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The current status of pedagogical e-practice in an Australian university context

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ABSTRACT

The main purpose of this research was to further pedagogical understanding of e-practice in Australian universities, using one Australian university as examples the theoretical framework focus was on the e-learning practice in pedagogical area. The pedagogical variables were explored for student-centered interactivity, socio-communication, learning environment, assessment and learning resources were investigated for e-practice. Participants of this quantitative method were postgraduate students, lecturers and staff of an Australian university engaged with online programs. The results showed that all Australian participants believed the Current status of pedagogical e-practice was above average. Also the highest mean of the pedagogical e-practice factor belonged to administrative staff. After them, the lecturers reported the pedagogical e-practice factor as high and the lowest score was reported by students.

1. Introduction

The principles of constructivist educational theory have come to be central to e-learning practice. Constructivist thought on e-pedagogy has provided basic principles of constructivism learning theory for e-teaching best practices (Alley and Jansak, 2001; Hacker and Niederhauser, 2000; Keeton, 2004). E-practice focused on learning and teaching processes is based on operational policies and practice standards for virtual learning environments (Kala et al., 2010). According to the evidence, practice which is based on learning and teaching theories can support online learning courses by developing a model for the learning and teaching process.

A large number of researchers have directed their attention to the field of e-learning practice. These studies provide a variety of models, guidelines, critical success factors and benchmarks put forward as best e-learning practice in order to enhance and assure quality in higher education institutes. Consequently, the main aim of this research is to assess current pedagogical status in an Australian university in order to ultimately improve the quality of online learning courses. Accordingly, a researcher questionnaire addressing pedagogical e-practice factors was devised.

The pedagogical factor, which addresses the process of learning and teaching in terms of how learning and teaching is done, is at the core of e-learning environments. According to studies reviewed such as Chickering and Gamson, (1989), Sangrà (2002), Finger wt al. (2006) and Zhou (2012), the pedagogical factor is considered to be the most critical in practice. It has five sub-factors.

Student center interactivity: Student success can be significantly affected by active engagement in such practices as learning interactivity and integrating past experiences (Chickering and Ehrmann, 1996). Interaction and discussion are at the core of learning and teaching process that can create opportunities for networking and encourage dialogue between and among all the actors in an online learning classroom. According to studies by Chickering and Ehrmann (1996) and Chou (2003), the main focus of student center interactivity is on student center practices and activities, interactive networks and discussion in the classroom between and among all the actors.

Socio-communication: Socio-communication effectiveness has been defined in a variety of ways (Spitzberg and Hurt, 1987). Socio-communicative orientation concerns "one's approach towards others and how one perceives him/herself, and is much less descriptive of how a person actually behaves" (Frymier, 2005). Socializing and building a concept of community attracts and retains students in online learning settings (Marshall, 2006). A competitive environment, effective communication, facilities and opportunities for good communication and social interactive tools are counted as influential factors in the success of e-learning (Herrington et al., 2007; Frymier, 2005).

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Learning environment: Environmental learning facilities allude to locations, contexts, settings and cultures in which students learn (Fraser and Fisher, 1994). Students who keenly support the collaborative wiki tool are successful at using it to complete unit tasks in a flexible online environment (Raitman et al., 2005). Creating and improving a sense of space and feeling at home could be important elements in reducing the dropout rate between online students. A flexible environment system and environmental learning facilities are the main factors of an effective learning environment (Achtemeier and Simpson, 2005; Raitman et al., 2005).

Assessment: Assessment can focus on the students' progress, the learning community, teacher practices, e-learning systems and organization. The assessment of learning in online programs requires policies, practice and tools that are clear, valid, reliable, and can be automatically administered and scored (Thompson et al., 2015). "Assessment in e-learning can be carried out in different modes by teachers, peers, by means of self-assessment as well as the students' portfolios". Assessment in online programs, though, can be challenging due to problems of classroom feedback, academic honesty, plagiarism and feedback on assessment results (Gáti and Kártyás, 2011; Kala et al., 2010; Wahlstedt et al., 2008).

Learning resources: Having adequate contents is a necessary priority in academic setting. Hostager's (2014) research findings show that adequate learning resources and services have a positive effect on the grades that students earn in e-learning programs (Hostager, 2014). E-learning providers are expected to provide a variety of e-resources to support learners' learning practices and activities (Finger et al., 2006; Kala et al., 2010; Marshall, 2012).

To provide a more comprehensive understanding of these factor and sub-factors, they are summarized in Table 1.

Table 1: Pedagogical E-practice Factor and sub-factors

	Sub-Factors
Pedagogical Practice	Student-centred interactivity Socio-communication Learning environment Assessment Learning resources

2. Method

Participants and Design; 99 participants from an Australian University were recruited to participate in this study through an online invitation email. A total of 59 participants were female, and 40 were male. They reported their age as 20-30 years (n = 57), 30-40 years (n = 20) and 40-50 years (n = 22). Seventy one participants were students, 20 were lecturers and 8 were staff. Participants reported their online experiences as beginner to average (n = 62), and average to expert (n = 37). Normality of distributions and homogeneity of variances were checked. The results indicated no outlier.

The primary independent variables in this study were position of participants. The dependent variable was pedagogical practice.

Pedagogical e-Practice questionnaire**;** the instrument used was a questionnaire self-constructed by the researcher. Exploratory factor analysis was applied to test the validity of the constructed questionnaire.

Participants answered each question by using the Likert scale (1 = Extremely Poor, 2- Poor, 3= Average, 4= Above Average (good), 5= Excellent). It is worth mentioning that three versions of the e-practice questionnaire were presented to participants based on their positions

The factor of pedagogical e-practice has 5 sub factors elicited by 13 questions: student-centred interactivity, socio-communication, learning environment, assessment and learning resources (Chickering and Gamson, 1989; Finger et al., 2006; Sangrà, 2002; Zhou, 2012) (Table 2).

Table 2: Sub-factors, Items and Questions of pedagogical e-practice

Sub-Factors	Items
Student-centred interactivity	Student centred practices
	Interactive network classroom
	Using the blackboard discussion board
Socio-communication	Effective communication
	Facilities and opportunities
	The social interactive tools
	Competitive environment
Learning environment	Flexible environment system
	Environmental learning facilities
Assessment	Classroom constructive feedback
	Academic honesty plagiarism policy
	Feedback on assessment results
Learning resources	Access to e-resources

Procedure After providing ethical approval, the study was conducted by creating an online questionnaire of e-practice using Lime Survey software. The link to the questionnaire then was sent to the e-learning center of health sciences in Sydney University. The e-learning coordinators of university then sent the link of the survey to their lecturers, administrative staff and students who were engaged

with online courses. The participants responded to the questionnaire voluntarily.

3. Results of current status of pedagogical e-practice

The pedagogical e-practice factor was measured by 5 sub factors namely: student centered interactivity, socio-communication, assessment, learning resources and learning environment. In this section, the results of each sub factor based on academic position of participants in Australia about e-learning courses are reported. At the end the total results of all sub factors of the main factor of pedagogical e-practice have been reported.

Student Centered Interactivity; Table 3 reports the means and standard deviations of the student centered interactivity sub-factor based on academic positions of Australian participants. As can be seen in this table, the highest mean regarding this sub factor belonged to administrative staff (M = 11.12, SD = 1.12). After administrative staff, lecturers reported this factor next highest (M = 9.70, SD = 2.27) and the lowest score was reported by the students (M = 9.07, SD = 1.45). To investigate if there are any differences in the evaluation of student centered interactivity between students, lecturers and administrative staff, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of student centered interactivity by Australian participants [F (2, 98) = 6.22, p = .003]. An LSD multiple comparison test between the three academic positions revealed that administrative staff reported this factor significantly higher than students and lecturers. However the evaluation by lecturers and students of this sub-factor were the same. The results showed that all Australian participants believed that student centered interactivity e-practice is above average.

Socio- communication; Table 3 reports the means and standard deviations of the socio- communication sub-factor based on the academic position of Australian participants. As can be seen in this table, the highest mean regarding this sub factor belonged to administrative staff (M = 14.50, SD = 1.69). After administrative staff, the students reported this sub factor (M = 12.71, SD = 1.55) next highest and the lowest score was reported by the lecturers (M = 12.70, SD = 2.07). To investigate whether there are any differences in evaluation of socio-communication between students, lecturers and administrative staff, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of student centered interactivity by Australian participants [F (2, 98) = 4.16, p = .01]. An LSD multiple comparison test between the three academic positions revealed that administrative staff reported this factor significantly higher than students and lecturers. However the evaluation by lecturers and students of this sub-factor was the same. The results showed that all Australian participants believed socio-communication was above average.

Assessment; Table 3 reports the mean and standard deviation of the assessment sub factor based on the academic position of Australian participants. As can be seen in this table, the highest mean regarding this sub factor belonged to administrative staff (M = 11.87, SD = 1.35). After administrative staff, the students reported this sub factor (M = 10.18, SD = 1.21) as next highest and the lowest score was reported by the lecturers (M = 9.85, SD = 1.59). To investigate if there are any differences in evaluation of this sub factor between students, lecturers and administrative staff, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of assessment on Australian participants [F (2, 98) = 7.21, p = .001]. An LSD multiple comparison test between the three academic positions revealed that administrative staff reported this factor significantly higher than students and lecturers. However the evaluations by lecturers and students of this sub-factor were the same. The results showed that all Australian participants believed assessment to be above average.

Learning Resources; Table 3 reports the means and standard deviations of the learning resources sub factor based on the academic position of Australian participants. As can be seen in this table, the highest mean regarding this sub factor belonged to lecturers (M = 4.37, SD = 0.67). After them, the administrative staff reported this sub factor (M = 4.12, SD = 0.64) next highest and the lowest score was reported by students (M = 3.54, SD = 0.71). To investigate if there are any differences in evaluation of this sub factor between students, lecturers and administrative staff, ANOVA was applied. The results showed that there was a significant main effect of academic position on evaluation of this sub factor by Australian participants [F (2, 98) = 11.41, p = .00]. An LSD multiple comparison test between the three academic positions revealed that students reported this factor significantly lower than administrative staff and lecturers. However the evaluation by lecturers and administrative staff of this sub-factor was the same. The results showed that in Australia, students believed that learning resources were above average. However lecturers and administrative staff assessed this sub factor as excellent.

Learning Environment; Table 3 reports the means and standard deviations of the learning environment sub factor based on the academic positions of Australian participants. As can be seen in this table, the highest mean of this sub factor belonged to administrative staff (M = 8.25, SD = 1.03). After them, the lecturers reported this sub factor (M = 7.75, SD = 1.06) as high and the lowest score was reported by students (M = 7.52, SD = 0.89). To investigate if there are any differences in evaluation of this sub factor between students, lecturers and administrative staff, ANOVA was applied. The results showed that there was no significant main effect of academic position on evaluation of this sub factor by Australian

participants [F (2, 98) = 2.37, p = .09]. The results showed that in Australia, students and lecturers believed the learning environment was above average. Also administrative staff assessed this sub factor as at an excellent level.

Pedagogical e-Practice; Table 3 reports the means and standard deviations of the pedagogical e-practice factor based on the academic positions of Australian participants. As can be seen in this table, the highest mean of the pedagogical e-practice factor belonged to administrative staff (M = 49.87, SD = 3.31). After them, the lecturers reported the pedagogical e-practice factor (M = 44.35, SD = 5.29) as high and the lowest score was reported by students (M = 43.04, SD = 4.01). To investigate if there are any differences in evaluation of the pedagogical e-practice factor between students, lecturers and administrative staff, ANOVA was applied. The results showed that there was significant main effect of academic position on evaluation of the pedagogical e-practice factor by Australian participants [F (2, 98) = 9.43, p = .00]. An LSD test revealed that administrative staff evaluated this factor significantly higher than students and lecturers. However there was no difference between the evaluation of students and lecturers of this factor. The results showed that all Australian participants believed pedagogical e-practice was above average.

Table 3: Mean, SD, and F value of evaluation of pedagogical sub factors

Pedagogical sub factors	Students		Lecturers		Staff		*F*	*P*
	M	*SD*	*M*	*SD*	*M*	*SD*		
Student Centered Interactivity	9.07	1.45	9.70	2.27	11.12	1.12	6.22	.003**
Socio-communication	12.71	1.55	12.70	2.07	14.50	1.69	4.16	.01*
Assessment	10.18	1.21	9.85	1.59	11.87	1.35	7.21	.001**
Learning resources	3.54	0.71	4.37	0.67	4.12	0.64	11.41	.00***
Learning environment	7.52	0.89	7.75	1.06	8.25	1.03	2.37	.09
Pedagogical e-practice	43.04	4.01	44.35	5.29	49.87	3.31	9.43	.00***

*p<.05, **p<.01, ***p<.001

This study has investigated the current status of pedagogical e-practice in Australian universities. The results showed that the level of pedagogical e-practice in all sub factors were above average. However administrative staff evaluated the pedagogical e-practice significantly higher than lecturers and students. In general, as shown in below figure Australian participants evaluated total pedagogical e-practice above average (Fig. 1).

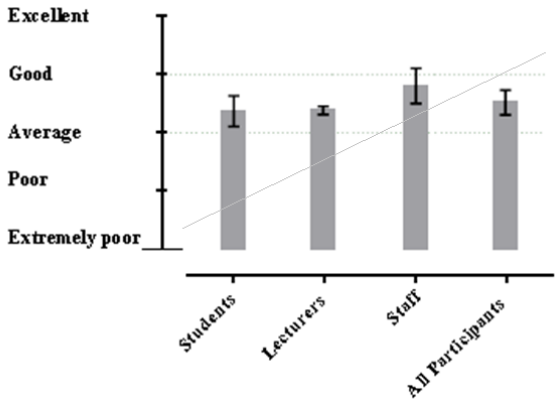

Fig. 1: Pedagogical e- Practice

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