E-LEARNING INSTRUCTIONAL DESIGN PRACTICE IN AMERICAN AND AUSTRALIAN INSTITUTIONS

Dr Sayed Hadi Sadeghi
Faculty of Education and Social work, The University of Sydney, Asutralia
Project Director of the University of Tehran's human resource development project

ABSTRACT

This research study provides a comparative understanding of instructional design e-practice in an Australian and an American university. This comparative study identifies information relating to the current status of instructional design e-practice that will be of assistance to Australian universities to improve their existing online programs. The study investigated two universities using a quantitative methodological approach. Participants were students, lecturers and admins of one Faculty in an Australian university and one Faculty in an American university engaged with e-learning programs. The instructional design variables, namely clarifying expectations, personalization, learning scenarios, organizing resources and accuracy of materials were investigated for e-practice. The results showed that there were no significant differences in evaluation of the sub factors between Australian and American students and lecturers. American admins evaluated the sub factors of personalization, organizing resources, and accuracy of materials higher than Australians; however, Australian admins evaluated the sub factor of clarifying expectations higher than the Americans. The evaluations of instructional design practice and its sub factors were above average in general in both countries; however, the sub factor of organizing resources was evaluated as poor in the Australian sample and poor and average in the American sample. This indicates that this sub factor needs to improve in both countries.

KEYWORDS

Instructional Design, e-Practice, Australian Institutions, American Institutions

1. INTRODUCTION

According to the latest reports of e-learning status, while the rapid pace of online learning growth has moderated, it still accounted for nearly three-quarters of all US higher education's enrolment increases last year and the education system has strategic plans for the future of it (Allen and Seaman, 2015); for example, Pennsylvania's State System of Higher Education will strive to achieve outcomes by 2020 which include increasing the number of students in online learning to 53,000 (PASSHE, 2014).

Similarly, in Australian institutes, there are many statistics and reports in relation to e-learning growth rate which show that between 2009 and 2014 the online education industry in Australia experienced an annual growth of 14.4% with estimated revenue of over 6 billion dollars (IBS World, 2014). Australian higher education's embrace of the use of e-learning as a vehicle to enhance teaching opportunities and improve learning outcomes is one of the strongest among developed countries in the globalization era. Open universities and distance learning institutions continue to offer students e-learning, using a diverse range of institutional policies to support the promised benefits (Bates, 1997). The providers and educational policy-makers are able to demonstrate that their processes in regard to online learning as a mode of delivery for their programs are sound and effective (Hosie, Schibeci, & Backhaus, 2005; Oliver, 2005). It can be concluded that adoption of online teaching and learning in the Australian higher education sector has been widespread and is now found across a range of disciplines (e.g., business, education, health, psychology, and accounting and information technology) and a range of program levels.

To conclude, with due attention to fast-growing e-learning programs in institutional and pedagogical structures, there is no doubt that comparative studies on virtual learning environments will lead to fundamental change in the educational process, because focusing on a variety of opinions and experiences in different systems and cultures will enable the identification of strategic issues (strength, weakness,

opportunity, and threat). Also "the use of comparative studies has become a prominent feature in policymaking and related processes which is characterised by increased technological, information and pedagogical transfer" (Adamson, 2012, p. 641).

According to the evidence, e- practice which is based on instructional strategies can support online courses by developing a standards-based design path (Sadeghi, 2015). The issue of instructional design is "the first important one related to usability and efficiency of a user interface" (Skalka, Drlik & Svec, 2012, p.3). Those e-practices based on instructional design which frame all the elements of the learning process in order to optimise learning and teaching environments are among the most effective (cf. Phipps & Merisotis, 2000; Finger, Jamieson-Proctor & Watson., 2006; Putnam & Borko, 2000; Marshall, 2012). Instructional design e-learning has five sub-factors:

Clear expectations: Learning audiences tend to focus more on learning when e-learning programs are organized with clear expectations (Ku, Akarasriworn, Rice, Glassmeyer, & Mendoza, 2011). Clear explanation is a key to successful e-learning programs because clear explanation helps to prevent misunderstanding of content of learning and tasks (Lee, 2014). Clear objectives, expectations and syllabi prefigure unity between learning activities by describing the learning content, the actions to be taken or performed and how these will be assessed (cf. Phipps & Merisotis, 2000; Holsapple & Lee-Post, 2006; Kala, Isaramalai & Pohthong, 2010; Khan & Granato, 2008; Marshall, 2012; Lee, 2014)

Learning scenarios: Present scenarios of e-learning programs are taking advantage of online web technologies to connect learners and facilitate sharing information in an interoperable way for satisfactory learning experience based on effective scenarios (Santos and Boticario, 2015). As Marshall (2006) explained, the online scenario, which can be considered to be an educational technique, can shape and influence every part of the learning process, both as a means of understanding how students learn and as a tool for guiding the design and aligning learning activities and practices (Masoumi, 2010). The scenarios of online learning should be selected based on the goals of the course, content of modules and effective instructional strategies (cf.Chickering & Gamson, 1987; Duffy, Lowyck & Jonassen, 2012; FitzPatrick, 2012; Kala et al., 2010; Oliver, 2001).

Accuracy of resources: The accuracy of resources sub factor is an important one which is related to the reliability of the instructional materials in e-learning (cf. Phipps & Merisotis, 2000; Holsapple & Lee-Post, 2006; Zhao, 2012).

Organizing resources: Organizing resources incorporates different activities and practices, e.g. sorting or grouping resources of interest in a personal classification system, storing of organized content, at least for the time of use and sharing of the arranged content with peers (Seidel, 2014, p. 6). According to Oliver (2001), Holsapple & Lee-Post (2006) and N. Lee & Rozinah (2009), the main quality issues concerning organizing and structuring learning resources can ultimately determine the effectiveness and efficiency of the learning environment (Masoumi, 2010).

Virtual personalization: In order to improve success in e-learning practice, additional interventions in online programs need to be explored, including those that increase student motivation via personalization (Pemberton & Moallem, 2013). As Martinez (2010) explained, "personalization uses student-specific approaches to address individual needs and expectations to support and promote individual learning success" (Pemberton & Moallem, 2013, p. 908). In fact students' motivation increases as a result of a personalized link between the students and the content, and is directly affected by the manner in which the content is presented to the students (Wlodkowski, 1999). Virtual environments based on students' needs and interests directly affect the learning and teaching process (Klašnja-Milićević, Vesin, Ivanović, & Budimac, 2011; Marshall, 2012; Weld, Adar, Chilton, Hoffmann & Horvitz, 2012; Pemberton & Moallem, 2013).

2. METHOD

A total of 215 participants from an Australian Institute and an American Institute were recruited to take part in this research through an online invitation email asking for volunteers. Of the sample of 215, 99 participants were from an Australian Institute and 116 participants were from an American Institute.

The primary independent variables in this research were the academic positions of participants. The dependent variable was instructional design e-practice. Table 1 is a summary of the demographic makeup of the participants of both countries.

Table 1. Demographic information based on Country

Country	Gender	N	Age	N	Position	N	Experience	N
AUS	Female	59	20 to 30	57	Student	71	Blended and online	62
	Male	40	30 to 40	20	Lecturers	20	Fully online	37
	---	---	40 to 50	22	Admins	8	---	---
	Total	99						
USA	Female	70	20 to 30	42	Student	78	Blended and online	93
	Male	46	30 to 40	48	Lecturers	25	Fully online	23
	---	---	40 to 50	26	Admins	13	---	---
	Total	116						
All Total					215			

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= Good, 5= Excellent). It is worth mentioning that three versions of the instructional design e-practice questionnaire were presented to participants based on their positions. The factor of instructional design e-practice has 5 sub factors elicited by the items set out in the table below: clarifying expectations, personalisation, learning scenarios, organizing resources, and quality and accuracy (Finger et al., 2006; Marshall, 2012; Phipps & Merisotis, 2000; Putnam & Borko, 2000)

Table 2. Sub-factors, Items and Questions of instructional design e-practice

Sub-Factors	Items
Clarifying expectations	Clear objectives and expectations The outline and syllabus
Learning scenarios	The content of modules Effective instructional strategies
Quality and accuracy	Resources of instructional Reliable materials
Personalization	Personalization
Organizing rescores	Organizing online materials

After obtaining ethical approval, the study was conducted by creating an e- questionnaire of instructional design e-practice using Lime Survey software. The e-learning centres of the Institutes then sent the link of the survey to those lecturers, admins and students who were engaged with online courses. The participants responded to the questionnaire voluntarily.

3. RESULTS OF CURRENT STATUS OF INSTRUCTIONAL DESIGN E-PRACTICE

The instructional design e-practice factor was measured by 5 sub factors namely: clarifying expectations, personalisation, learning scenarios, organizing resources, and quality and accuracy. In this section, the results of each sub factor based on academic position of participants in Australia and America engaged in e-learning courses are reported. Finally the total results of all sub factors of the main factor, instructional design e-practice, are reported.

Clarifying Expectations: Table 3 reports the means and standard deviations regarding the clarifying expectations sub factor based on answers obtained from the academic participants of one faculty in an Australian university and one faculty in a US university. As can be seen in this table, the highest mean, for Australia, belonged to admins (M = 8.37, SD = 0.51). After them, the lecturers reported the clarifying expectations sub factor (M = 7.85, SD = 1.08) as high and the lowest score was reported by students

(M = 7.69, SD = 0.99). To investigate if there are any differences in evaluation of this sub factor between students, lecturers and admins, ANOVA was applied. The results showed that there was no significant main effect of academic position on evaluation of the clarifying expectations sub factor by participants of one faculty in an Australian university [F (2, 98) = 1.79, p = .17]. The results showed that Australian students and lecturers believed clarifying expectations was above average. Also, the admins believed there were excellent clarifying expectations.

Table 3. Mean, SD, and F value of evaluation of clarifying expectations

Country	Students		Lecturers		Admins		*F*	*P*
	M	*SD*	*M*	*SD*	*M*	*SD*		
AUS Participants	7.69	0.99	7.85	1.08	8.37	0.51	1.79	0.17
USA Participants	7.69	0.79	8.04	0.93	5.46	0.96	44.97	.00***

****p*<.001

In one faculty in a US university, as can be seen in this table, the highest mean of answers to the clarifying expectations sub factor belonged to lecturers (M = 8.04, SD = 0.93). After them, students reported this factor next highest (M = 7.69, SD = 0.79) and the lowest score was reported by the admins (M = 5.46, SD = 0.96). To investigate if there are any differences in evaluation of the clarifying expectations sub factor between American students, lecturers and admins, ANOVA was applied. The results showed that there was significant main effect of academic position on evaluation of the clarifying expectations sub factor by participants of one faculty in a US university [F (2, 115) = 44.97, p = .00]. An LSD test showed that admins evaluated this sub factor significantly lower than students and lecturers. There were no differences between the evaluation of lecturers and students. The results showed that American admins believed clarifying expectations to be average. However, the students believed this sub factor was above average. On the other hand the lecturers believed there were excellent clarifying expectations.

Comparing the answers of participants of one faculty in an Australian university and one faculty in a US university showed that there were significant differences in evaluation of the clarifying expectations sub factor between Australian and American admins [F (1, 20) = 60.94, p = .00]; Australians significantly evaluated it higher than Americans. However, the results of ANOVA revealed that there was no significant difference in evaluation of this sub factor between Australian and American lecturers [F (1, 44) = 0.42, p = .51]. An ANOVA test showed that there was no significant difference in evaluation of the clarifying expectations sub factor between Australian and American students [F (1, 148) = 0.00, p = .99].

Overall, as shown in Figure 1, American and Australian students believed clarifying expectations to be above average. On the other hand, the American lecturers assessed this sub factor as excellent but Australian lecturers assessed clarifying expectations as above average. Surprisingly, the American admins gave an average assessment to clarifying expectations but Australian admins believed clarifying expectations was excellent.

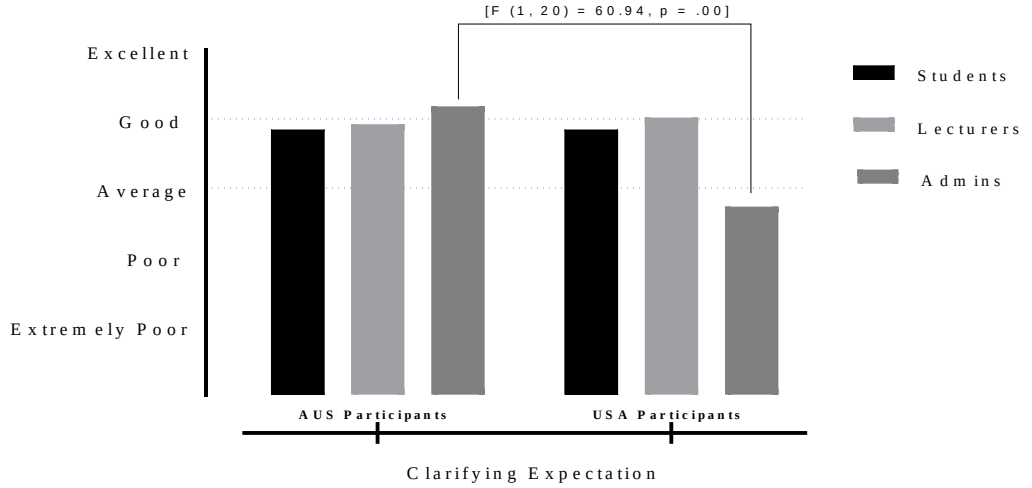

Figure 1. Mean level of clarifying expectation

Virtual Personalization: Table 4 reports the means and standard deviations of the personalization sub factor based on the academic participants of one faculty in an Australian university and one faculty in a US university. As can be seen in this table, the highest mean of the personalization sub factor belonged to admins (M = 3.37, SD = 0.51). After them, the students reported the personalization sub factor (M = 2.98, SD = 0.58) as high and the lowest score was reported by lecturers (M = 2.70, SD = 0.57). To investigate if there are any differences in evaluation of the personalization sub factor between students, lecturers and admins, ANOVA was applied. The results showed that there was significant main effect of academic position on evaluation of this sub factor by participants of one faculty in an Australian university [F (2, 98) = 4.29, p = .01]. An LSD test revealed that lecturers evaluated this sub factor significantly lower than admins and students; however, there were no differences in evaluation of this sub factor between students and admins. The results showed that Australian students and lecturers believed personalization to be at an average level. However, the admins believed that personalization was above average.

Table 4. Mean, SD, and F value of evaluation of Virtual Personalization

Country	Students		Lecturers		Admins		*F*	*P*
	M	*SD*	*M*	*SD*	*M*	*SD*		
AUS Participants	2.98	0.58	2.70	0.57	3.37	0.51	4.29	.01*
USA Participants	3.11	0.62	2.44	0.69	4.23	0.43	34.98	.00***

*p<.05
***p<.001

In one faculty in a US university, as can be seen in this table, the highest mean of responses to the personalization sub factor belonged to admins (M = 4.23, SD = 0.43). After them, students reported this factor next highest (M = 3.11, SD = 0.62) and the lowest score was reported by the lecturers (M = 2.44, SD = 0.69). To investigate if there are any differences in evaluation of the sub factor between American students, lecturers and admins, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of the personalization sub factor by participants of one faculty in a US university [F (2, 115) = 34.98, p = .00]. An LSD test showed that admins evaluated the personalization sub factor significantly higher than students and lecturers. Also, students evaluated this sub factor significantly higher than lecturers. The results showed that all participants of one faculty in a US university had different assessments. The students believed it to be above average, the lecturers believed average and the admins believed excellent.

Comparing the answers of participants of one faculty in an Australian university and one faculty in a US university showed that there were significant differences in evaluation of the personalization sub factor between Australian and American admins [F (1, 20) = 16.47, p = .001]; Americans significantly evaluated it higher than Australians that shown in Figure 2. However, the results of ANOVA revealed that there was no significant difference in evaluation of this sub factor between Australian and American lecturers [F (1, 44) = 1.67, p = .20]. An ANOVA test showed that there was no significant difference in evaluation of the personalization sub factor between Australian and American students [F (1, 148) = 0.00, p = .99]. Overall, comparing the results showed that Australian and American lecturers believed personalization practice to be average. The American students assessed it as above average but Australian students placed it at an average level. On the other hand, American admins assessed this sub factor as excellent while Australian admins assessed it above average.

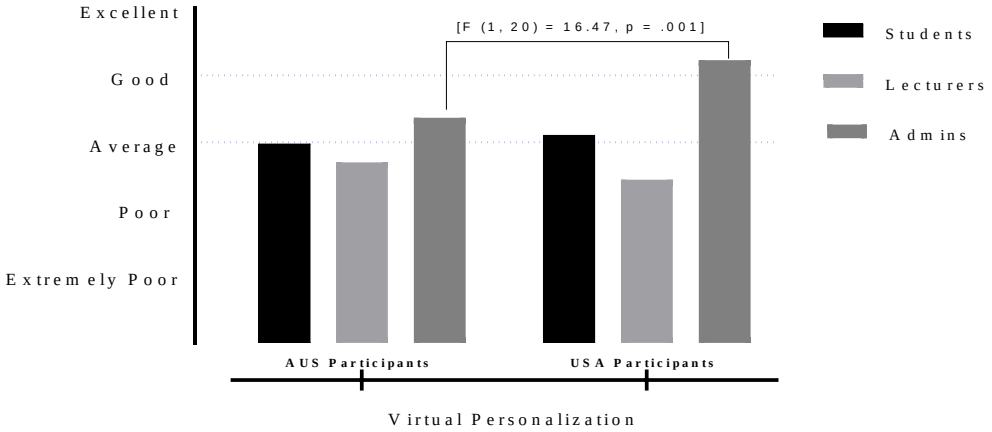

Figure 2. Mean level of virtual personalization

Learning Scenarios: Table 5 reports the means and standard deviations regarding the learning scenarios sub factor based on the academic participants of one faculty in an Australian university and one faculty in a US university. As can be seen in this table, the highest mean of the learning scenarios sub factor belonged to admins (M = 7.12, SD = 1.12). After them, the lecturers reported this sub factor (M = 6.95, SD = 1.35) as high and the lowest score was reported by students (M = 6.63, SD = 1.04). To investigate if there are any differences in evaluation of the learning scenarios sub factor between students, lecturers and admins, ANOVA was applied. The results showed that there was no significant effect of academic position on evaluation of the learning scenarios sub factor by participants of one faculty in an Australian university [F (2, 98) = 1.14, p = .32]. The results showed that all participants of one faculty in an Australian university believed learning scenarios to be above average.

Table 5. Mean, SD, and F value of evaluation of learning scenarios

Country	Students		Lecturers		Admins		*F*	*P*
	M	*SD*	*M*	*SD*	*M*	*SD*		
AUS Participants	6.63	1.04	6.95	1.35	7.12	1.12	1.14	.32
USA Participants	7.18	0.98	8.00	0.91	6.61	0.65	10.97	.00***

****p*<.001

In one faculty in a US university, as can be seen in this table, the highest mean of responses to the learning scenarios sub factor belonged to lecturers (M = 8.00, SD = 0.91). After them, students reported this factor next highest (M = 7.18, SD = 0.98) and the lowest score was reported by the admins (M = 6.61, SD = 0.65). To investigate if there are any differences in evaluation of this sub factor between American students, lecturers and admins, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of the learning scenarios sub factor by participants of one faculty in a US

university [F (2, 115) = 10.97, p = .00]. An LSD test showed that lecturers evaluated the learning scenarios sub factor significantly higher than students and admins. Also, students evaluated this sub factor significantly higher than admins. The results showed that American students and admins believed learning scenarios to be above average. However, the lecturers believed learning scenarios were excellent.

Comparing the answers of participants of one faculty in an Australian university and one faculty in a US university showed that there were no significant differences in evaluation of the learning scenarios sub factor between Australian and American admins [F (1, 20) = 1.75, p = .20]. However, the results of ANOVA revealed that there was significant difference in evaluation of it between Australian and American lecturers [F (1, 44) = 9.58, p = .003]; Americans evaluated this sub factor significantly higher than Australians. An ANOVA test showed significant difference in evaluation of the learning scenarios sub factor between Australian and American students [F (1, 148) = 11.09, p = .001]; American students evaluated this sub factor significantly higher than Australian students that shown in Figure 3. Overall, comparing the results showed that all participants of one faculty in an Australian university and American students and admins believed learning scenarios practice was above average. However, the American lecturers believed learning scenarios practice was at an excellent level.

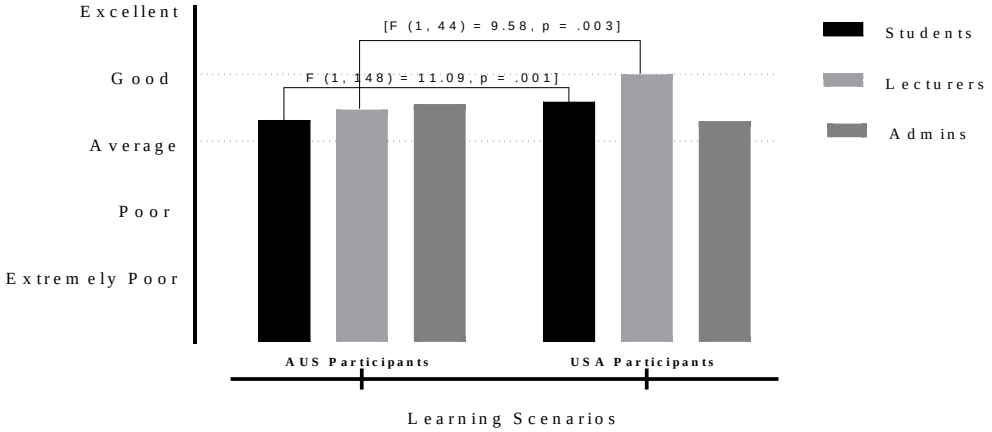

Figure 3. Mean level of learning scenarios

Organizing Resources: Table 6 reports the means and standard deviations of the organizing resources sub factor based on the academic participants of one faculty in an Australian university and one faculty in a US university. As can be seen in this table, in Australia, the highest mean of the organizing resources sub factor belonged to admins (M = 3.87, SD = 0.35). After them, the lecturers reported this sub factor (M = 3.25, SD = 0.85) as high and the lowest score was reported by students (M = 3. 22, SD = 0.65). To investigate if there are any differences in evaluation of the organizing resources sub factor between students, lecturers and admins, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of the organizing resources sub factor by participants of one faculty in an Australian university [F (2, 98) = 3.26, p = .094]. An LSD test showed that admins evaluated this sub factor significantly higher than lecturers and students. However, there were no differences in evaluation of this sub factor between students and lecturers. The results showed that all participants of one faculty in an Australian university had the same assessment namely that organizing resources were poor.

Table 6. Mean, SD, and F value of evaluation of organizing resources

Country	Students		Lecturers		Admins		*F*	*P*
	M	*SD*	*M*	*SD*	*M*	*SD*		
AUS Participants	3. 22	0.65	3.25	0.85	3.87	0.35	3.26	.094
USA Participants	3.39	0.62	3.45	0.46	4.61	0.50	24.76	.00***

***p<.001

In one faculty in a US university, as can be seen in this table, the highest mean of responses to the organizing resources sub factor belonged to admins (M = 4.61, SD = 0.50). After them, lecturers reported this factor next highest (M = 3.45, SD = 0.46) and the lowest score was reported by the students (M = 3.39, SD = 0.62). To investigate if there are any differences in evaluation of the organizing resources sub factor between American students, lecturers and admins, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of the organizing resources sub factor by participants of one faculty in a USA university [F (2, 115) = 24.76, p = .00]. An LSD test showed that admins evaluated it significantly higher than lecturers and students. There were no differences between the evaluations of lecturers and students. The results showed that American students and lecturers believed organizing resources practice was poor. However, the admins believed organizing resources practice was at an average level.

Comparing the answers of participants of one faculty in an Australian university and one faculty in a US university showed that there were significant differences in evaluation of the organizing resources sub factor between Australian and American admins [F (1, 20) = 13.05, p = .002]; Americans significantly evaluated this sub factor higher than Australians that shown in Figure 4. However, the results of ANOVA revealed that there was no significant difference in evaluation of the organizing resources sub factor between Australian and American lecturers [F (1, 44) = 1.04, p = .31]. Also, an ANOVA test showed that there was no significant difference in evaluation of it between Australian and American students [F (1, 148) = 2.60, p = .10]. Overall, comparing the results showed that all participants of one faculty in an Australian university and American students and lecturers believed organizing resources practice was at a poor level. However, the American admins believed organizing resources practice to be average.

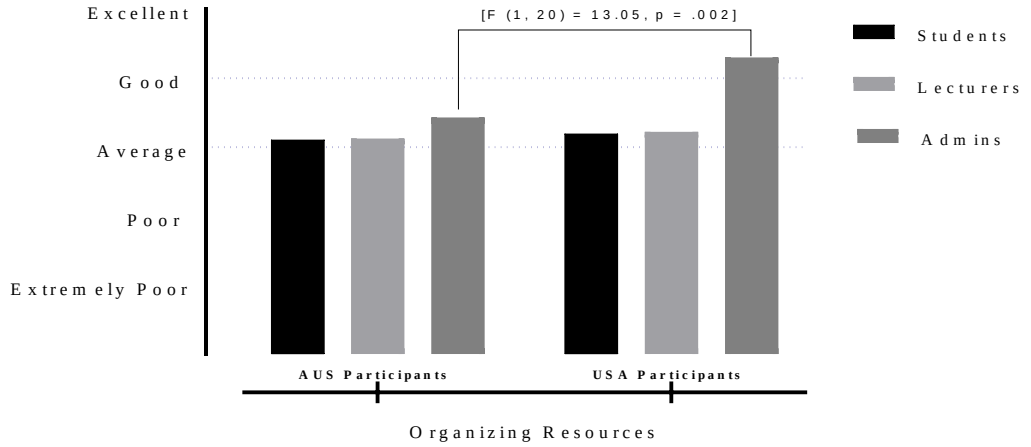

Figure 4. Mean level of organizing resources

Quality and Accuracy Materials: Table 7 reports the means and standard deviations of the accuracy materials sub factor based on the academic participants of one faculty in an Australian university and one faculty in a US university. As can be seen in this table, in Australia, the highest mean of accuracy materials belonged to admins (M = 7.00, SD = 0.92). After them, the students reported accuracy materials (M = 6.14, SD = 0.94) as high and the lowest score was reported by lecturers (M = 5.75, SD = 1.33). To investigate if there are any differences in evaluation of accuracy materials between students, lecturers and admins, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of accuracy materials by participants of one faculty in an Australian university [F (2, 98) = 4.19, p = .01]. An LSD test illustrated that admins evaluated this sub factor significantly higher than students and lecturers; however, there were no significant differences on evaluation of this sub factor between students and lecturers. The results showed that Australian students and admins believed that accuracy materials are at an above average level. However, the lecturers believed accuracy materials were only average.

Table 7. Mean, SD, and F value of evaluation of accuracy materials

Country	Students		Lecturers		Admins		*F*	*P*
	M	*SD*	*M*	*SD*	*M*	*SD*		
AUS Participants	6.14	0.94	5.75	1.33	7.00	0.92	4.19	.01*
USA Participants	6.20	0.76	5.11	1.19	8.46	0.96	60.24	.00***

*p<.05 ***p<.001

In one faculty in a US university, as can be seen in this table, the highest mean of answers regarding the accuracy materials belonged to admins (M = 8.46, SD = 0.96). Next highest came students' reports of this factor (M = 6.20, SD = 0.76) and the lowest score was reported by the lecturers (M = 5.11, SD = 1.19). To investigate if there are any differences in evaluation of accuracy materials between American students, lecturers and admins, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of accuracy materials by participants of one faculty in a US university [F (2, 115) = 60.24, p = .00]. An LSD test showed that admins evaluated accuracy materials significantly higher than lecturers and students. Also, students evaluated this sub factor significantly higher than lecturers. The results showed that American students believed this sub factor was at an above average level, the lecturers believed it was at an average level and the admins believed accuracy materials practice was excellent.

Comparing the answers of participants of one faculty in an Australian university and one faculty in a US university showed that there were significant differences in evaluation of accuracy materials between Australian and American admins [F (1, 20) = 11.66, p = .003]; Americans significantly evaluated accuracy materials higher than Australians that shown in Figure 5. However, the results of ANOVA revealed that there was no significant difference in evaluation of accuracy materials between Australian and American lecturers [F (1, 44) = 2.85, p = .09]. To continue, an ANOVA test showed that there was no significant difference in evaluation of accuracy materials between Australian and American students [F (1, 148) = 0.21, p = .64]. Overall, comparing the results showed that Australian students and lecturers as well as American students and lecturers had the same perspective in that they believed accuracy materials practice to be above average. The Australian admins believed accuracy materials practice was above average however, the American admins believed there was an excellent level of accuracy materials.

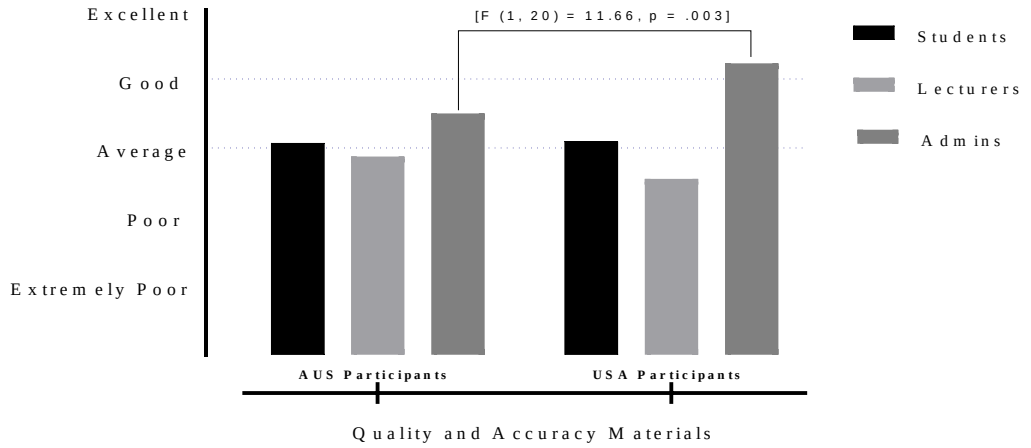

Figure 5. Mean level of quality and accuracy materials

4. FINAL RESULT AND CONCLUSION

Table 8 reports the means and standard deviations of the instructional design practice factor based on the academic participants of one faculty in an Australian university and one faculty in a US university. As can be seen in this table, the highest mean of instructional design practice belonged to admins (*M* = 29.75, *SD* = 1.83). After them, the students reported instructional design practice (*M* = 26.67, *SD* = 2.50) as high and the lowest score was reported by lecturers (*M* = 26.50, *SD* = 2. 60). To investigate if there are any differences in evaluation of instructional design practice between students, lecturers and admins, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of instructional design practice by participants of one faculty in an Australian university [*F* (2, 98) = 5.83, *p* = .004]. An LSD test showed that admins evaluated this factor significantly higher than students and lecturers but there were no significant differences in evaluation of this factor between students and lecturers. Overall, regarding the level of practice assessment, it seems that all participants of one faculty in an Australian university had the same assessment placing it in an above average level.

Table 8. Mean, SD, and F value of evaluation of instructional design e-practice

Country	Students		Lecturers		Admins		*F*	*P*
	M	*SD*	*M*	*SD*	*M*	*SD*		
AUS Participants	26.67	2.50	26.50	2. 60	29.75	1.83	5.83	.004**
USA Participants	27.59	2.23	27.06	2.21	29.38	1.75	5.01	.008**

**$p<.01$

In one faculty in a US university, as can be seen in this table, the highest mean of responses to instructional design practice belonged to admins (*M* = 29.38, *SD* = 1.75). After them, students reported this factor next highest (M = 27.59, SD = 2.23) and the lowest score was reported by the lecturers (M = 27.06, SD = 2.21). To investigate if there are any differences in evaluation of instructional design practice between American students, lecturers and admins, ANOVA was applied. The results showed that there was a significant effect of academic position on evaluation of instructional design practice by participants of one faculty in a US university [*F* (2, 115) = 5.01, *p* = .008]. An LSD test showed that admins evaluated this factor significantly higher than students and lecturers but there were no significant differences in evaluation of this factor between students and lecturers. The results showed that all participants of one faculty in a US university gave it the same assessment namely above average.

Comparing the answers of participants of one faculty in an Australian university and one faculty in a US university showed that there were significant differences in evaluation of instructional design practice between Australian and American admins. Furthermore, the results of ANOVA revealed that there was no significant difference in evaluation of instructional design practice between Australian and American lecturers. However, ANOVA test showed that there was significant difference in evaluation of instructional design practice between Australian and American students; American students evaluated instructional design practice significantly higher than Australian students. All participants of one faculty in an Australian and one faculty in a US university gave the same assessment namely that instructional design practice was above average.

According to the result of this study the evaluations of instructional design practice and its sub factors were above average in general in both countries; however, the sub factor of organizing resources was evaluated as poor in the Australian sample and as poor and average in the American sample. This indicates that this sub factor needs to be improved in both countries. American students evaluated the factor of instructional design e-practice higher than Australian students, however, lecturers and admins evaluated this factor in both countries the same. Also, American students and lecturers evaluated the sub factor of learning scenarios higher than Australians. There were no significant differences in evaluation of the remaining sub factors between Australian and American students and lecturers. American admins evaluated the sub factors of personalization, organizing resources, and accuracy materials higher than Australians; however, Australian admins evaluated the sub factor of clarifying expectations higher than the Americans. Based on these results it seems that the quality of instructional design e-learning practice in America is higher than in Australia.

AUTHOR'S DECLARATION

This research meets the University of Sydney's Human Research Ethics Committee (HREC) requirements for the conduct of research. Project Approved Number: 2013/669
The authors declare that they have no conflict of interest.

REFERENCES

Adamson, B. (2012). International comparative studies in teaching and teacher education. *Teaching and teacher education*, *28*(5), 641-648.

Allen, I. E., & Seaman, J. (2015). Grade level: Tracking online education in the United States. *Babson Park, MA: Babson Survey Research Group. Accessed March*, *10*, 2015. Retrieved from http://www.onlinelearningsurvey.com/reports/gradelevel.pdf

Bates, T. (1997). *Restructuring the university for technological change* (pp. 78-101). Murdoch University.

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE bulletin*, *3*, 7.

Duffy, T. M., Lowyck, J., & Jonassen, D. H. (2012). *Designing environments for constructive learning*. Springer.

Finger, G., Jamieson-Proctor, R., & Watson, G. (2006). Measuring learning with ICTs: an external evaluation of Education Queensland's ICT curriculum integration performance measurement instrument. In *Proceedings of the Australian Association for Research in Education Annual Conference (AARE 2005)*. Australian Association for Research in Education.

FitzPatrick, T. (2012). Key Success Factors of eLearning in Education: A Professional Development Model to Evaluate and Support eLearning. *Online Submission*.

Holsapple, C. W., & Lee-Post, A. (2006). Defining, Assessing, and promoting e-learning success: an information systems perspective. *Decision Sciences Journal of Innovative Education*, *4*(1), 67-85.

Hosie, P., Schibeci, R., & Backhaus, A. (2005). A framework and checklists for evaluating online learning in higher education. *Assessment & Evaluation in Higher Education*, *30*(5), 539-553.

IBS World. (2014). *Online education in Australia*: Market research report. In a. X008 (Ed.), Retrieved from http://www.ibisworld.com.au/industry/default.aspx?indid=1907

Kala, S., Isaramalai, S.-a., & Pohthong, A. (2010). Electronic learning and constructivism: A model for nursing education. *Nurse Education Today*, *30*(1), 61-66

Khan, B. H., & Granato, L. A. (2008). Program evaluation in e-learning: Retrieved from http://asianvu.com/bk/elearning_evaluation_article.pdf

Klašnja-Milićević, A., Vesin, B., Ivanović, M., & Budimac, Z. (2011). E-Learning personalization based on hybrid recommendation strategy and learning style identification. *Computers & Education*, *56*(3), 885-899.

Ku, H. Y., Akarasriworn, C., Rice, L. A., Glassmeyer, D. M., & Mendoza, B. (2011). Teaching an online graduate mathematics education course for in-service mathematics teachers. *Quarterly Review of Distance Education*, *12*(2), 135.

Lee, J. (2014). An exploratory study of effective online learning: Assessing satisfaction levels of graduate students of mathematics education associated with human and design factors of an online course. *The International Review of Research in Open and Distributed Learning*, *15*(1).

Lee, N., & Rozinah, J. (2009). Developing and validating an instrument to assess the e-learning environment at a public higher education institution in Malaysia. *Measuring Business Excellence*, *12*(3), 56-75. Retrieved from http://www.emeraldinsight.com/doi/abs/10.1108/13683040810900403

Marshall, S. J. (2006). *eMM version two process assessment workbook.* Report to the New Zealand Ministry of Education, Wellington: Victoria University of Wellington.

Marshall, S. J. (2012). An analytic framework to support e. learning strategy development. *Campus-Wide Information Systems*, *29*(3), 177-188.

Martinez, M. (2010). Adaptive and personalized learning: Supporting individual learning differences. *The Training Place.* Retrieved from http://www.trainingplace.com/source/research/masspersonalization.htm.

Masoumi, D. (2010). *Quality in e-learning in a cultural context: The case of Iran*. Department of Education, Communication and Learning; Institutionen för pedagogik, kommunikation och lärande.. Retrieved from https://gupea.ub.gu.se/bitstream/2077/22173/1/gupea_2077_22173_1.pdf.

Oliver, R. (2001). Developing e-learning environments that support knowledge construction in higher education. In S. Stoney & J. Burn (Eds). *Working for excellence in the e-conomy*, 407-416. Churchlands: Australia, We-B Centre. Retrieved from http://ro.ecu.edu.au/ecuworks/4766/

Oliver, R. (2005). Quality assurance and e-learning: blue skies and pragmatism. *Research in Learning Technology*, *13*(3).

PASSHE . (2014). *Strategic Plan 2020 (Rising to the Challenge).* Pennsylvania's State System of Higher Education.Retrieved from http://www.passhe.edu/inside/bog/Documents/Strategic%20Plan%202020%20Rising%20to%20the%20Challenge_10-14.pdf

Pemberton, A. & Moallem, M. (2013). The impact of personalized learning on motivation in online learning. In R. McBride & M. Searson (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference* ,907-914. Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).Retrieved from http://www.editlib.org/p/48228/

Phipps, R., & Merisotis, J. (2000). *Quality on the line: Benchmarks for success in internet-based distance education.* The Institute for Higher Education Policy, 1-45. ERIC. Retrieved from http://eric.ed.gov/?id=ED444407

Phipps, R., & Merisotis, J. (2000). *Quality on the line: Benchmarks for success in internet-based distance education.* The Institute for Higher Education Policy, 1-45. ERIC. Retrieved from http://eric.ed.gov/?id=ED444407

Putnam, R. T., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning?. *Educational researcher*, *29*(1), 4-15.

Sadeghi, S. H. (2015). The current status of pedagogical e-practice in an Australian university context. *International Journal of Advanced and Applied Sciences*. *2*(10), 70-74. Retrieved from http://www.science-gate.com/IJAAS/Articles/2015-2-10/08%202015-2-10-pp.70-74.pdf

Santos, O. C., & Boticario, J. G. (2015). User-centred design and educational data mining support during the recommendations elicitation process in social online learning environments. *Expert Systems*, *32*(2), 293-311.

Seidel, N. (2014). Interaction design patterns for design and development of video learning environments. In *Proceedings of the 19th European Conference on Pattern Languages of Programs*, *20*. ACM.

Skalka, J., Drlik, M., & Svec, P. (2012). E-learning courses quality evaluation framework as part of quality assurance in higher education. In *Interactive Collaborative Learning (ICL), 2012 15th International Conference on*, *1-5*. IEEE. DOI: 10.1109/ICL.2012.6402173

Weld, D. S., Adar, E., Chilton, L., Hoffmann, R., & Horvitz, E. (2012). Personalized Online Education—A Crowdsourcing Challenge. *Paper presented at the Workshops at the Twenty-Sixth AAAI Conference on Artificial Intelligence*.

Wlodkowski, R. (1999). *Enhancing adult motivation to learn: A comprehensive guide for teaching all adults.* San Francisco, CA: Jossey-Bass Publishers.

Zhou, Y. (2012). Towards Capability Maturity Model of e-Learning Process. *Intelligent Information Management*, *4*(4).