the didactic role of instructor related to learning needs. However, 36.1% of students (n = 26), 38.1% of lecturers (n = 8) and 61.5% of administrative staff (n = 8) believed in the facilitative role of instructor related to learning needs. Although the dominant aspect of students and lecturers to this factor is toward instructivism, it seems that the dominant aspect of administrative staff to the questions of role of instructor is toward constructivism. The results of Chi-square test

showed that there were no significant differences between the dominant aspect of students, lecturers and administrative staff in America to this factor [X2 (2, N = 106) = 3.00, p = .22].

Also, considering questions about *Value of Errors* showed that 26.4% students (n = 19), 28.6% of lecturers (n =6) and 7.7% of administrative staff (n =1) believed in errorless learning in their e-learning system. However, 73.6% of American students (n = 53), 71.4% of lecturers (n = 15) and 92.3% of administrative staff (n = 12) believed in learning from experience which shows that the dominant aspect of all Americans regardless of their academic position is toward constructivism [X2 (2, N = 106) = 2.47, p = .29].

Reviewing the responses of Americans about Origin of Motivation showed that 48.6% of students (n = 35), 19.0% of lecturers (n = 4) and 23.1% of administrative staff (n = 3) believed that there is an extrinsic origin of motivation for requirements of learning in their e-learning system. However, 51.4% of students (n = 37), 81.0% of lecturers (n =17) and 76.9% of administrative staff (n = 10) believed that there is an intrinsic origin of motivation for requirements of learning which showed the dominant aspect of constructivism in lecturers and staff American participants. However the students' results are fairly close together which means that half of them show constructivism and half of them show instructivism. [X2 (2, N = 106) = 7.63, p = .02].

Accommodation of Individual Differences

The responses to questions about Accommodation of Individual Differences showed that 38.9% of students (n = 28), 57.1% of lecturers (n = 12) and 38.5% of administrative staff (n = 5) believed that learning activities that can accommodate individual differences are non-existent. They claimed that the instructor or course designer uses very few learning activities and methods which allow students to learn through predetermined methods. However, 61.1% of students (n = 44), 42.9% of lecturers (n = 9) and 61.5% of administrative staff (n = 8) believed that there are multifaceted learning activities which can accommodate individual differences. They claimed that the instructor or course designer uses a variety of learning activities and instructional methods (like problem solving, case analyzing, participation, etc.), so that students can utilize what most suits their affect and their preferences. Based on these results, although the dominant aspect of students and administrative staff is toward constructivism, the dominant aspect of lecturers is toward instructivism [X2 (2, N = 106) = 2.31, p = .31].

Concerning questions about Learner Control, showed that 75.0% of students (n = 54), 66.7% of lecturers (n = 14) and 69.2% of administrative staff (n = 9) believed that the course features (the types of technologies included in the course, like chat, simulations) that will help students learn the materials are chosen by the instructor or course designer but not by the students. However, 25.0% of students (n = 18), 33.3% of lecturers (n = 7) and 30.8% of administrative staff (n = 4) believed that the course features that will help students learn the intended materials are chosen by students or with their contribution. Based on the Chi-square test, there were no significant differences between students, lecturers and administrative staff's perspectives in America on learner control [X2 (2, N = 106) = 0.65, p = .72] toward instructivism.

Concerning questions about User Activity showed that 62.5% of students (n = 45), 42.9% of lecturers (n = 9) and 23.1% of administrative staff (n = 3) believed in a mathemagenic source of learning claiming that students usually access representations of provided learning resources according to a predetermined path. However, 37.5% of students (n = 27), 57.1% of lecturers (n = 12) and 76.9% of administrative staff (n = 10) believed in a generative source of learning claiming that the learning resources of the course are usually presented to students, but they create their own uses of the learning resources within the course. Based on the Chi-square test, there were significant differences between students and lecturers with an instructivism orientation and administrative staff with a constructivism orientation in America on user Activity[X2 (2, N = 106) =10.85, p = .004].

Also, the responses to questions about Collaborative Learning showed that 43.1% of students (n = 31), 14.3% of lecturers (n = 3) and 30.8% of administrative staff (n = 4) believed that the approach to learning activities in their e-learning educational system is unsupported claiming students usually work individually on their learning activities or projects. However, 56.9% of students (n = 41), 85.7% of lecturers (n = 18) and 69.2% of administrative staff (n = 9) believed that the approach to learning activities in their e-learning educational system is integrated. Based on the Chi-square test, there were significant differences between students, lecturers and administrative staff's perspectives in America on Collaborative Learning [X2 (2, N = 106) = 6.01, p = .04].

Table 2 illustrates the frequency, and percentage of responses to factors in American participants based on their academic position (students, lecturers and administrative staff).

4. Conclusion

In conclusion it is worth mentioning that according to the data of this research program, the dominant aspect of constructivism in e-learning in America was focused on a student centered orientation which shows the level of development of the learning environment in America in both quality and quantity.

This approach to e-learning reflected the stage of development as well as the cultural social background of the participants especially the students.

Table 2: Comparison of responses to cultural dimensions

Factors	Dimensions	Students		Lecturers		Staff		$\chi 2$
		N	%	N	%	N	%	
Educational paradigm	Instructivisim	42	58.3	5	23.8	3	23.1	11.22*
	Constructivism	30	41.7	16	76.2	10	76.9	
Experiential Value	Instructivisim	50	66.7	15	71.4	6	46.2	2.93
	Constructivism	24	33.3	6	28.6	5	45.5	
Role of instructor	Instructivisim	46	63.9	13	61.9	5	38.5	3.00
	Constructivism	26	36.1	8	38.1	8	61.5	
Value of Errors	Instructivisim	19	26.4	6	28.6	1	7.7	2.47
	Constructivism	53	73.6	15	71.4	12	92.3	
Origin of Motivation	Instructivisim	35	48.6	4	19.0	3	23.1	7.63*
	Constructivism	37	51.4	17	81.0	10	76.9	
Accommodation of Individual Differences	Instructivisim	28	38.9	12	57.1	5	38.5	2.31
	Constructivism	44	61.1	9	42.9	8	61.5	
Learner Control	Instructivisim	54	75.0	14	66.7	9	69.2	0.65
	Constructivism	18	25.0	7	33.3	4	30.8	
User Activity	Instructivisim	45	62.5	9	42.9	3	23.1	10.85*
	Constructivism	27	37.5	12	57.1	10	76.9	
Collaborative Learning	Instructivisim	31	43.1	3	14.3	4	30.8	6.01*
	Constructivism	41	56.9	18	85.7	9	69.2	

*p<.05

The fact that America has been known as the most developed country in the world in relation to high technology can affect the e-learning educational perspective of its suppliers; for sure, the more highly novel technological educational system, the stronger the perspective of constructivism in the academics.

Acknowledgement

Thanks to Associate Professor Nigel Bagnall, Professor Michael J. Jacobson, Professor Kristin Anderson, Professor Michelle Lincoln and Dr Bob Rubinyi, who provided support to allow me to collect my data from United States of America and Australia.

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