

Studies in Systems, Decision and Control 122

Sayed Hadi Sadeghi

E-Learning Practice in Higher Education: A Mixed-Method Comparative Analysis

 Springer

Studies in Systems, Decision and Control

Volume 122

Series editor

Janusz Kacprzyk, Polish Academy of Sciences, Warsaw, Poland
e-mail: kacprzyk@ibspan.waw.pl

About this Series

The series “Studies in Systems, Decision and Control” (SSDC) covers both new developments and advances, as well as the state of the art, in the various areas of broadly perceived systems, decision making and control- quickly, up to date and with a high quality. The intent is to cover the theory, applications, and perspectives on the state of the art and future developments relevant to systems, decision making, control, complex processes and related areas, as embedded in the fields of engineering, computer science, physics, economics, social and life sciences, as well as the paradigms and methodologies behind them. The series contains monographs, textbooks, lecture notes and edited volumes in systems, decision making and control spanning the areas of Cyber-Physical Systems, Autonomous Systems, Sensor Networks, Control Systems, Energy Systems, Automotive Systems, Biological Systems, Vehicular Networking and Connected Vehicles, Aerospace Systems, Automation, Manufacturing, Smart Grids, Nonlinear Systems, Power Systems, Robotics, Social Systems, Economic Systems and other. Of particular value to both the contributors and the readership are the short publication timeframe and the world-wide distribution and exposure which enable both a wide and rapid dissemination of research output.

More information about this series at <http://www.springer.com/series/13304>

Sayed Hadi Sadeghi

E-Learning Practice in Higher Education: A Mixed-Method Comparative Analysis

 Springer

Sayed Hadi Sadeghi
Quakers Hill, NSW
Australia

ISSN 2198-4182 ISSN 2198-4190 (electronic)
Studies in Systems, Decision and Control
ISBN 978-3-319-65938-1 ISBN 978-3-319-65939-8 (eBook)
<https://doi.org/10.1007/978-3-319-65939-8>

Library of Congress Control Number: 2017949494

© Springer International Publishing AG 2018

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Printed on acid-free paper

This Springer imprint is published by Springer Nature
The registered company is Springer International Publishing AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

*To my Dad Martyr Sayed Ali Sadeghi who
taught me love and faith,*

*To my kind Mom who sacrificed her life to my
success and my progress*

and

*To my Dear wife Zeynab for her loving
support.*

Acknowledgements

And [that] Allah may aid you with a mighty victory. (Quran, 3/48)

First and foremost, I am deeply grateful to my kind supervisor Associate Professor Nigel Bagnall. His remarkable insights and rich supervisory experience have benefited me in all steps of my Ph.D. Nigel also showed his faith in me with his unfailing encouragement. My most sincere thanks go to Nigel. Thank you also to my co-supervisor, Prof. Michael J. Jacobson, for his guidance and effective feedbacks.

Thank you to Prof. Kristin Anderson, Prof. Michelle Lincoln, and Dr. Bob Rubinyi, who provided support to allow me to collect my data from USA and Australia.

Thank you to Associate Professor Hadi Bahrami Ehsan, Dr. Mohammad Khansari, Dr. Davoud Masoumi, Dr. Lina Markauskaite, and Dr. Mohsen Paknejad for their advice in conducting this research program, and special thanks should also go to Ms. Tigger Wise for her professional editing.

I wish to thank the staff at the Faculty of Education and Social Work, specially Ms. Venice Jureidini-Briozzo and Ms. Suin Jung for supporting my study.

Finally, my thanks to my sister Sayed Fatemeh Sadeghi and God's gift of my little angel Sayed Mir Mohammad Sadeghi, who gives me hope, joy, and sweetness in my life.

Contents

1	Introduction and Overview	1
1.1	Statement of the Problem	5
1.2	Purposes of the Study	9
1.3	The Process and Structure of the Book	10
2	Review of Related Literature	13
2.1	Introduction	13
2.2	Historical Background	13
2.2.1	First Generation: The Correspondence Model	14
2.2.2	Second Generation: The Multi-media Model	14
2.2.3	Third Generation: The Tele-Learning Model	15
2.2.4	Fourth Generation: The Flexible Learning Model	15
2.2.5	Fifth Generation: The Intelligent Flexible Learning Model	15
2.3	E-Learning Definition	15
2.4	Cultural Context in E-Learning	17
2.4.1	Pedagogical Paradigm (Objectivism vs. Constructivism)	21
2.4.2	Goal Orientation (Knowledge Acquisition and Sharply Focused vs. Knowledge Transfer and Unfocused).	21
2.4.3	Experiential Value (Abstract vs. Concrete)	22
2.4.4	Instructor's Role (Didactic vs. Facilitative)	22
2.4.5	Program Flexibility or Structure (Teacher-Proof vs. Easily Modifiable).	22
2.4.6	Value of Errors (Errorless Learning vs. Learning from Experience)	23
2.4.7	Origin of Motivation (Extrinsic vs. Intrinsic).	23
2.4.8	Accommodation of Individual Differences (Non-existent vs. Multifaceted)	23
2.4.9	Learner Control (Non-existent vs. Unrestricted)	24

2.4.10	User Activity (Mathemagenic vs. Generative)	24
2.4.11	Cooperative Learning (Collaborative Learning vs. Unsupported Learning)	24
2.5	E-Learning Practice	25
2.5.1	Principles for Good Practice in (1987)	26
2.5.2	Benchmarks for Success in Internet-Based Education in the US (2000)	27
2.5.3	The Learning Sciences Framework for E-Learning Systems (2001)	28
2.5.4	A Benchmark for European Virtual Campuses (2002)	29
2.5.5	Sloan's Five Pillars (2002)	29
2.5.6	The Policies and Practices of E-Learning in Australia (2005)	30
2.5.7	Online Learning Success Model (2006)	30
2.5.8	The Critical Success Factors in Online Learning (2007)	31
2.5.9	Khan's Octagonal Framework (2008)	31
2.5.10	E-Learning Model (2010)	32
2.5.11	An Analytical Framework to Support E-Learning (2012)	32
2.5.12	Key Success Factors of E-Learning Courses (2012)	33
2.5.13	Capability Maturity Model of E-Learning (2012)	33
2.5.14	A Web-Based Platform for Pedagogy (2013)	33
2.5.15	Summary of Studies Reviewed	34
2.6	E-Practice Framework	34
2.6.1	Pedagogical Practice Factor	36
2.6.2	Instructional Design Practices (Curriculum) Factor	38
2.6.3	Technological Practice Factor	40
2.6.4	Organisational Practice Factor	42
2.6.5	Support Services Practice Factor	43
2.6.6	Performance Appraisal Practice Factor	44
3	The Dominant Cultural Dimensions in Comparative Context	47
3.1	Introduction	47
3.2	Method	49
3.2.1	Participants	49
3.2.2	Measures	50
3.2.3	Design and Procedure	50
3.3	Results and Key Findings	51
3.3.1	Educational Paradigm	52
3.3.2	Experiential Value	56
3.3.3	Role of Instructor	59
3.3.4	Value of Errors	61
3.3.5	Origin of Motivation	64

- 3.3.6 Accommodation of Individual Differences. 67
- 3.3.7 Learner Control. 70
- 3.3.8 User Activity. 72
- 3.3.9 Collaborative Learning 75
- 4 The Current Status of E-Practice. 79**
 - 4.1 Introduction 79
 - 4.2 Method 81
 - 4.2.1 Participants and Design 81
 - 4.2.2 Material. 81
 - 4.2.3 Procedure 84
 - 4.3 Results of Current Status of E-Practice. 85
 - 4.3.1 Pedagogical E-Practice Factor Results. 85
 - 4.3.2 Technological E-Practice Factor Results 93
 - 4.3.3 Instructional Design E-Practice Factor Results 100
 - 4.3.4 Organizational E-Practice Factor Results. 108
 - 4.3.5 Support E-Practice Factor Results 115
 - 4.3.6 Performance Appraisal Factor Results. 120
 - 4.3.7 E-Practice Results 125
- 5 The Current Issues Concerning E-Practices 127**
 - 5.1 Introduction 127
 - 5.2 Methodology 128
 - 5.2.1 Participants 128
 - 5.2.2 Data Collection Approach. 129
 - 5.2.3 Data Analysis 130
 - 5.3 Research Demographics 131
 - 5.4 Key Finding of the Current Issues Concerning E-Practices. 134
 - 5.4.1 Pedagogical Issues. 134
 - 5.4.2 The Required Approaches to Learning 135
 - 5.4.3 Effective Learning Practice Required. 140
 - 5.4.4 Learning Assessment Methods Required. 144
 - 5.4.5 Effective Learning Content Required. 148
 - 5.4.6 Cultural Issues. 151
 - 5.4.7 The Existence of Cultural Issues and Sensitivities. 153
 - 5.4.8 Effective Cultural Practice Required 159
 - 5.5 Technological Issues. 163
 - 5.5.1 Current Status of Technology 163
 - 5.5.2 Key Technological Challenges of E-Learning 169
 - 5.5.3 Best Aspects of the E-Learning Environment
and Areas that Need Improvement 175
 - 5.5.4 Best Aspects of E-Learning. 177
 - 5.5.5 Areas that Need Improvement Within the
E-Learning Environment 181

- 6 Conclusions** 189
 - 6.1 Introduction 189
 - 6.2 What Are the Dominant Cultural Dimensions of E-Learning Practice in an Australian and an American University? 189
 - 6.2.1 Limitations 197
 - 6.3 What Is the Current Status of E-Learning Practices in the Australian and American Universities Studied in This Book?. 198
 - 6.3.1 Limitations 201
 - 6.4 What Are the Dominant Issues of E-Learning Practices in the Australian and American Universities Taking Part in This Study? 202
 - 6.4.1 Limitations 213
 - 6.5 General Discussion 213
- References** 215

Abstract

The overall aim of this study was to further comparative understanding of e-practice in Australian and American universities. The study used one Faculty in an Australian university and one Faculty in an 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 establishing the differing cultural contexts of the two countries. The pedagogical, performance appraisal, instructional design, technological, administrative, and support service were investigated to establish e-practice differences between the two countries. Studies 1 to 3 used both a qualitative and a quantitative methodology in order to ascertain the current status of e-learning. Participants were students, lecturers, and administrative staff of one Faculty in an Australian university and one Faculty in an American university engaged with e-learning programs. Study 1 investigated the dominant cultural dimensions of the two universities. The results of this study showed that the dominant e-learning approach of one Faculty in an American university was toward constructivism while the dominant e-learning approach of one Faculty in an Australian university was toward instructivism. In Study 2, the current status of e-learning practice was investigated in the two universities using a quantitative methodological approach.

The results indicated that the level of e-practice in all aspects of e-learning was above average in both universities. Participants of the American university rated their system consistently higher in most aspects of e-practice than the Australian university participants. In Study 3, the current issues of e-learning practice in four aspects, namely pedagogy, culture, technology, and e-practice, that need to be improved were investigated by applying a qualitative method. The results of interviews identified pedagogical challenges in approaches to learning, effective learning practice, assessment method, and learning content as areas that need attention. Cultural sensitivity, effective cultural practice, and key technological challenges as well as issues such as faculty policies, quality, learning management system, and online support were revealed as areas that could improve the e-learning systems in both universities. Although both America and Australia have shown progress in the field of e-practice, it is apparent that the quality and quantity of

e-practice factors in an Australian university needs to be sped up. This is despite the fact that the context of e-learning in an Australian university studied has been improved by Asian cultural contact. From this perspective, applying the pattern and technology that has been used in the American university could help to guide an Australian university e-learning system practice in the future.

About the Author



Dr. Sayed Hadi Sadeghi obtained his B.Sc. and M.Sc. degrees in educational administration and planning from the University of Tehran in 2004 and 2007, respectively. In February 2016, he submitted his Ph.D. to the Faculty of Education and Social Work at the University of Sydney in the field of e-learning practice in higher education. He developed numerous project management skills over the course of his Ph.D. training. On the technical side, he became expert at mixed-method research design, applying SPSS and Nvivo for analyzing the data. While completing his Ph.D., he worked in an international educational assembly as Lecturer and Senior Researcher. His responsibilities in this role were identification and evaluation of major cultural events based on pedagogical context in Sydney online and off-line communities. Recently, he was appointed to the Editorial Board of the International Journal of Academic Studies. His responsibilities in this role are assessing the quality and validity of authors' manuscripts on computer-supported learning and e-learning practices. Since 2012, as member of the Oceania Comparative and International Education Society, he has attempted to expand the understanding of cultural-pedagogical paradigms in different cultures to improve the quality of e-practices, which fit well with his recent comparative study of e-learning between The University of Minnesota and The University of Sydney on practices and policies. For this, he received "A" grade and reference support letter from Pro Vice-chancellor Portfolio and Adjunct Professor at the School of

Education in UNSW, who was his examiner. He is working now as Project Director of the University of Tehran's human resource development (HRD) project, which is a new cognitive behavioral project to advance future management and organizational learning practice.

Chapter 1

Introduction and Overview

This study was motivated by an interest in comparing the practice of e-learning in higher education between one Faculty in an Australian university and one Faculty in an American university. To reach this aim, three studies were conducted in two high ranking universities that have provided e-learning courses in various fields. Accordingly, the cultural dimensions of their educational paradigms, their educational e-practice and some current issues common to both institutions have been compared. In this section of the introduction, a brief background of each component of studies is described, then aims, significance and questions are presented.

The main aim of e-learning in developed countries like Australia and the United States of America is to promote sustained quality improvement, to cultivate an operative knowledge economy and to increase the lifetime of pedagogical practice (Gulati 2008). Selim (2007) believes that: “The efficient and effective use of IT in delivering the e-learning based components of a course is of critical importance to the success and student acceptance of e-learning” (p. 399). Online courses provide a borderless market for universities and colleges without adding pressure to on-campus infrastructure, however, the capability, reliability and richness of the university IT infrastructure to deliver the courses as smoothly as possible are the key to the success of e-learning (Parsazadeh et al. 2013; Selim 2007).

A recent IBIS World report on online program revenue over the last 5 years highlights that the revenue from online programs grew dramatically by at least 80% from 2008 to 2012 (Barber 2013). According to the American National Center for Education Statistics, there has been substantial pedagogical restructure based on increasing online education opportunities. The number of US students enrolled in at least one e-learning program increased from 1 million to 12 million between 2002 and 2006. From this perspective, approximately 33% of students enrolled in higher education since 2007 have been interested to take at least one course online (Allen and Seaman 2011). According to the evidence that Allen and Seaman (2011) explained:

“After remaining steady for several years, the proportion of chief academic officers saying that online education is critical to their long-term strategy took an

upward turn in both 2010 and 2011. Sixty-five percent of all reporting institutions said that online learning was a critical part of their long-term strategy, a small increase from 63% in 2010. The year-to-year change was greatest among the for-profit institutions, whose agreement with this increased from 51% in 2009 to 69% in 2011. For-profit institutions are the most likely to have included online learning as a part of their strategic plan” (p. 4).

In 2011, Sloan Consortium (Sloan-C) issued a report on e-learning courses in American universities. This report revealed that the number of learners taking at least one e-learning program has now surpassed 6 million. Also nearly 35% of all students in American universities are taking at least one e-learning program (Allen and Seaman 2011). Another more recent phenomenon is the provision of online courses that are either provided in conjunction with elite universities such as Columbia, Brown, Princeton or Duke Universities for free, or by for-profit organisations such as Coursera founded in January 2011. According to Pappano (2012), these massive open online courses (MOOCs) are usually free and not for credit. They can be taken anywhere there is an internet connection. They are a strange amalgam of social networking, entertainment and networking. From this perspective, those for-profit courses offered by Coursera have reached 1.7 million users and this area is growing faster than Facebook (p. 15).

Other reports in 2012 indicated that corporate education was a \$200 billion industry of which the portion of e-learning could be \$56 billion and would be expected to increase to double by 2015. According to these reports it is expected that the market for e-learning will swell to \$51.5 billion by 2016. From this perspective, it is expected that online courses and learning management systems alone would earn more than \$7 billion by 2018 (McIntosh 2015).

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 policies (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 et al. 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.

Because the main aim of this research is a comparative study of the e-learning practices in an Australian university and in a USA university, the researcher provides here some information of the e-learning maturity of the two universities.

The American university sample does not consider e-learning as simply a supportive technology of teaching and learning. Instead they regard it as critical to all educational provision namely concerning:

- relevance to all educational stages—undergraduate, graduate and professional, and continuing education.
- serving both resident and distance students.
- consisting of a wide range of approaches, from technology-enhanced classrooms and instruction to online courses and learning platforms.

The university's e-learning strategy is specifically directed at: (taken from e-learning at the American university sample, 2016):

1. Improving the undergraduate teaching and learning experience by targeting selected programs and courses for enhancement or redesign.
2. Supporting increased graduation and retention rates by giving undergraduates additional scheduling flexibility through redesign of high demand classes into an online format.
3. Providing graduate and professional students with alternative access to select post-baccalaureate programs by offering them in an online or blended format.
4. Improving access to university continuing education and noncredit offerings for professionals and lifelong learners.
5. Exploring the potential of emergent technologies by offering a limited number of massively open online courses (MOOCs) to a national and international audience.

The university has long had a reputation for adopting new technologies in order to improve access to education for the wider community.

From 1915 through 1999, their Audio Visual Library Services (later University Film and Video) provided educational films and videos to classrooms throughout the United States.

In 1946, their university station KUOM aired learning programs for children home bound by the polio epidemic.

From 1987 through 2003, the American university sample produced "Health Talk and YOU," a call-in TV show staffed by university medical experts and students. Currently, the Academic Health Center publishes the Health Talk blog.

In 1996, the first online courses were offered from two of their campuses, Twin Cities and Crookston.

In the fall of 2006, the Moodle course management system was launched, enabling faculty to provide students with course materials, library resources, and the ability to electronically submit their assignments.

In the fall of 2007, active learning classrooms were piloted on campus. In the summer of 2010, the Science Teaching and Student Services building opened with another 10 such classrooms. At that time, this provided more such facilities than any other institution in the country.

In the fall of 2010, the College of Education and Human Development launched a mobile learning pilot initiative.

In the 2014–2015 academic year, 1538 online course sections were offered and 21,451 students were enrolled in these, some in more than one. This was responsible for a 6.7% increase in total enrollments (41,333) over the previous academic year. The American university sample's commitment to on-line learning is such that it offers over 40 online and blended degree and certificate programs ranging from public health and nursing to computer science and manufacturing management (Academic Affairs & Provost 2016).

By contrast, the Australian university sample does not exhibit a long history of commitment to online teaching and learning although it is making endeavours to catch up. The 2016–2020 plan is aiming to position the university used in this case study as the best university in Australia and a leading institution globally. As part of the plan, Educational Technology Incubator (ETI) will be expanded to extend e-learning capacity to create video, animation, visualisation and simulation for teaching purposes, and to support the development and assessment of new tools, technologies and strategic innovation projects. Furthermore the university has plans for a massive development program for open online courses (MOOCs) (Strategic Plan 2016).

Currently, the e-learning system works with the University community to develop integrated learning spaces and e-learning systems to enhance the student learning experience. These projects and developments involve collaboration between many departments of the university

- integration of enterprise technology infrastructure for award course programs and units of study with faculties
- academic development programs and staff training with Institute of Teaching and Learning and University ICT
- student support and resource development with the Learning Centres
- learning Space development with ICT, CIS and Student services
- campus planning with the office of the DVC (Strategic Management),
- campus Infrastructure Services and committee structures
- business Intelligence development through metrics development with the Office of Information and Planning
- mobile Resources development with ICT and Marketing and Communications.

Activities arising from these collaborations are overseen by the SEG (Education), SEG (Infrastructure and Finance), SEG (Curriculum and Course

Planning), SEG (University Services), and SEG (Alumni and Marketing) committees (Academic Affairs & Provost 2016).

The goal, through a planned sequence of ICT projects, S-eLearning, is to achieve a single, integrated, enterprise-level virtual learning environment including the development of a ‘virtual extended classroom’ for every unit of study. The Open Learning Environment is planned to support self directed on-demand access to a pool of learning resources for all students, as well as access to workshop-supported modular courses on topics of interest to students (Strategic Plan 2016).

1.1 Statement of the Problem

While there is growing demand for e-learning projects in developed countries, nevertheless the failures are many, one of the main reasons being the quality of the e-learning projects (Shailaja and Sridaran 2014). Failing e-learning projects such as Universities 21, UKeU, New York online University, and The Global University Alliance demonstrate that the success of e-learning practice directly depends on quality and requires understanding of the current environment and the context of the e-learning practice (Inglis 2005; McLoughlin and Visser 2003; Oliver 2005; Salmon 2005; Smith et al. 2009; Smith et al. 2009).

One of the main reasons for an Australia–USA comparison of e-learning is to attempt to assess the extent and quality of e-learning programs in both countries. The academic ranking of both countries’ University systems shows a dominance by American institutions. “American universities dominate world rankings, irrespective of which ranking system is used. For example, in 2014, The Times Higher Education World University Rankings, which ranks universities on teaching, research, knowledge transfer and international outlook, had American universities occupying 8 of the top 10 places. Only five Australian universities made it into the top 100, and only one made the top 50” (The United States vs. Australia 2016). According to a range of studies, the United States has strong performance relative to Australia in e-learning practices.

One such study by Wills (2012) focused on research on e-learning for university students. That study revealed that “... the development of role-based e-learning over the past 20 years in Australia using simple e-learning technologies such as email and online discussion forums was quite different to that in America. America, by contrast, compares this with emerging forms of the e-learning design which are adopting newer technologies.” (Wills 2012, p. 2). The use of e-learning and virtual environments as a platform dominated the samples collected by Wills (up till 2009) for US, in contrast to the simpler technologies used in his Australian samples.

This book identifies information relating to e-learning that will be of assistance to Australian universities to improve their existing e-learning programs. An earlier Australian study (Nayda and Rankin 2009) highlighted that collaboration between faculty and staff was one approach in addressing the need for staff development to use digital technologies effectively. Staff development was also needed to develop

online assessments and to provide skills in monitoring the quality of online courses and teaching strategies (Smith et al. 2009). Walker et al. (2006) made recommendations to address the unique learning needs of the X and Y generations and stated that educators must look at ways to enhance the learning environment to fit the expectation of these students. Consequently it was felt that by examining the e-learning practice in a top American university it would enable best practice to be established in Australian institutions.

As explained above, a large number of studies has shown the effect of a lack of quality and the need for an understanding of the current environment and the context of e-learning practice on students engaging in online activities. For example, research in the US and Australia has shown that engaging in a variety of online programs, awareness and confidence of working with IT are limited in students (Downing et al. 2014). Indeed there is a lack of homogeneity in students' contexts and a potential "digital divide" between students (Downing et al. 2014). Further, while students do engage in online activities, the new generation of students tends to use a "snatch and grab" approach to information gathering, (Bennett et al. 2008, p. 781) and has "shallow, random and often passive interactions with text" (Coiro 2003, p. 458).

Furthermore, according to US department of education reports and a survey of Harvard's Online Open Courses, engaging in online learning and activities has decreased with students and educators because of the lack of attention to many elements of quality and the context of e-learning practice (Reeves and Pedulla 2011; Reich 2014; Smith et al. 2009). From this perspective, McGorry (2003) asks for more attention to be paid to the quality of e-learning practice in higher education. Further Zhao (2003) recommends that universities implement a quality assurance plan aimed specifically at e-learning programs.

To conclude, concern about quality and achievement outcomes (Heafner et al. 2015), a lack of attention to learning from others' experience and perspective (no standard comparison of success with other institutes' practice), a lack of assessment and links to competency measurement (Hills and Overton 2010), existing poor managerial practices and lack of evaluation (Van der Vyver et al. 2015) and too much emphasis on technological practice without thinking about cultural pedagogical practice are the main challenges for enhancing and assuring e-learning in higher education world-wide. Indeed enhancement of quality of practices rather than quantity development is the more pressing concern to educational leaders and policy makers (UKIBC 2015).

It is worth mentioning that quality improvement is conceived as a constant enhancing of the process, outputs and outcomes of e-learning. Indeed those aspects of an e-learning course or unit which would be recognised as valuable may need quality improvement most (Inglis 2008). Quality enhancement is also "more transformative and it requires a deliberate change process- including teaching and learning- that is directly concerned with adding value, improving quality and implementing transformational change" (Lomas 2004, p. 158).

To enhance the quality of e-learning and best practices several main issues have been identified as needing improvement and are listed here: usefulness, perceived

ease of use, support, and e-learning self-efficacy issues (Weng et al. 2015, p. 188), technical and learning environment issues (Madsen 2003), cultural resistance, technology and lack of interaction (Newton 2007, p. 29), technical difficulties, lack of a sense of community, time constraints, and lack of complete understanding of course objectives (Antoine 2011, p. 34; Song et al. 2004), cultures and faculty that resist change (Forsyth et al. 2010), optimising technology use to enhance the quality of student learning (Krause et al. 2009), regular attendance, suitable technologies and infrastructure and completion of tasks and programs (Hensley and Goldsmith 2013).

To overcome issues and enhance the quality of e-learning, several programs have been established. The Quality Matters Program has established national benchmarks for e-learning practices and has become a nationally recognised institute to certify the quality of online learning programs in USA (Butcher and Wilson-Strydom 2013). Also the Australasian Council on Open, Distance and e-Learning (ACODE) has provided benchmarks for the quality of technology to enhance e-learning experience in an institution-wide policy, planning for institution-wide services and institution-wide support (Sankey 2014). The main purpose of benchmarking and such strategies is to support continuous quality improvement in institutes based on action plans. For instance Federation University Australia's e-learning Plan from 2015 to 2017 focuses on several key aspects concerned with striving for and achieving excellence in practice. From this point of view, the alignment of practices includes the Australian Skills Quality Authority (ASQA) and the Tertiary Education Standards and Quality Agency (TEQSA). Another initiative of this institution is alignment of the quality of education followed by external standards to establish and maintain quality to ensure fulfilment and reach best applicable practice (Devlin 2015).

The commitment to quality improvement of e-learning needs to be built into a university's cultural context and assessment of e-learning practice to ensure the university continues to change and adapt to the needs of its students.

Ehlers (2009) proposes culturally sensitive frameworks for assuring and enhancing quality in e-learning practice (Masoumi 2010). The claim is that e-learning programs should be relevant to the context of the culture in which they have been applied. To get more success from e-learning programs, developed countries like the United States of America and Australia attempt to investigate how to individualise 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 (Edmondson 2003; Masoumi 2010). 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 (see Edmondson 2004; Gamble 2009; Henderson 1996; Masoumi and Lindström 2012; Reeves and Harmon 1994; Washburn 2012) focus on the pedagogical context

of e-practice (Reeves and Reeves 1997) which may be oriented towards either constructivism or instructivism.

Currently, higher education systems and learning environments are changing from delivery-centred to learner-centred and from “showing-telling” to “learning-by-doing”; therefore it seems that the constructivist approach forms a strong theory on which to base new learning environments more suitable for the twenty-first century and the cultural dimension (Bednar 1992; Duffy and Jonassen 2013; Duffy et al. 2012; Jacobson et al. 2005; Kala et al. 2010; Putnam and Borko 2000; Stacey 2012; Tobin 1993; Young and Paterson 2007). The constructivism perspective takes an individual approach to constructing knowledge and conceives learner–learner interaction with the natural world as a way to construct their knowledge instead of injecting information and basic literacy which is the practice of instructivism (Jonassen 1991). According to e-learning practice based on constructivism, the students, lecturers and providers are actively involved in the pedagogical process and use cognitive and social tools for problem solving and knowledge transfer (Kelsey 2007; Low 2007; Weeks et al. 2013; Woo and Kimmick 2000). Consequently socio-constructivism concepts are the foundation of e-learning technologies in developed countries (Bjekic et al. 2010).

The principles of constructivist educational theory have come to be central to e-practice (Nkonge and Gueldenzoph 2006) and the influence of constructivist thought on e-pedagogy has provided basic principles of constructivism learning theory (Doolittle 1999; Hein 1991) and 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 a function for operational policies and practice standards for virtual learning environments (Kala et al. 2010). According to the evidence, the use of practice based on learning and teaching theories can support online learning courses by developing a model for the learning and teaching process (Oliver 2001; Thurmond 2002).

Further, the comparative approach to cultural issues is one of the main factors for enhancement of quality improvement of e-learning practices (Adamson 2012; Alexander et al. 1999; Arnove et al. 2012; Bignold and Gayton 2009; Bray et al. 2007; Kubow and Fossum 2007; Thomas 1993; Wolhuter 2008). This approach can raise awareness of the differences and make clear the similarities between systems and practices in various countries (*ibid.*). Comparative study approaches have been shown to be predominantly evidenced-based and justified as frameworks of e-learning (Adamson 2012; Alexander et al. 1999; Arnove et al. 2012; Bignold and Gayton 2009; Bray et al. 2007; Kubow and Fossum 2007; Thomas 1993; Wolhuter 2008).

Therefore given the significance of cultural context in e-learning and the quality improvement of its practice, investigation of comparative dominant cultural dimensions of e-learning practices and assessing e-learning practices such as pedagogical, performance appraisal, instructional design, technological, administrative and support service practice in different cultural contexts are critically important (Chickering et al. 1987; Commissions 2001; Dragon et al. 2013; Finger et al. 2006; FitzPatrick 2012; Holsapple and Lee-Post 2006; Kala et al. 2010; Khan and Granato

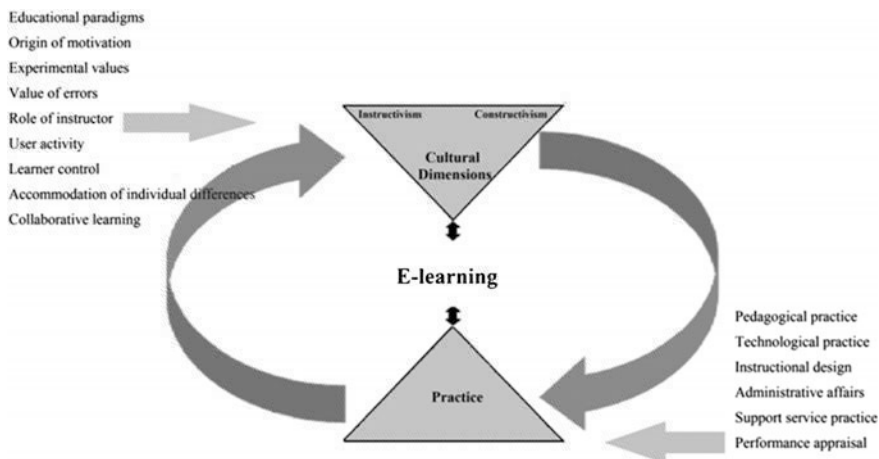


Fig. 1.1 Theoretical framework

2008; Marshall 2012; Sangrà 2002; Selim 2007; United States Institute for Higher Education Policy 2000; Zhao 2003; Zhou 2012) (see Fig. 1.1).

From this perspective, comparison of e-learning practices between Australian and United States institutions with a view to the restructure of higher education would present benefits such as (a) recognition of best e-learning practices through examining national and international experiences and (b) application of best national and international e-learning practices provided by advanced technology to obtain positive effects on experiences, strategies and approaches involved (VET 2012).

To conclude, with due attention to fast-growing e-learning programs in the 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 would lead to 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).

1.2 Purposes of the Study

Despite the large number of researchers focusing on e-learning issues in recent years, there is still limited knowledge about many different issues concerned with e-learning practices in a comparative context. Consequently, the main aim of this research is a comparative study of the dominant cultural dimensions, e-learning

practices and current issues and problems between one faculty in an Australian university and one faculty in an American university. This will ultimately improve the quality of online learning courses in an Australian university and an American university. To reach this aim the researcher asked three main questions, namely:

1. What are the dominant cultural dimensions of e-learning practice in an Australian and an American university?
2. What is the current status of e-learning practices in an Australian and an American university?
3. What are the dominant issues of e-learning practices in an Australian and an American university?

It is hoped answers to these question will illuminate 2 main characteristics: cultural aspects and e-practice factors.

1.3 The Process and Structure of the Book

The research process of this study involved firstly, identifying the relevant factors of cultural dimensions and the aspects of best practice of e-learning by reviewing relevant documents and providing a suitable framework. Secondly, three comparative studies between an Australian university and an American university were conducted aligned with the three research questions. The results of each study were obtained and subsequently a comparison of the results of each individual factor within the American and Australian samples was made and both are presented and discussed.

The first study is concerned with cultural aspects of Australia and the United States of America. The two dimensions of objectivism-instructivism and socio constructivism are used to help show how these cultural dimensions can be classified within the broader definition of those terms. The second study looked at e-practice aspects of the two countries namely pedagogical, performance appraisal, instructional design, technological, administrative and support service practice (see Chap. 2). Two quantitative surveys were associated with the first and second research questions. The third study addressed the current problems of the two countries' case studies particularly the pedagogical, technological and cultural aspects. To answer the third question of research a qualitative approach is used, firmly based within a comparative framework.

The book is organized into six chapters. An overview, stated problem, aim and questions of the book are provided in the first chapter. The second chapter consists of three parts; the first part provides an outline of the context of the study. The aim is to give a brief account of the rapidly expanding e-institutions in the light of reality, progress and difficulties by looking at the historical situation of e-learning. The second part examines cultural issues in the e-learning practice. Initially, it addresses common educational paradigms and then gives an outline of cultural