Quality in E-learning Within a Cultural Context

GOTHENBURG STUDIES IN EDUCATIONAL SCIENCES 291

Quality in E-learning Within a Cultural Context

The Case of Iran

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ISBN 978-91-7346-678-3
ISSN 0436-1121

Fotograf: H. Eskandari

Avhandlingen finns även i fulltext på

http://hdl.handle.net/2077/22173

Distribution: ACTA UNIVERSITATIS GOTHOBURGENSIS
Box 222
SE-405 30 Göteborg, Sweden

Tryck: Geson Hylte Tryck, Göteborg, 2010

ABSTRACT

Title: Quality in E-learning Within a Cultural Context: *The Case of Iran*
Language: English
Keywords: E-learning, Quality, Culture, Cultural-pedagogical issues, Virtual institutions, E-quality framework, Developing Countries, Iran
ISBN: 978-91-7346-678-3

Higher education institutions in general and virtual institutions in particular are experiencing pressure to become more competitive all over the world. Such striving for excellence can be associated with and seen as a consequence of globalization that is propelling the reshaping of higher education. Further, a number of failed e-learning projects along with the accountability movement in higher education have significantly amplified concerns about quality in e-learning. Accordingly, there are worldwide calls for enhancing and assuring quality in e-learning specifically in the context of the developing countries. Such calls for quality enhancement, accountability, added value, value for money, self-evaluation, and role players' satisfaction in higher education settings cannot go unheeded.

This study attempts to reduce the gap between the investigated discourses, i.e. "quality discourse", "e-learning discourse" and "culture and cultural-pedagogical discourse", by developing a comprehensive e-quality framework that is sensitive to specific cultural contexts. Until recently, these discourses have seldom converged, especially in the context of developing countries. Taking a pragmatic approach in this development research, a mixed methods research was adopted in this study. This approach allowed the researcher to investigate this complex phenomenon using a variety of evidence types and perspectives.

Addressing the concerns regarding enhancing and assuring quality in e-learning, a comprehensive e-quality framework is developed by taking into account the pros and cons of the previous models, frameworks and studies of e-quality. This e-quality framework provides a structure for enhancing and assuring quality in virtual institutions. Taking the Iranian virtual institutions -as a case of developing countries-, the study then investigates how culture and cultural-pedagogical issues can be integrated when developing and implementing an e-quality framework. Next, addressing embedded cultural-pedagogical dimensions in Iranian virtual institutions, we look at how the e-quality framework can adapted to "fit" in other cultural contexts. Finally, the e-quality framework is validated - in terms of its usefulness in a specific context - with respect to the Iranian virtual institutions. This study outlines a conceptual model, i.e. a culture-sensitive e-quality model, to demonstrate how the cultural and cultural-pedagogical issues can be built in and taken to account when developing and implementing an e-quality framework.

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ACKNOWLEDGMENTS

If I have seen a little further it is by standing on the shoulders of Giants.
Sir Isaac Newton

There is no way I could have completed this study without the contributions, help and advice of so many professional colleagues - my giants - who wholeheartedly supported, encouraged and constructed such a creative environment for learning and research.

First and foremost, I would like to express my deepest appreciation to my supervisor Professor Berner Lindström for all the doors he opened to me and for all of his advice, support, and encouragement, and his belief in me. Indeed, he helped me to develop my ideas and encouraged me to follow my dream.

My heartfelt thanks must also go to all the members of my thesis committee particularly Professor Sven Andersson and Professor Jan-Eric Gustafsson. I would also like to extend my thanks to Mona Nilsen and Alexander de Courcy for proofreading my manuscript.

I would like to express my genuine gratitude to the academic staff at Department of Education, particularly Inga Wernersson, Roger Säljö, Ference Marton, Åsa Mäkitalo, Jonas Emanuelsson, Oskar Lindwall, Lars-Erik Olsson, Niklas Pramling, Cecilia Kilhamn, Sylvi Vigmo, Hossein Eskandari and other colleagues at IPD whose stimulating insights always made me think outside box. Further, I am deeply grateful to Marianne Andersson and other staff at IPD whose assistance throughout the whole process of my studies at GU has been of the highest order.

My sincere thanks go to Dr. Hosseini, the president of the Hadith Virtual institution, Dr. Mozayani the Dean of IUST virtual institution, Dr. Mojtahedzadeh chief secretary of the Continuous Medical Education at Tehran Medical University, Dr. Safavi and Dr. Kardan the former Deans of Shiraz and Amirkabir virtual institutions, Dr. Abbas Bazargan and other scholars and students at Iranian virtual institutions who generously gave their time to be interviewed for this study.

Last but not least, I am indebted to my family specifically my wife and my angel "Yasmin" for their years of love and consistent support, without which I would not have been able to reach the end of this long journey.

CHAPTER 1

INTRODUCTION

This study is framed by an interest in enhancing the quality of e-learning in higher education of developing countries in general and in Iran in particular. In an era of increased accountability and various booming virtual higher education settings, it is important for authorities (e.g. educationalists, providers and even politicians) in educational settings to be able to demonstrate that their approaches to e-learning as a mode of delivery for their programs or courses are sound and effective (Hosie, Schibeci, & Backhaus, 2005; Oliver, 2005).

Along with this accountability movement in higher education, a number of failing e-learning projects such as "UK eUniversity, New York University (NYU) Online, Scottish Knowledge, Universities 21, Global University Alliance in UK, as well as a number of corporate learning projects such as StarScience, Dunes, Adapt-IT, Teachers-in-Europe, and so on have significantly amplified concerns about quality in e-learning environments (Inglis, 2005; McLoughlin & Visser, 2003; Oliver, 2005; Salmon, 2005). Accordingly, there are worldwide calls for enhancing and assuring quality in e-learning in general and in developing countries[1] in particular. For instance, McGorry (2003) asks for more attention to be paid to the quality of e-learning in higher education. Zhao (2003) recommends that universities implement a quality assurance plan aimed

[1] A large number of countries in Asia, Africa, Latin America, and Middle East are designated as "developing countries" due to their lower rank in the United Nations Development Program (UNDP) Human Development Index (Malinovski, 1992, p. 65). It needs to be noted that some of these developing countries as in Iran have rich histories and educational traditions.

specifically at e-learning programs. Similarly, Ehlers (2009) proposes culturally sensitive frameworks for assuring and enhancing quality in e-learning.
Despite of these concerns and general calls for enhancing and assuring quality in e-learning, little research has been done on the quality of e-learning in developing countries. Acknowledging the lack of a quality model to enhance and assure quality in e-learning in developing countries, the main aim of this thesis is to develop a quality framework that is sensitive to specific cultural contexts, with a focus on the Iranian context.

The means of doing this is to bring three discourses of e-learning, quality in higher education and cultural-pedagogical issues closer together. The strategy for doing this is first to draw on both existing practical and theoretical knowledge (literature) of quality in e-learning and higher education - we investigate what constitutes quality in e-learning in general and higher education in particular. Next, addressing embedded cultural dimensions, we look at how the framework developed from existing (Western) models can be adapted to "fit" or be useful in other cultural contexts. Lastly, the framework developed for enhancing and assuring quality in e-learning was validated in Iranian virtual institutions.

Situating the Problem

The underpinning assumptions of the higher education have been affected by a number of developments and changes in the globalized world. These changes are part of societal changes that, in fact, do not only relate to globalization but also to the importance of a skilled workforce, a change in the modes of knowledge production in society, expansion of student bodies, mass higher education, "equality" and gender issues, and emerging Information and Communication Technology (ICT)-based initiatives. However, the emergence of ICT-based initiatives in higher education as a driving force in the Knowledge Society is part of a wider context of change in higher education and society at large.

The advances in ICT, as a key actor in "flattening" the world, are increasingly being recognized as an important arena for sustainable development (Friedman, 2007). Moreover, it is claimed that its far-flung growth has made it a remarkable ground for empowering people by providing a wide range of electronic services (e-services) from business to education (Chiu, Hsu,

Sun, Lin, & Sun, 2005). Among these e-services and/or products in what is referred to as the global knowledge economy, e-learning[2] has undergone large growth in the last few years (its market growth rate is estimated to be about 35. 6% worldwide, as Suna et al (2007) have pointed out).

Despite the widening "digital divide" (Castells, 2002) across the globe in terms of the accessibility and implementation of ICT-based initiatives; developing countries (i.e. low socio-economic spheres) aligned with developed countries have adopted the ICT-based initiatives as a sustainable and effective solution to educational challenges. Globalization has, however, had a significant impact on educational policies, structures and practices in countries around the world; it has associated with economic agenda. Such globalization, as Castells (1996) notes, can be characterized as a "network society" with global interconnectedness and globalized knowledge.

On the other hand, globalization is viewed as central force for Western hegemonies and capital imperialism (Al-Rfouh, 2006; Castells & Cardoso, 2006). Similarly, it has been argued that globalization is "primarily an ideological construction; a convenient myth which, in part, helps justify and legitimize the neoliberal global project, that is, the creation of a global free market and the consolidation of Anglo-American" mindsets (Held & McGrew, 2003, p. 5). To avoid Western hegemonies and Westernization, a number of scholars in the developing world have emphasized "internalization"/ "localization" rather than globalization (see Cao & Zhao, 2009; Fatemi, 2009, etc).

Nevertheless, it seems that the globalized knowledge economy is propelling authorities to reshape higher education around the world. In a similar vein, educational reforms in developing countries such as Iran can be associated with and seen as the consequences of globalization (Carnoy, 1999; Goldfarb & Prince, 2008). Accordingly, universities face the challenge of developing and adapting to these changes and developments.

With the liberation of learning from time and space boundaries, the expectations on e-learning advances to meet rising demands for higher education have significantly increased in the developing world (as new solution to old problem). As result, an increasing number of higher education institutions in these countries are investing significant capital to meet such

[2] The concept of e-learning will be discussed further in chapter three.

growing demands related to the young population boom. For instance, almost 90 percent of the conventional Brazilian universities have accommodated e-learning along with their conventional system (Barreto & Abreu-Fialho, 2008). In a similar way, international trade in educational services such as e-learning programs, platforms, learning resources, etc. in cross-cultural markets has expanded rapidly in recent years (Marginson, 2004; Rogers, Graham, & Mayes, 2007). These educational services and products mostly flow from the Western world to eastern countries.

This rapid development and widespread implementation of e-learning, represents both significant opportunities and challenges for higher education settings in the developing world. On the one hand, e-learning are claimed to offer many opportunities for the developing countries to meet increasing social demands for higher education and to enhance their human capital (Potashnik & Capper, 1998). Moreover, e-learning can make significant improvements in the quality of teaching and learning in conventional higher education settings (e.g. supplementing face-to-face teaching).

On the other hand, e-learning is infused with characteristics that reflect those of the designing culture (Downey, Wentling, Wentling, & Wadsworth, 2005; Edmundson, 2004; Henderson, 1996). In other words, the ways in which different e-learning frameworks, platforms as well as courses are characterized reflect the culture of their originators in terms of pedagogical ideas, beliefs, the physical artifacts utilized and so forth, which are in line with certain cultural values and expectations in the developed world (cf. Billing, 2004).

Accordingly, the developing countries' cultural values, premises and expectations (which are the main importers of e-learning services and products) are influenced and challenged by this global trend. It needs to be highlighted that these countries not only are increasing their dependence to the West being consumers of hardware (Edmundson, 2006b; Unwin, 2005), they seem to be passive users of the developed platforms and frameworks with limited value added (Kohn, Maier, & Thalmann, 2010; Lam, 2006).

Thus it can be said that introducing ICT-based technologies educational settings of developing countries along with importing the tools and platforms (LMS, CMS, etc) and learning resources can challenge these countries cultural-pedagogical values and even restructure learning activities (Mok, 2005). In a similar vein, Ziguras (2001) has argued that the use of ICT has rendered

possible "knowledge transfer" and he adds that the "educational imperialism" often occurs within transnational education.

Along with these challenges, quality has become of paramount importance for determining the success of higher education institutions involved in e-learning (Ehlers & Pawlowski, 2006; Inglis, 2005; The Institution for Higher Education Policy, 2000). The striving for "excellence" along with competitive pressure to become more efficient has intensified as a result of globalization (Oliver, 2005). In other words, quality, quality assurance (QA) and quality enhancement (QE) have become a prominent issue, not only for educational institutions and authorities to ensure the success and validity of programs delivered, but for students, teachers, parents, employers, etc. (Chua & Lam, 2007). Oliver (2005, p. 183) describes this "quality agenda" as follows:

> As more and more universities seek to use e-learning as a mode of delivery for their units and courses, and as more and more they are being held accountable for the quality of the services they provide, the need grows for accepted standards and benchmarks against which performance can be judged.

Emerging false virtual institutions along with a failing number of e-learning projects such as UK eUniversity, Scottish Knowledge, Universities 21 have raised concerns about quality in e-learning. The growing concern with quality in e-learning has led higher education institutions to look for frameworks and approaches for managing quality (Inglis, 2005). Addressing these concerns, a large number of models, frameworks and guidelines have been developed for enhancing and assuring quality in e-learning frameworks (see Ehlers, 2008; Institution for Higher Education Policy, 2000; Khan, 2005b; Oliver, 2001; Watty, 2003).

There is, however, much talk about what constitutes quality in e-learning and how to enhance/ensure it. Some argue that the quality of e-learning should be ensured and enhanced by the same models and standards as face-to-face provision; others maintain that the assumptions and mechanisms applied in conventional institutions are inapplicable in e-learning due to it being beyond conventional higher education in terms of tools and educational paradigms (Jung & Latchem, 2007; Stella & Gnanam, 2004). In other words, e-learning is not just "repackaging" but new pedagogy (Collis & Moonen, 2001). Accordingly, it can be argued that developing a quality framework for e-

learning cannot be carried out simply by copying from conventional institutions.

Quality as a multifaceted construct can be judged and defined differently (Ehlers, 2004; Masoumi, 2006; Moore, 2005; Zhao, 2003). It can be claimed that a number of objective dimensions (less contextualized, such as technological measures, administrative and auxiliary services) and some subjective dimensions (contextualized and context-specific, such as teaching scenarios and educational procedures) shape quality in e-learning. The subjective dimensions of quality in comparison with the objective measures are significantly influenced by the cultural context. Correspondingly, quality can be conceptualized and shaped differently based on the given definition, different stakeholders' expectations and aims of the applications as well as forms and methods in the higher education settings (Ehlers & Pawlowski, 2006; Fallows & Bhanot, 2005; Jung & Latchem, 2007). Accordingly, it can be claimed that quality in e-learning is a "relative concept" that depends on or is constrained by the circumstances of use (Harvey & Green, 1993). There are, however, a large number of common benchmarks and criteria among the models of quality in e-learning. These commonalities among the models of quality in e-learning usually address the objective dimensions (less context-dependence) of quality, which can be roughly defined and interpreted in similar ways.

There is another perspective that sheds light on the quality in e-learning. Almost all the models and frameworks addressing quality in e-learning are grounded and furnished in Western cultural contexts. Similarly, in the construction and developing of these quality models there has been little concern about evidence of the importance of different cultural contexts (Marginson, 2004). In other words, these models and frameworks may not be appropriate for the social and cultural contexts in Eastern countries due to the fact that these models are rooted and developed exclusively in socio-cultural settings that differ from those of the Eastern world. Accordingly, the effectiveness of these e-quality frameworks can be questioned in other contexts (Fresen & Boyd, 2005).

Moreover, the values, preferences and interests of numerous actors at all levels, e.g. funding providers, employers, academic leaders and authorities in specific contexts, must be taken into account. Since higher education institutions' programs are set in specific cultural and cultural-pedagogical contexts, any initiatives involving improving and assuring the quality of e-

learning cannot ignore the vital and often neglected complex cultural forces that influence its design, use and acceptance.

This leads to the argument that designing and developing a cultural-sensitive framework for enhancing and assuring quality in e-learning in developing countries is crucial. Correspondingly, there are a number of questions about issues that need to be asked by politicians, educators (educational developers, instructional designers, teachers, etc.) and students in the developing world. What constitutes quality in e-learning? In other words, what are the necessary conditions for qualified e-learning environments in the context of developing countries such as Iran? How might cultural-pedagogic issues affect shaping and implementing quality frameworks in e-learning settings? To what extent do the quality models assure the success and effectiveness of e-learning environments?

Many of these questions have become more important today when resources are limited and the effectiveness of e-learning offered by e.g. e-universities and virtual institutions is a key concern in the higher education sector (Marginson, 2004). My argument is that a systematic understanding of the quality models and frameworks in a cultural context can contribute to creating an effective and cultural-sensitive e-quality framework[3] for enhancing and assuring quality in e-learning environments in the contexts of the developing world.

Gaining insight into the answers to these questions is challenging given the complexity of the phenomena. Nevertheless, these insights can shed light on enhancing and assuring quality in e-learning in the contexts of the developing countries. They can also be of great value to all the stakeholders including authorities, students, lecturers, decision makers, universities, society and researchers. Similarly, this e-quality framework can be used as a basis for strategic and continues development of the e-learning environments in developing countries.

[3] E-quality framework defines a set of factors and benchmarks in terms of which quality should be measured in an e-learning environment (virtual institution) and the way in which it ought to be assessed, assured and enhanced.

Aims

The overall interest of this work is to contribute to enhancing the quality of e-learning - specifically in virtual institutions - in developing countries in general and Iran in particular.

The general research aim is to develop a framework for enhancing and assuring the quality of e-learning that takes into account embedded cultural values. Another aim is to adapt this framework to the Iranian cultural context as a developing country.

The following more specific research problems are addressed:

What constitutes quality in e-learning in higher education institutions?

How can culture and cultural-pedagogic issues be integrated in the e-quality framework?

What are the dominant cultural-pedagogical paradigms in Iranian virtual institutions?

How can an e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?

The Structure of Thesis

This study is organized into twelve chapters with the abstract and illustrations listed first. Providing an overview of the thesis, the first seven chapters give the background and context for the rest of the chapters. The first chapter discusses the given problem.

The second chapter provides an outline of the context of the study. The aim is to give a brief account of the rapidly expanding Iranian virtual institutions in the light of reality, progress and difficulties by looking at the following areas: the social and historical situation in Iran, higher education, distance education and, in particular, virtual institutions in Iran.

The third chapter gives an account of ICT-based education and learning. In this chapter, e-learning and relevant theoretical frameworks or constructs, which we need to consider before moving forward, are addressed. Specifically, this chapter introduces the history and definitions, models and other associated issues in e-learning environments such as distance learning, virtual learning, approaches to e-learning, etc. Next, it introduces cultural perspectives in e-learning.

In chapter 4, quality in education is mapped. Here, initially, quality and what quality is about as well as its dimensions are presented. Quality approaches in general and in the field of higher education are then discussed progressively. The next part of this chapter approaches quality in e-learning along with the main quality measures in virtual institutions.

Chapter 5 deals with quality as a cultural artifact and discusses quality as cultural issue in general and in educational settings in particular. By discussing quality as a cultural issue, culture, and cultural dimensions, it is argued that quality in e-learning is deeply embedded in a specific culture and institution's cultural-pedagogical climate.

Following the discussion of quality as cultural artifacts in previous chapter, chapter 6 goes through cultural-pedagogical issues in the quality of e-learning. Initially, it addresses the well-known educational paradigms and then gives an outline of cultural-pedagogical dimensions in educational settings. By addressing these dimensions, a cultural-pedagogic model in e-learning is mapped out.

Chapter 7 deals with the research method. The logic of the methodology addresses the consistency of the research strategy based on the knowledge claim premises behind this study, on the one hand, and the research methods on the other. The methodological practice refers to procedures and essential concerns in data collection, the participants, and the analytical procedures.

In chapter 8, an overview of the current practical and theoretical knowledge about quality in e-learning, including the research, frameworks and guidelines, is outlined. This practical and theoretical knowledge is critically reviewed and presented in order to develop a comprehensive e-quality framework.

Addressing the first research question, in chapter 9, the e-quality framework developed for assuring and enhancing the quality of e-learning/virtual institution is provided.

Chapter 10 looks at the dominant cultural-pedagogical orientations in Iranian virtual institutions. By exploring the embedded cultural-pedagogical premises, the e-quality framework developed can be adapted in Iranian virtual institutions.

Chapter 11, which addresses the last research question, focuses on mapping out the validity of the developed e-quality framework in the Iranian cultural setting as a developing country. Correspondingly, in this phase of this

development research, the validation of the e-quality framework in the cultural settings of Iranian virtual institutions is tested and its feasibility discussed.

Chapter 12 discussing the finding of this study, summarizes, offers conclusions and makes recommendations relevant to the entire study.

In order to help the reader grasp an overview of this study, an extended summary is presentd in the final chapter.

CHAPTER 2

HIGHER EDUCATION AND E-LEARNING IN IRAN

In this chapter, an overview of Iranian higher education is outlined. The main aim is to give a brief account of the country's rapidly expanding virtual institutions in the light of reality, progress and difficulties by looking at the following areas: the social and historical situation in Iran, higher education, distance education and, in particular, virtual institutions in Iran.

Introduction

Situated in south-western Asia, the Islamic Republic of Iran[1] has long served as a nexus for trade and culture between East and West. Bearing in mind that Persia has frequently been overrun and has had its territory changed through the centuries. Dating back to 13,000 BC, Iran is home to one of the world's oldest continuous major civilizations.

Iran's role as a major trade route can be traced as far back as to the fourth century BC; what was known as the Persian Empire and hence, the forerunner of modern Iran. This was the time when Silk Road was established, connecting Iran to China, Europe, Asia, and the Middle East. Known for its rich culture and abundant resources, Iran's geographical position has made it a primary link between civilizations.

As the largest nation after Saudi Arabia in the Middle East, Iran harbors in its 1,648,000 square kilometres[2] a wide assortment of climates, landscapes, and ethnicities. Its climate is mostly arid or semiarid and subtropical along the

[1] Iran was known as Persia until 1935.

[2] Iran is now the eighteenth largest country in the world in physical size.

Caspian coast. The terrain is diverse, with rugged mountains, a high central basin with deserts, and small, discontinuous plains along both coasts. Iran has four distinct climate zones; one can ski in the northern mountains or swim in the southern waters, all in the same season.

Iran is the most populated country with the second largest economy in the Middle East. It has a population of 70 million, with a growth of 1. 5[3] percent per year and a gross domestic product (GDP) of USD 115 billion (Kousha & Abdoli, 2004). Islam is the predominant religion with approximately 89 percent[4] of the population (Muslims who adhere to Shiite Islam), Sunni Muslims in Iran constitute approximately 9% of the population, with Christians, Zoroastrians, and Jews for much of the remaining (Hawzah, 2008).

It is important to recognize that Iran is not ethnically homogenous, although to the outside world it may seem to be the case. In other words, Iran is a country of diversity that has consisted of various constituents each with their own specific traits. The Persians, Turks (Azeri's), Kurds, Turkmens, Arabs and Baluchs constitute the major ethnic groups in the country. Despite the significant differences mentioned above, a number of integrating features such as the shared history, culture, and Islam (as the majority religion) demonstrate a more coherent and united picture of Iran (Johari, 2002; Tavassoli, Welch, & Houshyar, 2000).

The official language is Persian (Farsi), an Indo-European language. It has been estimated that a significant proportion of the population speaks other languages as well: including 26 percent Turkish (Azeri), five percent Kurdish and around four percent Arabic. Tehran, Isfahan, Mashhad, Tabriz, and Shiraz are the most populated cities in Iran. The country consists of thirty provinces that vary widely in terms of their socioeconomic development. In each province there is at least one state/public university and one non-governmental university, although a few provinces, which are geographically larger or more populated, have several public and non-public higher education institutions.
82 percent of the population is literate and education is compulsory through high school. Having the world's youngest population, the Islamic Republic of Iran bears the responsibility for educating more than 18 million students.

[3] The average population growth rate in Iran fell from 3.9% in 1980 to less than 1.5% in 2007 (see http://www.payvand.com/news/04/aug/1017.html)
[4] http://www.iqna.ir/fa/news_detail.php?ProdID=262182

According to the Ministry of Education, currently (in 2009), there are 150,000 schools offering education to 13,500,000 students from elementary to secondary school levels. Interestingly, this student population increased to more than 18,000,000 at its peak at the end of 2000. Since 2000, we have seen a consistent and gradual decrease (due to a diminishing birth rate, from nearly 3. 5 to 1. 5, in 10 years). The sharpest fall was last year, in 2008, with a one million decrease over one-year period (from 2008 to 2009).

Iran has been in the world's news headlines for the past three decades due to the Islamic revolution in 1979, cutting diplomatic ties with the US, the 8-year (1981-1989) war with Iraq, its non-aligned and uncompromising political stance, continued political dissonance with the advanced industrialized nations (especially the US) regarding its peaceful nuclear activities, etc. Under such circumstances, the commonly portrayed picture of Iran by dominant (Western) media is usually associated with negative connotations that are sometimes no more than simple speculation. Similarly, other important aspects of Iranian society including its scientific status have remained enigmatic to the outside world, leading to all sorts of speculative appraisals (Hamdhaidari, Agahi, & Papzan, 2006).

In this chapter, an overview of Iranian higher education is outlined. The main aim is to give a brief account of the country's rapidly expanding virtual institutions in the light of reality, progress and difficulties by looking at the following areas: the social and historical situation in Iran, higher education, distance education and, in particular, virtual institutions in Iran.

Higher Education in Iran: A Historical Account

Higher education in Iran extends over 25 centuries. Long intertwined with major religious, intellectual, social, political and economical movements, higher learning centers in various names have occupied a central place in Iranian society. The first higher education center was established by King Darius of Persia in the 6th century B. C. (Iranian national commission for UNESCO, 1977).

The establishment of Iranian higher education and technological thought dates back to the third century A. D. (Hekmat, 1972), when 'GondiShapur [5],

[5] GondiShapur (in some texts JondiShapur) higher education centre was established before 272 A.D.

the great university of the Sasanian era (Sassanid Empire), was the centre of scientific and technological activities. The "GondiShapur" higher learning center became one of the most important centers of higher learning during this period. Its status was maintained and extended some 300 years after the introduction of Islam in Persia in the 7th century A. D. (Bazargan, 2006). As Islam spread throughout Iran, religious educational settings called "*Madreseh*[6]" became the possibly sole centers of higher learning until the 19th century. In *Madreseh,* theology, law, medicine, and even algebra were provided by religious figures (Bazargan, 2006).

However, despite the long history of higher education in this ancient nation, modern higher education institutions began operating as late as in the twentieth century (Levers, 2006). From the early 19th century, the first polytechnic college (1813) and then other higher education centers/colleges were established one by one. These initiatives in the educational area were generally associated with certain external determinants such as the industrialization and modernization of Western Europe, and in particular the growth of imperialist rivalries during 19th century (Tavassoli, et al., 2000). Rejecting traditional educational settings and procedures, the new higher learning centers were initiated based on European mindsets (medieval European traditions).

Similarly, the first Western-inspired University (University of Tehran) was established in 1934 as a part of the modernization of Iran. The entire public system was secular and for many years it remained based on the French model. After World War II, universities were founded in other major cities (Abrahamian, 1982).

Provincial and other national universities established in the decades that followed. By 1979, prior to the revolution, there were about 30 state universities and higher education institutions throughout the country, in Tehran and other major cities. The Islamic Revolution took place in 1979 and the universities were practically closed for nearly 2 years (1980-1982, when the revolution and the period of the so-called Cultural Revolution took place). There was a strong desire on the part of the political system to Islamize higher education during the Cultural Revolution. However,

[6] There are a number of variations in the spelling of *madreseh,* e.g. *madrasa.* I have used the form which is nearest to the Persian pronunciation.

> The triumph of the new education lies in the fact that the revolutionary leaders neither tried nor even expressed the wish to wholly reverse the proces rather they strive to use it (albeit with some significant revisions) to advance their own goals (Menashri, 1992, p. 301).

In the three decades that followed the revolution, the student population increased at an accelerating rate. By 1979, total enrollment had reached 176,000 students. Although the majority of the higher education institutions were public, access to them was very selective. During this period, the number of applicants for admission to higher education institutions was ten times larger than the number of available places (Bazargan, 2002).

In the same vein, the destructive eight-year war was said to have resulted in a large "brain drain" with a severe negative impact on the nation's capacity to develop in the future (Mehrdad, Heydari, Sarbolouki, & Etemad, 2004).

In response to this social demand for higher education, a non-public university system named the Islamic Azad University (IAU) was established in 1983. All higher education settings either non-public or public should follow the Ministry of Higher Education's academic regulations such as programs, syllabi, etc.

The IAU attracted many applicants/students who had intended to study abroad. This mega university has its main campus in Tehran with branches all over the country. The IAU has experienced a significant growth rate across the country, and the number of branches has increased to 357 in the last 15 years (2009)[7]. Mobilizing local resources and assistance when opening new branches of the Islamic Azad University accounts for the education of 1,350,000 students. Although the IAU has its own procedures for admission and staff recruitment, general academic planning in terms of programs, syllabi and curricula is organized and decided on at the central office by the Ministry of Science, Research and Technology.

Payam e Noor University (PNU), another 'mega-university', has also undergone major growth in the last decade. In 1990, only three years after its establishment, PNU enrolled more students than any other state university in Iran. Currently, the PNU University with its headquarters based in Tehran, 30 provincial centers, and 485 local branches across the country has more than million (1,101,182 in 2009) students enrolled in higher education.

[7] http://www.iau.ac.ir/indexen.htm

According to the Iranian Institute for Research and Planning in Higher Education (IRPHE), there were nearly 1.6 million applicants for higher education across the country (those who took part in the Iranian national HE entrance examination in the academic years of 2005- 2006). However, only one-third of these applicants were admitted to public higher education institutions in the academic years 2005-2006, an increase of 8. 8% compared with the previous year (Institute for Research and Planning in Higher Education, 2006).

Currently, there are approximately 358 higher education institutions in Iran including 106 state universities, nearly 139 non-public universities and 113 colleges (mostly undergraduate) situated all over the country. Along with these higher education institutions, there are also about 60 research institutions throughout the country making their contribution to the nation's science output. In 2008, the entire student population (both public and non-public) in Iranian higher education was approximately *three and a half* million, more than half of these students were enrolled in public universities including the PNU mega-university. It should be noted that in the last four years (from 2005), along with the Iranian President's (Mr. Ahamadinejad) policies, higher education settings have been very much encouraged to increase their activities in terms of student enrolment and adding new fields of studies. Correspondingly, the student body has increased significantly from almost 2.8 million to 3.5 million. The proportion of non-public higher education institutions to public higher education settings was 51.3% and 48.7%, respectively, in 2007 (see Table 1) including the PNU university as the public affiliated higher education setting(Institute for Research and Planning in Higher Education, 2007).

Table 1: Student population based on type of institution in 2005-6 academic years

NON-PUBLIC	1,300,000
PUBLIC	1,538,874
TOTAL	2,838,874

In the last two decades, Iran has experienced significant growth in the annual student population (more than 12 percent annually). The general population of Iran has doubled since the revolution in 1979, while the numbers of universities and higher education institutions have more than tripled and student enrollment has increased tremendously, more than 20 times (ISNA,

2008). What is interesting is that the population of female students, unlike other Islamic countries, has increased dramatically in the last two decades, with the result that 54 percent of the total number of enrolled students in the academic year 2004/2005 were females (Institute for Research and Planning in Higher Education, 2006).

Table 2: Number and percentage of students by sector and study levels in 2004 (except for the PNU)

STUDY LEVEL	PUBLIC		NON-PUBLIC		TOTAL
	Female	Male	Female	Male	
Associate (Two years' study)	65,448 (35. 5%)	119,114 (64. 5%)	138,732 (45%)	164,506 (55%)	487,800
Bachelor	376,639 (61 %)	242,926 (39%)	367,709 (52%)	335,595 (48%)	1,322,869
Master	13,181 (32%)	27,733 (68%)	12,687 (36%)	23,054 (54%)	76,588
Professional doctorate	16,275 (53%)	14,474 (47%)	5,491 (46%)	6,598 (54%)	42,838
PhD	3,321 (25%)	9,887 (75%)	618 (24%)	2,010 (66%)	15,836
TOTAL	474,864 (53%)	414,134 (47%)	525,237 (50%)	531,696 (50%)	1,945,931

Adapted from IRPHE (2006)

As indicated in Table 2, the proportion of female students is higher than male students, particularly at bachelor levels. The higher proportion of female students compared to male students in HE in the last few years is even more obvious at the Master and PhD level also in areas such as basic science and engineering. Despite this large boost, the rate of increase of other factors and dimensions in the higher education system, such as qualified faculty members and financial resources, has not kept pace with this increase in the student population (Bazargan, 2002).

Distance Education in Iran

Along with other developing countries (such as China, Nigeria, South Africa, India, etc.), Iran is turning to distance learning programs to tackle an ever-increasing student population and scarcity of infrastructural, financial, and

personnel resources to help students fulfill their educational aspirations. In other words, using distance learning technologies to reach out to the surging student population with quality education, which would by any other means be unattainable, is part of a larger movement in the developing countries (Valentine, 2002). In a similar vein, Asia now has more open and distance universities and more distance learners than any other region in the world.

Distance education in Iran does not have a long record. From the 1970s onwards, Asian governments established single-mode open universities to accommodate the large numbers of adults and school dropouts unable to gain entry to conventional universities (Jung & Latchem, 2007). The first open university in Iran was launched in 1975 under the name of Azad (open) University and offered correspondence courses (using hardcopies via the postal service). The courses were supported by instructional radio and television programs (for a short period of time).

After the Islamic revolution, Payam e Noor University (PNU) was established in 1988 based on experience from and infrastructure of Azad University. This university has branched out across the whole country very rapidly. Accordingly, in 1990, only three years after its establishment, PNU enrolled more students than any other state university in Iran and it had reached 'mega'-university status within seven years of its establishment. Interestingly, in 2004, the PNU accounted for more than 14 percent of the total enrolment in higher education (Bazargan, 2006). Lower tuition fees in comparison with other non-public universities such as IAU, together with its flexibility in course provision paved the way for further popularity of PNU and its expansion.

ICT-Based Initiatives in Iranian Higher Education

The Ministry of Science, Research and Technology (MSRT) in Iran recently adopted a decentralization policy. This policy has created an opportunity for universities and other higher education centers to initiate far-reaching changes in their educational and training systems. On the one hand, information and communication technology play a significant role in these changes. On the other, a growing national market could motivate the virtual institutions (off campus) to focus primarily on e-learning as a reasonable option. Accordingly, a large number of conventional universities are struggling to utilize IC-based

technologies in terms of introducing e-learning programs and in some cases enhancing the quality of conventional programs.

Correspondingly, an increasing number of higher educational institutions have already established, or are in the process of establishing, e-learning programs. Universities such as Shiraz University, Iran University of Science and Technology, AmirKabir University, K. N. Toosi University, Hadith Science College, Isfahan University, Shahid Beheshti University and Tehran University as well as a few non-governmental (private) higher education centers including Tehran Institute of Higher Education, Noor e Touba Higher Education Center, Almustafa Open University, Tehran Medical University, etc. have established virtual campuses.

There are also various projects underway to establish e-learning centers at universities such as Sharif University of Technology; Tarbiat Modares University, Zanjan University, Farabi Institute of Higher Education and so on. Along with these higher education settings, Iran's two mega universities, including Islamic Azad University and Payam e Noor University are moving towards ICT-based initiatives. It should be mentioned that some of these virtual campuses such as Sharif Technical University and University of Tehran also offer a number of non-degree courses or programs for various companies and other institutions.

According to the MSRT act, as was mentioned earlier on, the virtual universities are expected to follow the academic regulations of the Ministry of Science, Research and Technology. Programs supplied by these virtual universities and centers are accredited as long as they are in accordance with these regulations. Correspondingly, graduates of these virtual universities are awarded official degrees. Unlike other conventional universities, admissions to virtual institutions are decentralized and are undertaken locally by universities and based on the applicants' qualifications. However, the conditions for accepting students at these universities are almost the same as at the traditional universities. In addition, applicants to these virtual universities should, together other qualifications provide proof of financial capability to pay the tuition fees and the minimum required hardware (computers) for utilizing e-learning programs.

Shiraz University (SH) was a pioneer in this respect and officially launched its e-learning programs in early 2004 (Safavi, 2007). Interestingly, the number of virtual institutions has increased to more than eight virtual institutions in

four years including AmirKabir Technical University, Iran University of Science and Technology, K. N. Toosi University of Technology and Hadith Science College in 2005, University of Isfahan and Shahid Beheshti University in 2006 and University of Tehran in 2007.

Table 3: Distribution of student population in Iranian virtual universities during 2004-2007 academic years

VIRTUAL INSTITUTIONS	ACADEMIC YEARS				TOTAL
	2004	2005	2006	2007	
SHIRAZ V. I.	115	317	320	507	1259
IUST V. I.		297	572	1108	1977
HADITH VI		180	252	789	1221
AMIRKABIR V. I.	120	120	120	270	630
K. N. TOOSI V. I.		200	110	450	760
ISFAHAN V. I.			12	114	126
S. BEHSHTI V. I.				269	269
TEHRAN V. I.				600	600
Other Virtual Inist. [8]			611	811	1422
TOTAL	235	1114	1997	4918	8264

As indicated in table 3, the number of e-learning providers (virtual institutions) and the number of enrolled students have significantly increased in recent years. In January 2004, there was only one virtual institution with 115 students; while in 2007 the number of virtual students had increased to almost a thousand (more than 30 times in four years). In a similar way, the number of e-learning program providers has significantly increased from one virtual institution in January 2004 to more than thirteen virtual institutions in 2007. Although this figure (seven thousand virtual students) is not comparable with the three and half million strong student body in Iranian higher education, its rapid growth can be seen as indicative of the big changes in Iranian higher education settings.

[8] Apart from mentioned virtual institutions, there are other virtual higher education settings such as Tehran Medical Virtual University, Almostafa O.U., Mehr alborz**,** Noore Touba, Gom Virtual Institutions that were not included in this figure.

The emergence of these virtual institutions could be associated with certain external and internal determinants. Below, an overview of the distinctive features of virtual universities/institutions in Iran is presented:

A large number of virtual institutions or e-learning centers (almost all of them) in Iran originated in the conventional universities. These virtual institutions were established on the basis of the substantial physical and human resources existing in the campus-based university. Most of them do not have specific faculty members for their virtual campuses, thus they enjoy the services (e.g. faculty members, staff, etc.) of conventional universities. Accordingly, virtual institutions are often viewed as a unit of conventional universities with different names. In some universities, it is called "E-learning Faculty" as at the University of Shiraz, and in some as "E-learning center" as at the University of Tehran.

It seems that virtual institutions in Iran are developed simply to meet the high social demands for higher education. The number of available places in conventional higher education settings is much lower than the real rising demand. Thus, in most of cases, a majority of applicants are often forced to take e-learning programs as their only alternative for pursuing higher education.

The dominant culture and cultural-pedagogical approaches of conventional universities has been transferred to and reproduced in virtual ones. Similarly, transferring and translating what the conventional programs and courses offer into an online courseware format is viewed as the foremost mission of e-learning. Thus, it is hard to see any differences between a virtual class and its conventional counterpart except that the contents have been transferred to e-contents (cf. Attaran, 2007).

The underpinning infrastructures of the e-learning initiatives are centrally managed in the academic portfolio. Broadly speaking, this comprises a proprietary Learning Management System (LMS) at the centre, which in most of the cases is an in-house developed system (LMS). This LMS along with a Content Management System (CMS) usually comprises all the requested tools and contents for design, and develops and runs e-learning courses including textual material, graphics, interactive exercises, assignments, etc.
Programs offered by these virtual institutions are supposed to be delivered entirely online. In practice, however, there are a few face-to-face sessions for

some courses such as physics, in the form of labs. In these virtual settings, students are provided with pre-determined learning resources through CMS during the semester. Interactions between students and lecturers usually occur via LMS. However, there are no facilities in virtual settings for interactions among students. Due to poor technological infrastructure, even interactions between student and tutors are uneven.

Students have a few face-to-face meetings, particularly new students, in order to introduce the programs and procedures. Moreover, all the final exams are administered in the conventional campus format, and e-learning students like other on-campus students should take part in these exams.

Unlike other conventional universities, the admission process in these virtual institutions is often carried out locally. Eligible and interested applicants can apply for a program. Initially, the qualified applicants are registered as "Danesh Pazier" learners. These learners are given a few courses – around 14 higher education credits – during the first semester. Among the registered applicants, those who can complete these courses successfully (with a minimum score of 12 out of 20) are declared to be students.

There are very few professors and lecturers who utilize ICT-based initiatives in their conventional courses. Similarly, a large number of teachers in virtual institutions do not engage in actively designing e-learning courses and in communicating with students. As the dean of the Virtual Hadith Science College pointed out, a large number of the lecturers are not familiar with the e-learning system. Therefore, some of the virtual institutions seek the assistance of a qualified Teacher Assistant (TA) to develop learning resources and also to facilitate interaction between students and lecturers.

The tuition fee at these institutions is fairly expensive for a middle-class Iranian family. For instance, in AmirKabir or IUST virtual institutions, studying for a Masters degree (MS) in technical programs would have cost around US 6,000 in 2008. However in most of the developed countries, the e-learning system is usually adopted in order to offer more affordable higher education to the lower class sectors of their societies.

Unlike other higher education settings in developing or developed countries, cultural issues are promoted along with education and research in Iranian higher education settings. Accordingly, there is a vice-presidency for cultural

affairs in the administrative system of all higher education settings to respond to students' cultural and religious needs through extracurricular cultural activities. Students in virtual environments, however, do not have the opportunity to enjoy the extracurricular cultural activities offered at traditional universities.

Nevertheless, despite the quantitative growth of virtual institutions, there is growing concern about the quality of the programs offered at virtual institutions. In what follows, three of the outstanding virtual institutions will be described.

Shiraz Virtual Institution

The University of Shiraz, as one of the outstanding universities in Iran, officially launched its first e-learning program in early 2004. This university is also considered to be the first Iranian university to receive government approval to start up a joint e-learning program together with foreign universities such as Queen Mary College at the University of London (Safavi, 2007). Shiraz Virtual Institution has also been active in developing virtual laboratories to be used in e-learning programs, research activities and collaborating with industry.

Table 4: Approximate total student enrolments at Shiraz Virtual Institution in 2004-2007 academic years

ACADEMIC YEARS	FEMALE	MALE	TOTAL
2004	84	31	115
2005	148	169	317
2006	145	175	320
2007	298	209	507
TOTAL	635	459	1,259

Currently, Shiraz Virtual Institution has about 1,300 students (see Table 4) from all over the country and some from neighboring countries such as Kuwait and the United Arab Emirates. These students are studying in various programs including: B.Sc. in Control Engineering (since 2004) Interface, B.Sc. in Electronics Engineering (since 2005), B.Sc. in Law (since 2005), and M.S. in e-Commerce (since 2005), etc.

Hadith Virtual Science College

Hadith Virtual Science College, as the first Islamic e-college in Iran, initiated its e-learning project with a Bachelor of Arts program in mid-2004. The institution's activities have expanded gradually in terms of the number of programs and enrolled students. Like other virtual institutions, this higher education setting as a non-governmental virtual entity has a conventional campus in the southern part of Tehran. Hadith Virtual Science College aims to attract a variety of students from all over the world rather than just from Islamic countries. This Islamic e-collage offers its programs in Persian and recently in Arabic. It also plans to offer courses in English in the near future.

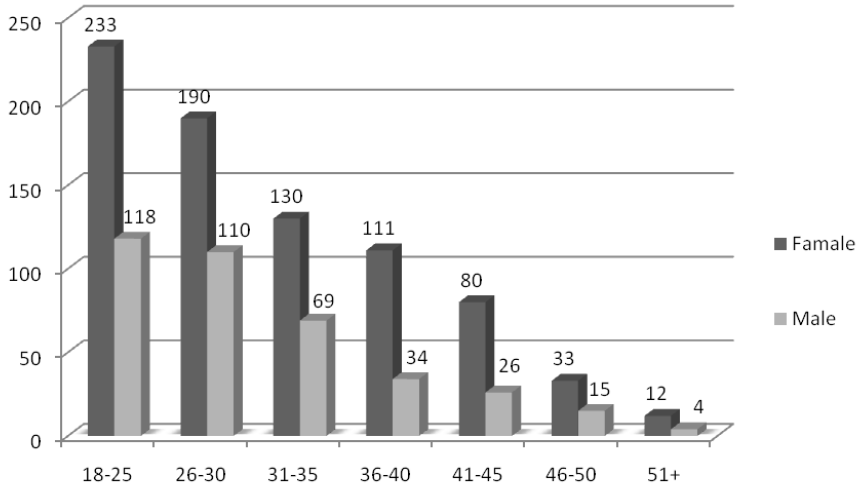
To overcome the current infrastructure limitations such as restricted bandwidth in the country, Virtual Hadith Science College is utilizing other technologies such as radio along with its own LMS and CMS. In other words, it is trying to utilize an integration of radio broadcasting and the Internet that allows it to provide educational resources extensively in an economical way. To this end, this virtual institution has signed contracts with Islamic Radio for the broadcasting of some of its courses.

Table 5: Distribution of students at Hadith Virtual Science College in 2005-2008 academic years

ACADEMIC YEARS	FEMALE	MALE	TOTAL
2005	124	56	180
2006	164	88	252
2007(Jan.)	207	103	310
2007(Sept.)	331	148	479
2008	243	130	373
TOTAL	1024	498	1522

As shown in Table 5, Hadith Virtual College has enrolled about 1,500 students since 2004 from among more than three and half thousand applicants. Accordingly, this virtual campus has experienced smooth growth in terms of the number of students. The reported figure (the number of students) for 2008 is limited to the first semester only (this institution enrolls students in two semesters each year).

Figure 1: Number of students based on sex and age



Like other higher education settings in Iran, more than half (in some years more than two-thirds) of these students are female (see Figure 1). The majority of students were under 30, which indicates that they may take part in these e-learning programs to satisfy their social demands. According to the dean of this virtual college, interestingly, the drop-out rate is less than 10 percent among students at this virtual college.

IUST Virtual Institution

Iran University of Science and Technology (IUST), one of the well-known technical universities in the Middle East, established its own e-learning programs in late 2004 with a master program in "Information Technology". This virtual campus is located in IUST's conventional campus in the northeast of Tehran. Currently, more than 2,000 students are studying on IUST's virtual campus. These students are pursuing their studies in two bachelor programs and two masters programs. As demonstrated in the following figure, the student population increased significantly during these years (i.e. from 2005-2008).

Table 6: Distribution of students in IUST virtual campus in 2004-2007 academic years

ACADEMIC YEARS	FEMALE	MALE	TOTAL
2004	-	-	-
2005	102	195	297
2006	179	393	572
2007	405	703	1108
TOTAL	686	1291	1,977

As shown in Table 6, the number of female students has significantly increased along with the male student population in technical fields of study. IUST's virtual campus utilizes an in-house developed platform including LMS and CMS to run their programs and assimilate the conventional class environments on the net. Along with this, due to bandwidth limitations in the country, learning resources are often given to students in other ways, e.g. on CD.

Concluding Remarks

Virtual institutions in developing countries, like in Iran, face major challenges that could threaten the very survival of these institutions. Poor accessibility along with a traditional mindset towards the new artifact could be said to be the foremost obstacle to successful e-learning environments in these countries. Similarly, the existing telecommunications systems are inefficient and also expensive to use, so higher education institutions are unlikely to place too much reliance on them for teaching, support, or information searching. In other words, accessibility in terms of fast, cheap and good access to the Internet is not feasible due to the problems related to poor infrastructure, dependability, and, most importantly, the negative attitude of political gatekeepers towards this phenomenon (some gatekeepers consider Internet to be a threat rather than an opportunity). Accordingly, the experience of getting online could be different in terms of where you are and the experience can be slow and painful for e-learning students in Iran.

This is the reason why most of the virtual institutions use the Compact Disk (CD), and radio delivery methods. Consequently, such circumstances inhibit the production or use of interactive media and providing higher quality education for students.

Rapid growth in ICT-based tools and applications and rapid access to data have resulted in a good foundation for developing *interactive* multimedia-based educational software. However, bringing in the traditional mindsets to the e-learning in terms of its design and use make this new initiative (e-learning) vulnerable to becoming merely a transferor of knowledge (e-teaching) rather than a constructor of knowledge (e-learning) as seems to be the case in the Iranian virtual institutions. In these virtual settings, great efforts are being made to relocate and transfer the educational procedural climate of conventional universities' to virtual institutions. In other words, digitizing the traditional learning resources and contents to e-content seems to be the only difference between traditional on-campus programs and their virtual (off-campus) counterpart**.**

CHAPTER 3

AN ACCOUNT OF ICT-BASED EDUCATION AND LEARNING

Electronically supported learning (e-learning) can take place in many ways. An account of e-learning and relevant theoretical frameworks or constructs is given in this chapter. Specifically, this chapter introduces the history and definitions, modes and other associated issues in e-learning including distance learning, virtual learning, approaches to e-learning, etc. Next, it explores the cultural perspectives in e-learning.

ICT-Based Education

Electronically supported learning is said to offer a wide range of opportunities to create, store, manipulate, access and distribute information, and provide new channels and tools to facilitate learning and knowledge building through meaningful actions and interaction (Dabbagh & Bannan-Ritland, 2005; Lui, 2006). The influence and impact of these technologies can be seen through academia and industry as more and more institutions of higher education and corporations offer, or plan to offer, e-learning courses and programs (Negash & Wilcox, 2008).

Accordingly, a majority of higher education institutions across the globe have found this mode of offering instruction and learning (e-learning) to be economical and have adopted ICT-based initiatives either as single mode (i.e. providing fully online programs/courses) or as a complementary mode (i.e. blended learning) for delivering and enhancing their educational services (Sharma & Mishra, 2007). It should be noted that e-learning is usually counted as a subdivisions of distance learning that has flourished as new technologies

have emerged (cf. Mason. & Rennie, 2006). Accordingly, a fairly brief historical account of distance learning will be outlined.

Distance Learning

Before addressing e-learning, it might be necessary to look at the way distance learning has been developed and used in the past and how it is currently delimited in the literature. Distance learning can be traced back more than two centuries ago when correspondence education/instruction (building on letters as a medium) was developed in order to reach a geographically dispersed population (Moore. & Kearsley, 1996). Other forms of communications did not emerge until the industrialization in the 1920s and the introduction of radio and TV. Emerging new technologies, especially ICT, linked with the continued and increasing demands for remote access to learning opportunities (increased accessibility), has pushed distance learning into the center of the discussion of educational practice in higher education.

Distance learning encompasses a wide spectrum of learning technologies, including the Correspondence Model (postal distribution), Video and Audio Broadcasts, Computer Based Training (CBT), CD-ROM, World Wide Web (Web), etc. It can be argued that, development of distance learning has been associated with the emergence of new technological tools (Chaney, 2004). Accordingly, distance learning has been refined and redefined over the years. For instance, Moore defines distance learning as:

> Distance education is all arrangements for providing instruction through print or electronic communications media to person engaged in planned learning in a place or time different from that of the instructor or instructors (Moore., 1990, p. xv).

Later, Moore and Kearsley (1996), redefined distance learning as:

> Distance Learning is defined as planned learning that normally occurs in a different place and requires a well-defined system of delivery that includes modified teaching techniques, alternative modes for communication, including, but not limited to technology, as well as alternative administrative and organizational components (Moore. & Kearsley, 1996, p. 2)

While there are a wide variety of definitions of distance learning, most of them are just variations of a few common themes. Analyzing the definition of distance learning, Palloff and Pratt (1999) document three main aspects: (a) separation of instruction and learning in "time" and "place", (b) connection

(participation, communications, community) through educational media, and (c) learning process driven by the learner (learner centeredness). The first aspect in terms of the separation of teachers and learners is most commonly mentioned definition.

Teaching and learning in distance learning mostly occur asynchronously - the learner(s) and teacher are separated by time and space and utilize a variety of tools (Keegan, 2000; Moore. & Kearsley, 1996) - or synchronously, which enables 'same-time, same-place' or 'same-time, any-place' interactions among learners.

As Garrison (2000, p. 1) contends, given definitions of distance learning may seem straightforward enough, "but conceptual confusion is continually created with the advent of new terminology" (i.e., distance learning, distributed learning, open learning, e-learning, flexible learning, and virtual learning).

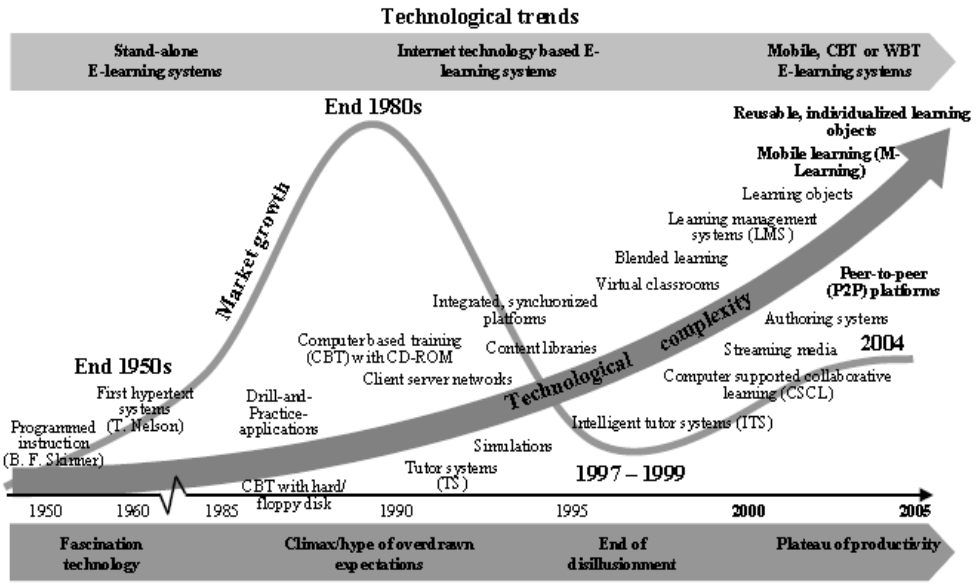
Generations of Distance Learning

There have been many attempts to explain the developmental cycles of distance learning. These attempts have viewed distance learning developments from pedagogical, managerial, technological, and other perspectives (Bramble & Panda, 2008). However, a well-known and widely used classification of distance learning is from a technological point of view. Indeed, it could be said that distance learning has always been dependent on technology. Such technology can range from transportation and printing technology in the correspondence model to Information Technology in E-learning.

The technological evolution in distance learning as well as its technological complexity is shown in Figure 2. It can be claimed that distance learning has been influenced and (even) shaped by technological advances. For instance, with the emergence of radio in the 1920s, and TV in the 1950s, Instructional Radio and Instructional TV appeared. The rise of the World Wide Web (WWW) in early 1990s, however, has affected educational settings very significantly in comparison with other technologies (Monolescu, Schifter, & Greenwood, 2004).

As indicated in Figure 2, the development of distance learning can be articulated in terms of six historical developments in three distinctive generations, as listed below:

Figure 2: Distance learning trends (Breitner & Hoppe, 2005)



Correspondence Model: this generation can be marked by linear delivery of knowledge beyond geographical barriers where instruction and learning is organized asynchronously (Bramble & Panda, 2008; Im, 2006). Student activities were carried out as one-to-one correspondence with print-based learning resources, or "one to many" through instructional TV, computer-based training, etc. Thus, the learning activities are centered on the independent learner's work. Removing the geographical boundaries can be regarded as main feature of this generation that aligned with instructional programming.

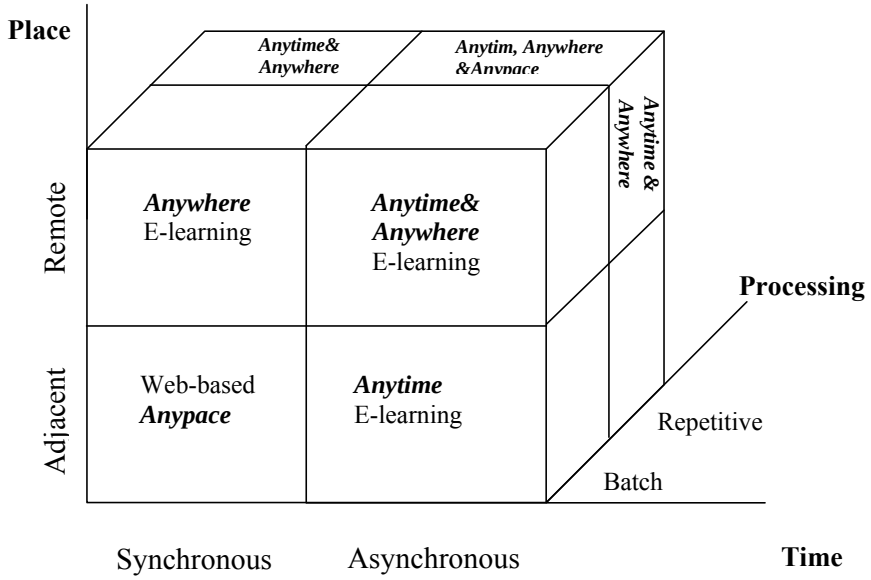
Online Learning Model: With the emergence of new technologies, especially the World Wide Web, a variety of distance learning modes have evolved in recent years. These technologies add the "Time" dimension to distance learning environments, which makes possible synchronous interaction between teachers and students. Accordingly, it provides learning resources anytime and anywhere by loosening the constraints of time and place. In a similar way, the development of integrated voice, video, text and other learning resources has made e-learning a viable alternative for improving access to educational and training opportunities for students all over the world. However, such a two-dimensional online model cannot accommodate the "any pace learning" in

distance learning environments where learners not only can learn at their own pace but can actively contribute to developing and constructing the given learning environments.

E-learning Model: The third and most recent development in the history of distance learning, according to Im (2006), involves more full-fledged capacities of World Wide Web technologies (e.g. Web 2.0) which provide a three-dimensional e-learning model (anytime, anywhere with any pace). This mode of distance learning incorporates a broad range of technologies. Accordingly, students are able to learn anywhere, anytime and at any pace, encouraging social interaction such as collaborative learning and Computer Supported collaborative Learning (CSCL), and situated learning (Bramble & Panda, 2008).

It should be noted that the shifts in these generations cannot be merely considered to be the result of technological advances but as shifts in epistemological and methodological traditions as well (see chapter four for further elaboration).

Figure 3: Three dimensional e-learning model



Adapted from Im (2006)

As shown in Figure 3, in this e-learning model, learning is characterized as eight distinct modes. It can be non-interactive or highly interactive and may, in fact, embrace one or many media types (e.g. printed text, audio, video, computer-

based simulations, video or audio conferencing, etc.) in order to achieve a wide range of instructional objectives.

Modes of Delivery of ICT Supported Learning

Large-scale moves to utilize ICT-based technologies have been undertaken to support teaching and learning in institutions, organizations and companies all over the world. These technologies have influenced the way we approach learning, the teaching activities we adopt, the way the curriculum is developed and delivered, and the way the learning activities/programs are assessed.

In the same way, teaching and learning have influenced or even forced existing practices structures and pedagogical methods to change in order to use the claimed advantages of ICT-supported learning. ICT-supported learning can be carried out in many forms ranging from full-fledged online courses/programs to blended learning-tutorials or face-to-face-courses accompanied by online learning resources (Pittinsky, 2003). In order to acquire a sound understanding of ICT-supported learning, a distinction is drawn between different forms of ICT-supported learning environments.

A close look at the use of e-learning in educational institutions has revealed three typical ways in which ICT-based learning has been employed in such systems (Bates, 2001; Laurillard, 2002; Oliver, 2005; Sharma & Mishra, 2007):

Blended learning: blended learning environments could be regarded as a "complementary mode" to the traditional (face-to-face) educational system. In other words, blended learning, as Collis and Moonen (2001) noted, is a hybrid of traditional face-to-face and online learning.

E-learning: In this mode of the use of ICT-based technologies in education, the process of learning and teaching are fully undertaken in virtual environments. In other words, ICT provides the means of running and delivering a learning program totally distinct from face-to-face teaching as a replacement of face-to-face teaching. This mode can be seen as technologically mediated spaces with a habitat or micro-habitat that is connected to, or part of, other systems that form an entire learning ecology (Dron, 2007). Such environments can include people who use it for interaction with others, who create it and the content it represents, the infrastructure that supports it, the

administrative mechanisms that surround it; in short, all of these people, concepts, structures and things are a part of that environment (Moore. & Anderson, 2003).

Mobile learning: refers to a wide range of wireless and mobile technologies (e.g. PDAs, tablet computers, mobile phones, etc.) which can provide another avenue for delivery of learning and enhancing teaching and learning (McAndrew, 2009). This type of ICT-supported learning can be accompanied by either of the noted ways (blended or e-learning). Further, mobile learning is usually informally used concomitant with lifelong learning (beyond formal education).

Given the interest of this study in dealing with the quality of e-learning in higher education settings, a brief account of the first mentioned models (*e-learning* and *Blended learning),* which have been widely used in higher education settings, will be outlined in the following.

Blended Learning

"Blended learning" is a term commonly used to label programs/courses that combine traditional face-to-face learning system with ICT-based learning or, in other words, the convergence of distance learning and campus-based activities. As Garrison and Kanuka (2008, p. 19) have pointed out: "essence and appeal of blended learning is its simplicity of taking the best from both online and face-to-face instructional designs".

In a similar vein, the aim of blended learning is to combine attributes/characteristics of e-learning (such as the efficiency, sufficiency and freedom to access information anytime anywhere with minimal effort) with attributes of traditional face-to-face instruction (i.e. interaction with student peers and teachers as well as enabling students to work with the new information presented) (Delialioglu & Yildirim, 2007). Blended learning in comparison with traditional face-to face-learning can increase student learning as well as their satisfaction (ibid). This is, as Garrison and Kanuka (2008, p. 20) have pointed out, "largely due to an ability to appropriately match interactive learning experiences with specific learning outcomes".

Accordingly, conventional universities and higher education institutions are moving towards employing technology in learning and teaching and thus

"Stretching the Mold" (Collis & Moonen, 2001) to offer more logistic flexibility to students.

A wide variety of blended learning definitions have been provided by researchers, but three definitions have been more commonly used, as documented by Bonk and Graham (2006): 1- Combining instructional modalities (or delivery media) (traditional face-to-face learning system and e-learning system), 2- Combining instructional methods, and 3- Combining online and face-to-face instruction (Bonk & Graham, 2006).

Similarly, Collis and Moonen (2001) have pinpointed the following aspects when addressing "blended learning":

- Have a goal and an educational vision
- Use Web technology to support flexibility, or blends, in times and places for learning
- Use Web technology to support flexibility and "blends" in learning activities
- Web technology supports blends and choices in learning resources
- Web technology supports blends and flexibility in different ways to communicate and interact with others
- Blends of different forms of assessment at universities, in web-based portfolios and on Web sites as the medium for reports and design projects in corporate settings, assessment via impact in the workplace
- The instructor remains critical, and now has new roles and tasks
- Web technology as the common tool and integrator of the blends

These aspects can be considered valuable guidelines for designing and developing blended learning environments. Accordingly, it can be argued that a blended learning design can represent a significant departure from either of these approaches (conventional system and e-learning) starting with various specific contextual needs and contingencies, e.g., discipline, developmental level, and resources (Garrison & Kanuka, 2004). In other words, blended learning can be interpreted as the effort to integrate the social aspects of face-to-face learning settings with information-access methods of e-learning environments. However, it is hard to have a clear-cut measure about how much, or how little, e-learning is inherent in blended learning.

E-learning

ICT-supported learning is flooded with a number of terms and concepts, which are used either interchangeably or with small difference to address the use of ICT in education: for example, *E-learning, Distributed Learning, Virtual Education, Internet-Based Education, Online Learning, Flexible Learning, Synchronous Learning, Web Based Training*, and so on.

E-learning (with more than 106 million hits[1]), however, is a well established concept, which has been widely accepted as signifying all forms of technology-supported learning. It can cover a wide range of technological tools for supporting learning (Dron, 2007). The hype surrounding the word "e" in e-learning refers to "how" the program/course is delivered. The "learning" refers to on the one hand to what the program/course can offer students (including content and ways of helping people learn); and on the other hand, "why" or the reason for helping students achieve educational goals (Clark & Mayer, 2008).

E-learning, however, is a contested concept that evokes a range of images and responses depending on the context in which it is used and who is using it. "Googling" the definition of the "e-learning" yields more than 6. 5 million "hits[2]". That result alone signals the difficulty of trying to define a term that has multiple meanings and interpretations, and is used in a variety of ways by different people for different purposes.

Accordingly, a large number of definitions have been provided to address different features of e-learning. Some definitions address the *e-learning* so broadly that one would be hard pressed to find any technological supported learning system that was not "e-learning". Others narrow the boundary and limiting e-learning to *On-line* learning. Broadly speaking, however, most of these definitions focus on the same set of features.

Take the Instructional Technology Council's (1998)[3] definition as an example:

> The process of extending learning or delivering instructional materials to remote sites via the Internet, intranet/extranet, audio, video, satellite broadcast, interactive TV, and CD-ROM.

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[1] Number of hits on Google, 20 December 2009.
[2] Number of hits on Google, 20 December 2009.
[3] http://www.itcnetwork.org/definition.htm

Or the European e-learning Action Plan definition:

> The use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration[4]

In a similar way, the American Society for Training & Development (ASTD) defines e-learning as:

> Covering a wide set of applications and processes, such as web based learning, computer-based learning, virtual classrooms and digital collaboration[5].

ASTD even includes the delivery of content via audio and videotape, satellite broadcast, interactive TV and CD-ROM in its definition of e-learning. The Open and Distance Learning Quality Council in the UK presents e-learning as:

> The effective learning process created by combining digitally delivered content with (learning) support and services.

In a similar vein, Mason and Rennie (2006) argue that e-learning refers to the major forms of teaching and learning that are enabled or facilitated in some way by computers and the Internet to deliver a broad array of solutions with the purpose of enhancing knowledge and performance.

As indicated in the definitions above, e-learning addresses a wide range of technological tools to support learning, which has evolved as an innovative solution for creating and broadening access to education and improving its quality. A number of these definitions focus on communication (interaction), some on technology (medium), and still others on the type of content (learning resources) in order to deliver and facilitate learning, anytime, anywhere and at any pace.

Apart from the technological point of view, it can be stated that the definitions of e-learning cover a broad range of learning and teaching scenarios. They range from transferring knowledge to networked learning and CSCL. Each pedagogical scenario can have a specific mix of e-learning dimensions. Some of the e-learning dimensions are shown in the following Table.

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[4] http://ec.europa.eu/information_society/eeurope/2005/all_about/elearning/index_en.htm

[5] http://www.astd.org/lc

Table 7: E-learning Dimensions

INTERACTION	TIME	TECHNOLOGY	MEDIA
Student- E-learning environments Student - Student Student - Teacher Teacher-E-learning environments Learning community Learning resources	Asynchronous learning Synchronous learning Both of them based on necessity	Hardware e.g. Personal computers, notebooks, video conference, other mobile devices, etc. Software e.g. LMS, CMS, Forums, authoring tools, wiki, weblog, groupware, etc.	Text Sound Picture Video Animation Simulation Interactive Resources etc.

It should be noted that, it is not possible to give a comprehensive list of all e-learning scenarios as the concept seem to be applied very differently, covering a spectrum of activities from supported learning to blended learning.

I agree with the National Association of State Boards of Education I agree with the National Association of State Boards of Education (2001) that to have effective e-learning environments, any mix of the given dimensions should consider the following dimensions "any *Time*, any *Place*, any *Path* and any *Pace*". It can be stated that the two-dimensional online model mentioned cannot accommodate the "any pace learning", thus, the given three-dimensional e-learning model with a "processing" dimension can provide a sound outline of e-learning (as shown in Figure 3). This implies that e-learning is best seen to be individualized, self-directed and undertaken at times convenient to the learner.

Given this, it can be said that "the promise of e-learning is that it can change the way we understand learning and offer new opportunities both to those who identify themselves as learners and for learning as it occurs in our everyday lives" (McAndrew, 2009, p. 52). In a similar vein, e-learning can include the whole range of an educational institution's procedures and activities and relates more to the totality of an institution's processes and standards than to individual products and tools.

Virtual Institutions

Along with continuous maturing of the e-learning market, higher education settings have been attracted by e-learning systems and solutions. In a similar

way, over the last five or six years a large number of off-campus higher education settings as well as other for-profit institutions have developed and made available virtual institutions, centers, programs and courses. In these virtual institutions "students and teachers and knowledge and problems come together as bits of information not as atomic substance" (Tiffin & Rajasingham, 2003, p. 16). These components come together by means of information technology (computers and telecommunications).

The "Virtual Institution", however, is not an unambiguous concept with a clear definition. This concept has been used for a wide range of "conventional" campus-based higher education settings offering online courses ("blended" institutions) as well as to "pure" virtual institution in the sense that all of their activities and procedures are conducted virtually via the Internet as at Phoenix University (Seufert, 2002b). Other concepts, which are occasionally used interchangeably to imply much the same, are "online university" and "e-university".

As mentioned in the first chapter, most of the traditional higher education settings (either in developed or developing countries) have established, in addition, a virtual campus that offers online programs/courses along with their conventional programs. These virtual settings are usually based on and furnished as a specific conventional university model. In other words, they utilize a pool of existing resources from the on-campus university. In some cases, the traditional campus-based universities are also the founding partners of an additional virtual institution (e.g. Harvard Business School and Stanford University founded an alliance for presenting different programs) (Seufert, 2002b).

In this study, a *virtual institution* is seen as a technologically mediated space that incorporates all teaching and learning activities, the people who use it to interact with each other and who create it and the content it represents, the infrastructure that supports it, the administrational mechanisms that surround it; in short, all the people, the concepts, all the structures and things that are a part of this environment. In other words, a higher education setting that offers a conventional university's services (including teaching) through communication and information technologies. This form of "digital technology-enabled distance learning where all aspects of the study - managerial, logistic, pedagogical, organizational, and others - take place virtually

with the help of multimedia, Internet, conferencing, or by using the latest versions of the mobile phone technology" (Bramble & Panda, 2008, p. 7).

A Cultural Perspective on E-Learning

Cultural discourses and practices play an important role in shaping educational practices. In other words, educational activities are influenced, shaped and embedded in a specific culture at different levels, from individual practices to regional and national policies and practices. Similarly, when utilizing technologies to support institutional learning and teaching activities, it is important to note that technology is not a pedagogically neutral phenomenon; rather, it is a cultural-specific venture that is grounded and provided in specific cultural context.

In the same line of thoughts, e-learning as a cultural artifact can be seen to reflect characteristics that reflect the culture of its originators; from the types of pedagogies they prefer to their cultural expectations and values. By introducing e-learning (platforms, learning objects, etc.) which are mostly rooted and furnished in Western cultural contexts, cultural values and expectations in developing countries can be challenged. For instance, teachers in Western cultures are viewed as facilitators aligning with students. In contrast, teachers in Eastern cultures are usually viewed as authoritative experts whose authority should not be challenged.

Educational media as cultural artifacts fulfill an important mediating function across cultures and generations. People, as cultural agents, are at the core of this. In such a perspective, students', teachers' and other stakeholders' expectations about their lives, about the meaning of education, about knowing and learning are seen to significantly influence how educational practices are established and maintained (Johari, Bentley, Tinney, & Chia, 2005; Koskimaa, et al., 2007). Accordingly, it could be argued that educational tools and artifacts are not passive structures, but rather evolve and develop a value and life of their own.

Cultural theoretical approaches offer a foundation for considering culture as an integral part of educational and instructional practices and learning. According to Aykin (2005), 'socio-cultural design' needs to become a priority issue in designing and developing e-learning environments. Vygotsky (1978) argues that interpretation, the transformation of education as a cultural

practice, is fundamental to the transformation of society. Educational technologies such as "cultural medium" provide the means for the propagation of cultural values in the given educational practices.

Accepting the view that culture is an integral part of every aspect of instructional design (Edmundson, 2003), we can expect to see the cultural issues to be considered in designing and providing e-learning in terms of provided services and products (Collis, 1999). However, as Marginson (2004) contends there has been little focus on considering culture when developing products and implementing e-learning services.

Cultural Considerations in Design and Use of E-Learning Environments

The design and the use of technology to mediate learning are imbued with cultural values and assumptions. Considering educational culture(s) in design and use - bringing culture to the nexus of discussions and enactments (i.e. what people do and how they do it) in designing e-learning, and seeking to align teaching and instruction to the cultural contexts of diverse learners - challenges mainstream notions of teaching and learning.

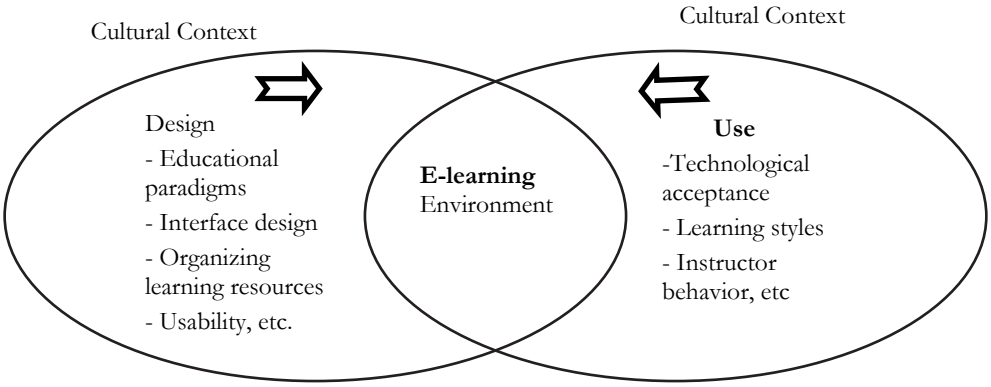
There is an extensive consensus that culture could have very strong influence on the design and use of learning environments as well as the type of communication (cf. Seufert, 2002a; Young, 2008). Accordingly, the inclusion of cultural values and expectations when designing and developing of e-learning environments can be considered to be a move to insure the success of e-learning. These cultural values can have a strong influence on the design and use, as well as the behavior of the participants involved. It should be noted that designing and developing e-learning environments based on cultural values and expectations is more than simply helping learners with their identity or helping learners with examples that come from their own culture (Seufert, 2002a).

Further, it needs to be mentioned that culture itself cannot be objectified as just another 'abstract' factor to be programmed into designing and using e-learning environments. Culture in general, and educational culture in particular, is a fundamental dimension that permeates education on different levels, influencing design and use as well as the different actors who are involved (for example, designers, teachers, administrators, students). In other words, culture and learning, as McLoughlin (1999) has stated, "are interwoven and

inseparable". The inclusion of a cultural dimension in the design and use of e-learning is thus a move to improve the quality of e-learning.

According to Seufert (2002a), the cultural impact on e-learning can be viewed from two core perspectives: design and use.

Figure 4: Impact of cultural contexts on the design and use of e-learning environments



As shown in Figure 4, the cultural context impacts on e-learning environments in different ways particularly on *Designing* and *Using*. Its impact in design is initially by posing epistemological and educational paradigms, organizing learning resources and so on. Additionally, it has an impact on the use of e-learning in terms of *acceptance* and use of *technology*, selecting learning and teaching scenarios, learner and tutor behaviors, etc.

This distinction is important for several reasons. As Wenger (1998) stated, it is only possible to design for learning (for example, by designing a technology, a curriculum, a method, a teaching and learning material, a learning environment, etc.) and not design learning (or for that matter teaching) per se.

As noted, e-learning models, technologies and curricula are often designed and developed in a cultural context that differs from the one in which it is used. While in one culture an educational product is very successful, in another culture it is not appropriate. In other words, instructional designs and their use do not exist in a vacuum; nor are they culturally neutral. As part of their social and cultural fabric, they influence and are influenced by specific world views;

gender, culture, values, and ideologies; selected learning theories; and specific instructional paradigms (Henderson, 1996).

Correspondingly, e-learning frameworks and products (e.g. LMS, CMS, etc.) cannot be transferred in an isolated manner without their culture-related roots and the cultural context in which they are produced (Watson, Ho, & Raman, 1994; Wild & Henderson, 1997). For instance, every culture consists of a distinctive symbol system and artifacts that capture and codify the important and common experiences in any context. Accordingly, it is important to pay specific attention to these cultural issues and accommodate them in ways that meet the different role players' expectations. Aligning while considering cultural issues when designing and developing e-learning environments and attitudes of role players (particularly teachers and students) in e-learning environment towards the "use of technology" should be addressed (Van den Branden & Lambert, 1999).

It should be noted that culture influences in the process of designing and using e-learning systems can appear at different levels of society, institutions, groups, the individual, and the subject matter discipline (Collis, 1999).

Summary

This chapter has investigated a range of different technologies that make up distance learning (or e-learning) and has also explored how the various technologies have evolved from the correspondence mode of learning to Web 2.0 in order to meet increasing social demands for higher education. The increased use of ICT in higher education has not only affected the structure, procedures, and teaching in these educational settings, but these changes have also affected the key actors' role and performance.

When addressing different approach to distance learning, it is emphasized that distance learning is associated with technological advances. Similarly, in ICT-supported distance learning, greater emphasis has been placed on the technology than the pedagogy. As a general summary, it was noted that in a broader view, e-learning can be seen as a transformation process that must be aligned with the traditional off-campus institutions' capacity to deploy learning. Along with these issues, I have discussed different generations of distance learning, sketched the structural affinity between distance education and e-learning, described the pedagogical structure of the e-learning environments

and virtual institutions and also discussed the preliminary approaches to e-learning.

Next, by addressing ICT-based initiatives in education as a cultural artifact, an overview of cultural issues in e-learning including embodied values and expectations was drawn up. By addressing cultural issues in e-learning, it was pointed out that there are certain context-specific cultural factor indices – as well as educational attainments – that affect the access to and design and use of ICT in educational settings. These factors/dimensions must be recognized and analyzed for e-learning to be properly adapted to and developed in educational contexts.

CHAPTER 4

MAPPING QUALITY IN EDUCATION

Quality improvement is a journey rather than a destination. To begin this continuous journey, this part of the thesis will present a discussion of quality and what quality is about as well as its dimensions as a service. This will be followed by a discussion about quality approaches in general and in the field of higher education more specifically. Next, an overview of the quality of e-learning, along with the main quality measures in virtual institutions, is outlined.

Quality: An Introduction

Quality is one of the foremost concerns of public services such as in higher education. This issue is becoming more complicated as these services are increasingly encountered in the external environment. Despite the growing body of knowledge about quality and quality in public services, there is no consensus on what is quality and how it should be measured. In other words, *quality* is a difficult and elusive concept to define, which lends itself to varied and ambiguous interpretations (Fallows & Bhanot, 2005; Harvey & Green, 1993) that are impossible to define with any degree of universal consensus.

At the root of the word *'quality'* lies the Latin word *qualis*, meaning 'of what kind'. This denotation of quality targets the inherent features of a product or a supply of services. By making an attempt to specify (clarify) this abstract concept, a host of different understandings of quality can be found. To address this concept, in the same way, a number of concepts such as "value", "condition", and "excellence" have frequently been used in dictionaries, books, etc. Quality is often linked with words such as 'assurance', 'enhancement',

'development' or even zero defects, and conformance to specifications (Fallows & Bhanot, 2005).

Given these difficulties in defining of this concept, quality has mostly been viewed as a collection of characteristics, differing from service to service, which cannot be defined *per se* (Fresen & Boyd, 2005; Gaster, 1996). Similarly, a large number of definitions have been given by politicians, academician, mangers, customers, educationalists, etc. to characterize this multi-dimensional concept. Each definition has been linked to the goals, value, experiences, and contexts of those introducing them. For instance, Crosby (1984) defines "Quality" as the "conformance to requirements" while Juran and Gryna (1998) are more customer-oriented in their definition of quality, stating that it is "Fitness for use", Feigenbaum (1991) has defined it in terms of the "fulfillment of customer expectations and requirements "customer satisfaction", Burill and Ledolter (1999) have defined quality as meeting the "requirements" and finally International Organization of Standardization (ISO) defines quality as "the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs"[1];. This implies that there is no unique definition or understanding of quality that is widely accepted in different contexts, although most of the definitions provided are highly correlated.

This indicates that quality has both "subjective"(expected and perceived quality), and "objective"(fitness for use or conformance to specification) components, both of which need to be considered in any attempt to define quality (Dondi, Moretti, & Nascimbeni, 2006; Gaster, 1996). It could be said that quality as a multidimensional concept can be viewed from different perspectives according to the interest of different stakeholders (role players) in a specific context.

Quality Approaches

A wide variety of approaches and classifications of quality have emerged based on the given interpretations of quality. These approaches have been developed and implemented mainly in industrial contexts, which in turn have transferred to service sections such as business and education (higher education, schools, and e-learning). Unlike industrial arenas, quality approaches in public services such as education are highly contextualized and dependent upon given context

[1] http://www.iso.org/iso/iso_catalogue/management_standards.htm

(Pawlowski, 2007). Accordingly, the notion of quality in these services can differ based on the question of quality for *who*? *Why*? *When*? and *How*? (Husson, 2006).

Addressing these concerns about quality approaches, Pollitt (1992) provides a brief overview of 'what are quality approaches' in public services:

> If one asks who determines what a high quality service is? At least two very different answers are possible. On the one hand it could be those experienced in providing the service, especially if they are professionals such as doctors, lawyers, teachers and so on. But equally one might argue that in the end it is those who use the service who can tell whether it is of high quality or not. If it meets their wants and needs, it is a quality service, if it does not, it is not (p. 3).

Pollitt (1992) outlines a number of different approaches to quality and concludes that: "[f]or all these reasons a single, generic approach of quality in public service is hard to establish" (p. 3). Applying the same line of thought, Ehlers and Pawlowski (2006) contend that there is no common understanding of the terminology or the methodology of quality because quality, as a multi-perspective construct can be viewed from a variety of perspectives and dimensions including:

- Different interpretations of quality
- Different stakeholders with different perspectives on quality
- Different forms of quality (input, process, output quality)

The corresponding understanding of quality is the main factor in leading "quality improvement/enhancement" (Pawlowski, 2007). As I have argued in previous parts of this thesis, there is no unique and universal definition and interpretation of quality. Rather, its definition can range from "fitness for purpose and standards" to "customer satisfaction". However, these interpretations of quality are, as I see it, too generic to be applied in, for instance, educational contexts.

Along with different definitions and interpretations of quality, there is a broad range of stakeholders' perspectives. For instance, in educational systems there are stakeholders such as teachers, administrators, students, parents, employers, governments, etc., who participate in establishing a framework for continuing education. In general, each of these actors or stakeholders can have different and even contradictory requirements on and interpretations of quality. It is, therefore, Ehlers and Pawlowski (2006, p. 4) argue, "important to regard

quality not as a static element but as a negotiation process between different stakeholders involved in the social process" (p. 4)

Another categorization of quality approaches can be made based on their methodology and focus. According to this perspective, quality approaches can be classified systematically, based on the forms and focal points of input-oriented methods which focus on the quality of the resources utilized for processes of achievement; Output/outcome-oriented methods that assess products (ex post facto), whether and to what extent targeted objectives were actually met. *Process-oriented* methods focusing on potentials that are objectified within the organizational structure; and finally *participant-protective* and *demand oriented* methods that provide results of product tests or criteria for a demand-related evaluation of products being offered on the market (Reglin, 2006).

In another approach, the notion of quality can also be defined based on its outlooks and outcomes. Biggs (2001), for instance, categorized quality approaches based on their goals and outlooks in two main categories: retrospective or prospective.

Retrospective quality looks back at what has already been done and makes a summative judgment against external and predetermined standards. The main agenda in this type of quality approach is managerial rather than academic, with accountability as a high priority; procedures are often undertaken hierarchically (top-down), and bureaucratically. This approach is, as Biggs (2001) noted, "despite the rhetoric not functionally concerned with the quality of teaching and learning, but with quantifying some of the presumed indicators of good teaching and good management, and coming to some kind of cost-benefits decision" (p. 222).

The distinction between retrospective and prospective quality is critical. Prospective quality is concerned with enhancing and assuring ongoing activities by providing just-in-time and just-in-place feedbacks whereas the retrospective approach to quality deals with "Quality Control and Assurance" focusing on checking and evaluating to determine errors and compliance with predetermined standards and desired outcomes (Doherty, 2003).

In other words, prospective quality is not concerned with quantifying aspects of the system, "but with reviewing how well the whole institution works in achieving its mission, and how it may be improved. This is analogous to what an individual reflective practitioner does" (Biggs, 2001, p. 223).

Approaches to quality could also be categorized based on who assesses/assures quality (auditor) in *Internal* versus *External* approach. In an Internal approach to quality in higher education institution, the main emphasis is placed on institutions continues development through self-evaluations. On the contrary, the External approach centered on quality assurance through auditing institution performance based on the predetermined standards defined by people or agencies from outside of system.

Service Quality and Its Dimensions

The foremost feature of services is the fact that services are processes, not goods. Other accounted features of service quality such as customers' participation in the service production process follow from the process characteristic. This signifies that in producing a service, there is no concrete product, but an interactive process. Accordingly, the construct of service quality can be conceptualized as the "consumer's judgment about an entity's overall excellence or superiority" (Zeithaml, 1987, p. 4) which lies in the eyes of the beholder. In the context of service, definitions provided share a common focus, that quality is about putting the right service in the hands of the customer, at the right time and at a reasonable price. Thus, it can be said that the focus on "service quality" is very much one of satisfying a verity of stakeholders (customers).

In this approach to quality, consumers are not seen to consider quality as one fits all but rather as made up of multiple dimensions. Correspondingly, the objectivistic approach to quality, "conformance to requirements or specification", cannot be enough on its own in public service. The "perceived quality" of the service can be different according to those who receive that service and whether it has been adjusted according to their expectations and needs. However, the quality of service is a multi-dimensional construct. Accordingly, it is critical to figure out what dimensions can construct the stakeholders' perception of quality. Several models in the literature have described what constitutes quality in service.

For instance, Garvin (1987) proposed eight dimensions of quality that, as he pointed out, can deal with both product and service quality, although these dimensions seem to be more product-oriented.

Performance: Performance refers to the primary operating characteristics of a product. For instance, the performance of a car comprises traits like

acceleration, handling, cruising speed, and comfort. The noted attributes could be easily measured and ranked.

Features: Features address the characteristics that supplement the basic performance functions.

Reliability: Reliability is defined as the probability of a product without any malfunctioning or failing within an assigned time.

Conformance: Conformance addresses the degree to which a product meets established standards in design and operation.

Durability: Durability "as a measure of a product life" has both economic and technical dimensions.

Serviceability: Serviceability refers to repairs and services provided. Speed, courtesy, competence, and ease of repair are considered in this dimension.

Aesthetics: Aesthetics as a subjective dimension of quality takes into account the personal judgments and reflections of customers such as "how a product looks, feels, sounds, tastes", etc.

Perceived quality: Perceived quality considers the reputational factors of a product or service among the population (the customers' understanding of a product or brand).

As the above list illustrates, the quality dimensions of a product are far from those of a service like higher education. To overcome this problem, Parasuraman *et al.* (1985) and Zeithaml *et al.* (1990) have proposed following set of dimensions based on the customer-perceived quality which they have named "SERVQUAL" measure. This measure (SERVQUAL) is developed on the basis of a service being viewed as high quality when customers' expectations and desires are confirmed by subsequent service delivery (O'Neill & Palmer, 2004).

In their early model, they come up with ten dimensions including Tangibles, Reliability, Responsiveness, Competence, Security, Access, Courtesy, Credibility, Communication and Understanding the customer (Parasuraman, et al., 1985). In a later study, they modified and reduced the ten factors to the following five factors:

- *Tangibles:* i.e. physical objects and facilities, personnel, and communications that are needed to carry out the service
- *Reliability*: i.e. ability to carry out the services in a way that is promised (accurately).

- *Responsiveness*: i.e. prompt service according to the needs of the customers.
- *Assurance:* i.e. knowledge and politeness of employees and their ability to inspire trust and confidence in their customers;
- *Empathy*: i.e. the caring, individualized attention that employees gives to its customers (Zeithaml, et al., 1990).

The aim of the SERVQUAL scale was to measure the extent of gaps between consumer expectations or desires and their perceptions of what they have received. This framework is seen to be an effective measure for qualifying a wide range of services (Parasuraman, et al., 1985; Zeithaml, et al., 1990).

From another perspective, Grönroos (1990) argues that the quality of a service as perceived by customers can have three dimensions, including *a functional (*or process) dimension*,* a *technical (*or outcome) dimension and an *image (*prestige, different levels of image e.g. brand, product or company level) of the service provider. Functional dimensions focus on "how" the service is provided, such as the behavior of customer-service provider staff and the speed of service.

Garvin's (1987) eight dimensions can be articulated in Grönroos' functional dimension. While technical quality focuses on "what" and considers "what is received by the customer"; this aspect is not addressed explicitly in Garvin's framework. In assessing and assuring a service, however, all of the noted dimensions need to be considered. In other words, utilizing one of the dimensions cannot explain and/or predict consumers' behavior (Allred & Addams, 2000).

Quality in Education

Similar to other services, quality and quality assessment have become central issues in educational settings in general and in higher education in particular. However, quality in education is totally different from quality in industry or other services, as education can be characterized as "way to be", that its (products) successes are dependent on students' active participation (Branden, et al., 2004; Mukhopadhyey, 2005). In other words, it is a process rather than a delivery of finished products. This process, which covers the human journey from "womb to tomb", changes the human propensities to evolve and unfold it until the last breath.

Services as consequences of industrialization have contributed to the rise of quality movements in educational settings. Along with other public services, a wide range of definitions and interpretations of quality from "Zero Defect" to "Transferring and Value added" have appeared and been employed in such settings. In these definitions, students are considered as customers of an educational system who acquire qualifications and degrees. However, the language of "conformance to specification", "zero defects" and "customer satisfactions" in the sense of "the customer is always right" that have flooded from the industrial world can seem slick and meaningless, which can be more of a hindrance than a help (Eagle & Brennan, 2007; Gaster, 1996).

Given the aim and nature of education, it can be said that quality needs to be defined as a relative concept and normative act vis-à-vis a specific context. This implies that industrial quality models and approaches cannot work in educational settings due to education being intrinsically "different" from other services. Accordingly, the use of industrial and market-place metaphors in educational settings can do nothing but harm the educational process (Eagle & Brennan, 2007).

Quality in Higher Education

There is a rapidly increasing social demand for high quality higher education all over the world. These increasing social demands have been met through the "massification" of higher education in both developed and developing countries Along with such massification of higher education, the universities have faced new challenges and pressures such as an increasing number of students and academic unemployment. This implies a mismatch between the qualifications gained by students and the demands of the labor market and international competition for students as well as the participation of private finance in higher education. Higher education institutions also need to prove that quality standards are assured and enhanced (Castelluccio, 2006).

Consequently, the issue of how to assure and how to improve quality has evolved from having a marginal position to being the foremost concern in the context of higher education. Similarly, in the last decade, a large number of countries, particularly in the Western world, have established national or regional systems for assessing and assuring quality in higher education institutions.

Accordingly, a broad range of metaphors have been developed to address quality in higher education, e.g. "excellence", "best practices", "quality learning interventions", "instructional design standards", "infrastructure standards", "teaching and delivering standards", etc. As it is argued, defining 'quality', especially when the intention is to employ the definition as a definitive framework for quality in higher education, is problematic (Ratcliff, 2003; Watty, 2003). As I have pointed to in previous parts of this thesis, there is no single, universally accepted definition of this concept. Rather, "the definition is a matter of negotiation between the different parties involved" (Kekale, 2002). Similarly, Green (1994) argues that it is necessary to define the criteria that each of the key actors use when judging quality and, eventually, take all these competing views into account.

Srikanthan and Dalrymple (2007) argue that quality initiatives in higher education can be articulated in two main phases. The first phase, pre-1990s, refers to quality in terms of *controlling*, as "a means of ensuring the basic standards", and the second phase, post- 1990, emphasizes *Total Quality Management (TQM)* in educational settings aimed to "spur the institutions to adopt formal systems of quality management on the lines of businesses rather than the traditional loose regulation or indirect controls" (2007 p. 175).

In a similar way by "the mid-1990s, self-assessment, supporting documentation, peer review, and a public report were the mainstays of external quality monitoring processes" in most countries (Harvey, 2005, p. 270). He argues that the higher education institutions in, for instance, the British system, were faced with five external processes including: "subject-based teaching quality assessment, institutional audit, the research assessment exercise, professional and regulatory body accreditation, and external examining" (Harvey, 2005).

A large numbers of models for qualifying higher education institutions have been developed. It can be claimed that almost all these models are rooted and cultivated in Western world (Bazargan, 2001; Billing, 2004; Castelluccio, 2006; Damme, 2003, etc). These models can be categorized in four basic quality approaches: the American approach, the European Continental approach, the British approach and the Scandinavian approaches. The American model tries to improve the institutional programs and give guarantees to the stakeholders. It focuses on the achievement of institutional goals. The European Continental models for quality in higher education are based on extending the guarantee

not only to the stakeholders, but to the gatekeepers and Governments as well. Peer assessment is usually adopted in these environments. The British model emphasizes academic certifications and standards, mostly through peer assessment and performance indicators. Finally, the Scandinavian models are a diversification of the European Continental models, introducing accountability purposes and external assessment practices (Dumont & Sangra, 2006).

Similar to the developed countries, there has been a movement to assess and assure quality in higher education institutions in developing countries such as Iran. To assure and accredit quality in the developing countries' higher education institutions, they have mostly relied on the models developed in the Western world, especially in the *Anglo-Saxons* context.

However, these initiatives for qualifying and ranking higher education institutions, as Bazargan (2001) stressed, did not succeed (were not put to practice due to resistance from principals) in some contexts, and in others, the outputs of this quality assurance were not consistent with the expected and accepted facts regarding the Iranian higher education. In other words, quality assurance measurements that purely focus on conventional higher education quality goals (e.g. physical infrastructure such as libraries, public working spaces) are claimed to negatively affect the overall quality because they result in the inefficient use of funds and capacities in new and changing educational environments (Wirth, 2006).

Defining Quality in Educational Settings

Indeed, defining quality is implicitly considered to be at the heart of the search for quality assessment/assurance in educational contexts, but question of what quality in education would or should be is seldom voiced. Similarly, Ratcliff (2003) highlighted the fact that implicit assumptions about quality are often unspoken. Different interpretations of quality in education shape and influence what counts as an adequate demonstration of quality and what data should be collected for that demonstration. In other words, the definition may differ for different stakeholders (educators, administrators, politicians, etc.), which means that the indicators used to size quality in educational settings may also differ.

To tackle this problem, Biggs (2001) suggested that one mechanism for defining quality in higher education settings is to ask: "are our teaching programs producing the results we say we want in terms of student learning"? Rather than offering any direct answers, this sort of question inevitably results

in further questions such as: What is the difference that we are expecting? How will this difference appear? How will we recognize it? What data will serve as evidence of success or failure? And how can we measure it?

Haworth and Conrad (1997), describing a set of guiding principles for enhancing quality in education, offer a definition of quality that can provide a potential framework for answering these questions. They argue that high-quality programs are those that "contribute to the learning experiences of students that have positive effects on their growth and learning" (p. xii).

Biggs (2001) stated that quality assessment in educational settings should not be concerned with quantifying aspects of an educational system or programs. Rather, the emphasis should concern reviewing how and to what extent an institution and/or a program have achieved their mission and how it may be improved. This perspective on quality, thus, emphasizes the practices and relationships that are maintained within specific teaching and learning contexts (Barrow & Curzon-Hobson, 2003).

Discussing quality in higher education, Harvey and Green (1993) propose five discrete but interrelated ways of thinking about quality (see Figure 5):

Quality as exceptional: Quality is regarded in terms of excellence, which means something special or exceptional. High standards are exceeded (usually there are scales or steps for their achievement and a cutoff point).

Quality as perfection or consistency: The focus is on processes and specifications that are intended to be met absolutely. Excellence, in this case, means "zero defects", i.e. perfection.

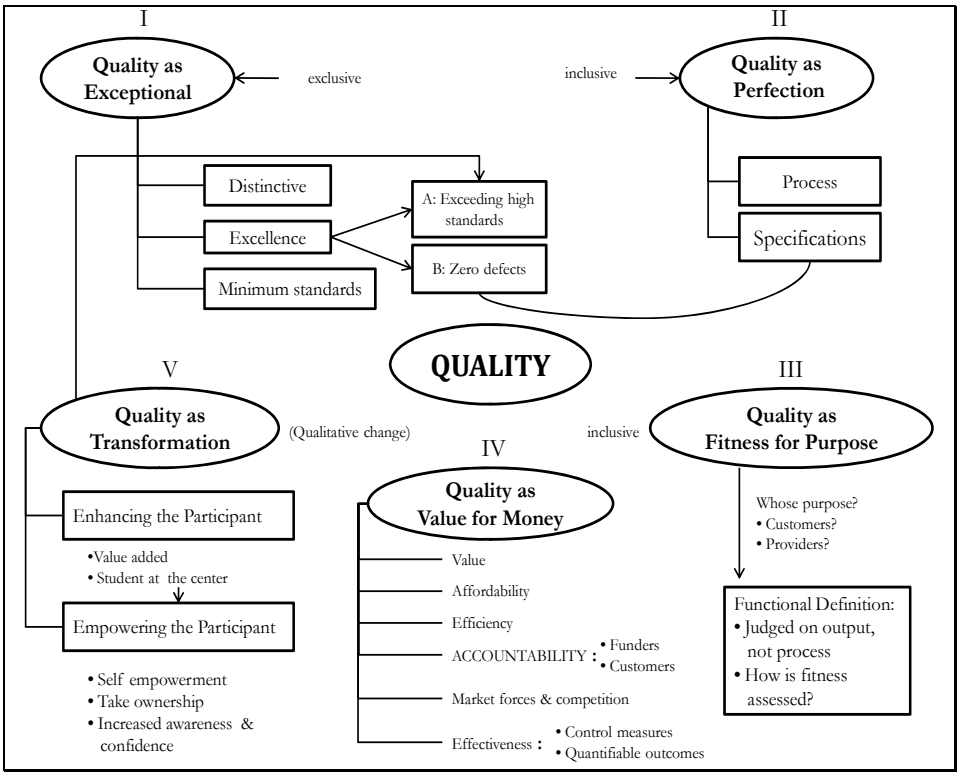
Quality as fitness for purpose: Quality is defined as conformance to specific goals and objects in educational settings. In traditional quality management, the "fitness for purpose" notion is related to the key stakeholders' perception and desires that form perceived and expected quality. In higher education, however, Harvey and Green (1993) see the view of quality as "meeting customers' requirements" as problematic due to the contentiousness of the notion of "customer" and the difficulty, for instance, for students to specify what is required.

Quality as value for money: Quality is equated with levels of specifications and is directly related to value for money/cost-benefit analysis.

Quality as transformation: Quality as *transformation* sees quality in terms of change from one state to another. In educational settings, transformation refers to the value added, enhancement and empowerment of students or improving

students' skills and capabilities (continuous qualitative changes/improvement) (cf. Harvey & Green, 1993).

Figure 5: Different notions of Quality



Adapted from Harvey and Green (1993)

As Biggs contends, three interpretations of these definitions are more common in educational contexts.

- *Quality as value for money*; which sees quality in terms of accountability and conforming to externally imposed standards. A "quality" institution in this view is one that satisfies the demands of (public or private) accountability.
- *Quality as fit for the purpose*; which has a prospective approach to quality. Universities have several purposes, with teaching and research as the most important. The main concern here is restricted to the purpose of getting students to learn effectively, and to accredit that they have learned to publicly recognizable standards. The basic question in this

regard is: Are our teaching programs producing the results we say we want in terms of student learning?

- *Quality as transforming*; this item also has a prospective approach to quality which emphasizes added value as well as maintaining and enhancing quality (Biggs, 2001).

These definitions cannot/should not be viewed separately, but in educational settings they could be seen as a "matrix for defining quality" (Lomas, 2004). In a similar vein, Watty (2003) argued that these apparently separate categories have the "potential to overlap at the margin", that stakeholder conceptions of quality cannot simply be classified in only one of the five categories.

Since educational institutions do not aim to produce standardized products that are free of defects, Watty (2003, p. 214) argues that "perfection/consistency" should be removed from the Harvey and Green (1993) categories, being inconsistent with the "exploratory nature of education".

Furthermore, Watty (2003) suggested that the remaining four concepts of quality (excellence, fit for purpose, value for money, transformation), if understood as a matrix, have the potential to form the basis of an analytical framework for considering quality in higher education. Since the concept of quality shapes how assessment of quality is conceptualized (Watty, 2003), an understanding of these different interpretations of quality has the potential to assist in the analysis of the priorities that various stakeholders bring into their evaluation of quality in higher education.

Similarly, Ellis and Moore (2006) contend that the first two definitions of quality are consistent with a notion of superiority, while the second two definitions are consistent with more industrial models of quality, which focus on a product or service. In contrast to the given definitions, the quality as transformative is based on a notion of fundamental change in form, which enables students:

> To deploy a number of frameworks and to stand outside them; to have a commitment to continued learning and reflection; to be able to do this with a high degree of autonomy; and to … integrate this with a set of developed values related to the self as a learner and doer (Harvey & Knight, 1996, p. 107).

It can be said that this notion of quality may be particularly appropriate in educational settings as it refers both to the empowerment of students as well as

the transformation of an institution. Quality as transforming has a prospective approach to quality, which emphasizes *enhancement*, *empowerment* and *value added* as well as maintaining and enhancing quality (Biggs, 2001). In education, the transformation can take place through students' active participation in transformative procedures.

Quality as Co-Production in Education

When providing and assessing service as a behavioral entity rather than a physical one, the consumer is required to contribute to the information and/or effort *before* the service transaction takes place (Hill, 1995). In other words, the consumer's expectations and desires constitute the "raw material" that is transformed by the service provider into a service product. Consequently, the "consumer contributes directly to the quality of service delivered, and to his/her own (dis)satisfaction" (Hill, 1995, p. 13).

In addition, many service encounters require close personal interaction between a service provider and a consumer. Whether or not such interaction is perceived by the consumer to be satisfactory may depend on a variety of factors, ranging from the appearance of the service provider and his/her perceived competence to the personality characteristics of, and the interpersonal communication between, the participants.

Rinehart (1993) highlighted two distinct views of students in educational settings: students as customers (primary customers are regarded as being involved in the input and output of the learning process) and students as potential employers. However, the concept of customer-defined quality in educational settings is problematic (Houston, 2008). Students are not passive recipients of educational services, rather, their participation in an array of learning activities "co-produces" their education (Hennig-Thurau, Langer, & Hansen, 2001). Unlike other services and tangible products in which all finished goods or services are produced while being consumed, in educational environments students are not only consumers of products but also co-producers of these same products.

Similarly, students' active participation or co-production is an essential ingredient in ensuring and improving quality in educational contexts. Along with interaction between teacher and students, interactions among students are also very important in enhancing and assuring quality in such settings.

Thereafter, students should not/cannot be viewed as "customers or consumers of knowledge" (Layte & Ravet, 2006). In a similar way, with regard to the view of students' active participations in the education process, some services-marketing theorists argued that students ought to be regarded as "partial employees" of educational systems (Kotzé & Plessis, 2003). As Ehlers (2006) pointed out, this approach to quality, by considering students as co-producers, strengthens the influence of the students when defining quality in educational environments.

From this perspective, active student participation is an essential factor in defining and enhancing educational processes that can assure outcomes of educational settings. Thus, an "active negotiation process as a specific condition" for assessing and enhancing quality should be taken into account proactively in educational environments (Ehlers, 2007).

Quality Models in Higher Education

As mentioned, a large number of quality models and approaches have been initiated in public services such as higher education. As pointed out, most of these models and approaches were transferred from the industrial world to public services. A critical analysis of quality approaches in general and in public services in particular can reveal different ways of tackling the so-called quality challenge (Wirth, 2006). Similarly, for selecting an appropriate approach from the jungle of quality approaches and models, these different approaches need to be described, analyzed, and compared.

Among quality models with their roots in industry, Quality Management Approach, Benchmarking, Cost-Effectiveness Analysis and Accreditation are widely used in public services, especially in higher education (Quinn, Lemay, Larsen, & Johnson, 2009). Many of these models and techniques aim to "control" and "assess" quality, some of them aim to "assure" quality and some of them have a specific emphasis on "quality enhancement". However, these models can be categorized in a broad continuum from accountability to improvements. In the following section, I will outline three models that are widely known in higher education settings.

Quality Management Approach

Quality Management is a process-oriented approach to quality that takes a systematic approach. It needs to be noted that process-oriented quality

management is a generic term for a broad range of quality models designed to "Enhance" and continue the improvement of a system, in the sense of a continuous enhancement process which is never fulfilled, but must always be evaluated and further improved (Stracke, 2006).

A wide range of quality models can be counted in this approach. They include Total Quality Management (TQM), European Foundation for Quality Management (EFQM), Quality Function Deployment (QFD), Six Sigma, and the ISO family as in ISO 9001. Interestingly, EFQM, TQM, and the ISO family standards are most common in European higher educational settings (Dumont & Sangra, 2006). It can be said that quality management approaches emphasize continuous enhancement far more thoroughly than other approaches (which have a strong stress on control) and can be used in educational settings. In other words, in these approaches, quality models generally do not follow a product-related quality approach; rather, they are focused on creation, implementation, and performance processes.

Total Quality Management

Total Quality Management (TQM) can be defined as a "way of managing to improve the effectiveness, efficiency, cohesiveness, flexibility, and competitiveness of a business as a whole" (Quinn, et al., 2009, p. 142). It is argued that TQM as a holistic management system introduce and encourages a culture of quality. In such a culture "everyone, whatever his/her role, task or position in the organizational hierarchy is responsible for the management of his/her contribution to the whole (hence "total")" (Doherty, 2008, p. 258). Due to its generic scope, TQM can be applied in different contexts.

Total Quality Management principles are reflected in different quality systems including: International Organization for Standardization (ISO series): ISO 9001:2000, ISO 10015:1999", The European Foundation for Quality Management Model (EFQM) for excellence, and the British Quality Foundation Model (BQFM). In a similar way, Stracke (2006, p. 93) contends that "the main objective of EFQM is the dissemination and implementation of the TQM philosophy in Europe". Among the different aspects of TQM, a focus on customer, process-orientation and continuous enhancement are the main notions that can have direct implications in higher education settings.

Benchmarking

Benchmarking, which is as a widely used method for *assuring* quality in higher education, grew out of the Total Quality Management (TQM) movement, and has become an accepted *accountability* measure in public services.

In this model, "Learning from others and adopting 'best practice' is a distinctive feature of the benchmarking process" (Jackson & Lund, 2000, p. 4). Jackson and Lund (2000, p. 4) defined benchmarking as "analyzing performance, practices, and processes within and between organizations and industries, to obtain information for self-improvement". Similarly, benchmarking could be defined as a systematic method of self improvement that uses others' good practices and learning to enhance one's own processes and products (Hawksley & Owen, 2002). Accordingly, the practices and outcomes in one setting are compared with what is achieved by selected practices and outcomes operating in a similar sphere.

As Jackson (2000) argues, elements and forms of benchmarking can be found in a number of processes with different names. A*ccreditation* is the most common process in higher education settings. This process is an external quality review that scrutinizes higher education institutions and programs for quality assurance. In such accreditations, the overall operation and practices of an institution or university are measured based on the predetermined benchmarks.

Benchmarking enables an organization to see how its performance compares with others. It can also indicate (what is) good or poorer practices by means of comparisons with established best practice and patterns. The process, which is commonly used as a model and a target in industry, involves comparing local practices with known best practice to determine where there is a need for improvements. In industry, benchmarking is systematically used as a quality assurance process to identify examples of excellence and best practice, and then such examples are used as a standard for comparing outcomes and practices (Achtemeier & Simpson, 2005).

Moreover, benchmarking is becoming an increasingly important approach to quality assurance with universities wishing to demonstrate their quality in relation to external standards. External comparisons can be used to strengthen claims for verifiable standards of quality. Benchmarking relationships with

national and international universities are often sought amongst institutions that feel they can learn from one another (Ellis & Moore, 2006).

Cost-Effectiveness

"Cost-effectiveness" is an economic concept, which is concerned with "comparing different ways of achieving the same objective such that the most cost-effective choice will be the least costly of the alternatives being compared" (Ng, 2000, p. 301). In other words, cost-effectiveness points to the relationship between inputs and outputs, although outputs in public service are characterized by their quality or value to their stakeholders.

Cost-effectiveness analysis, which is the third quality model to be discussed, has grown more and more popular in public services in the last decade, particularly in the overall resource allocation within an institution in order to ensure that limited resources are spent effectively. Cost-benefit analysis is a more specific type of analysis that requires both costs and benefits to be measured in monetary terms. It is not likely, however, that this kind of monetary analysis can be applied to the outputs of higher education institutions (Meyer, 2006).

In other words, in educational settings, the outputs and outcomes of the learning process cannot be totally quantified. Consequently, it is difficult to estimate the relationship between inputs and outputs and judge the effect of specific expenditures. Moreover, establishing the cost of the operation can be a complex task as it involves the identification of all hidden and non-financial costs, as well as distinguishing between start-up and recurrent operating costs (Ng, 2000).

Who's Quality?

The procedures in higher education have been articulated in two distinct ways: as service to students and teachers (administrative affairs, registration, information service) and as teaching and learning activities (Srikanthan & Dalrymple, 2007). The quality models such as TQM can be used in the institutions administrative affairs where the processes are tangible; the products have a narrow range; and the processes are customer-driven. However, it is difficult to apply quality models to teaching and learning because:

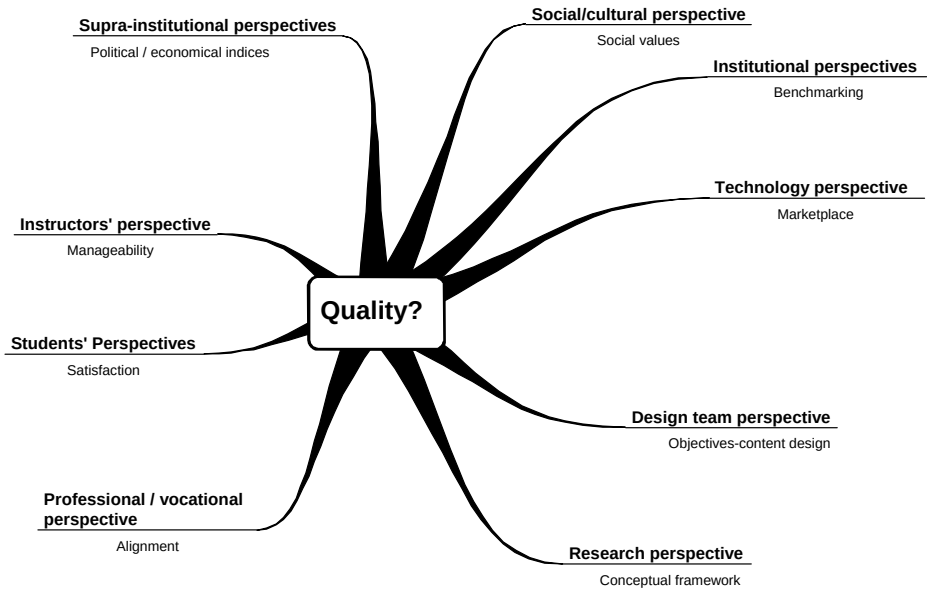
> *The quality management models are measurement focused:* the core processes of learning are too subtle to be measured meaningfully.

> *Product control is crucial for quality management:* teaching in higher education is too varied in its products, site delivered, delivery modes, processes and personnel to be controlled.
> *Customer focus is the key tenet of quality management models:* in higher education the identification of the *customers* is a critical problem. The customers can be students, employers, government, etc. (Srikanthan & Dalrymple, 2007 p. 179).

Apart from this distinctive aspect of learning and teaching, which make it hard to assess, a wide range of stakeholders can be referred to higher education. Since the definition of quality always takes place as a normative act, context and key actors' interests always influence the definition.

In other words, in any endeavor to define, assess and improve quality, the question of "quality for whom" necessarily arises. Should delivered quality satisfy the requirements of the founders, companies, etc. paying for the measure, or should it meet the learners' needs, or the teachers' needs (lectures, course designers. . .).

Figure 6: Quality from different perspectives



Adapted from Collis (2006)

As shown in Figure 6, quality reflects many perspectives, and these different perspectives on quality can vary based on key role players' (actors) definitions

and desires. Given such diverging orientations, it is not fruitful to start with any a priori approach. These stakeholders need negotiations and mutual confidence to guarantee a satisfactory product and their willingness to promote continued improvement of the delivered quality (Husson, 2004).

Quality in E-learning

Failing a number of e-learning projects (see chapter 1) along with the accountability movement in higher education have significantly amplified concerns about quality in e-learning (Inglis, 2005; McLoughlin & Visser, 2003; Oliver, 2005; Salmon, 2005). Further, the success and failure of e-learning projects brings up questions about the quality and conditions of these environments, e.g. what are the necessary conditions for successful e-learning and can these conditions guarantee that e-learning will be successful? (Oliver, 2005). Accordingly, concerns among practitioners (e.g. educationalists, providers and even politicians) with regard to quality in e-learning have grown when it comes to cost-effective ways to design and use technologically mediated learning (Hosie, et al., 2005; Oliver, 2005).

There is, however, no academic, social or political consensus on what quality of e-learning as a service actually is or ought to be. Similar to higher education, a wide range of models and techniques are addressing the quality of e-learning, ranging from market-oriented approaches, government-driven, consumer-oriented mechanisms and accreditation concepts to institutional strategies and individual instruments (Ehlers & Pawlowski, 2006). Thus, a number of e-quality models and frameworks have been developed to address issues of quality. However, in principle, three general directions can be identified when investigating quality of e-learning settings:

- *The service model approach*, which focuses on the providers' integration of quality with distance delivery and courseware through quality-assurance methods in courses and curricula, high quality support services, integration of the study of communication itself with the curriculum, and the Total Quality Management(TQM) model of consumer-oriented quality in methods and materials;
- *Stakeholder analysis model*, which focuses on defining quality for distance education, that is, involving more than the learning providers when defining quality and setting benchmarks;

- *Quality improvement model*, which involves ongoing evaluation such as qualitative assessment techniques to understand stakeholder values, and quantitative evaluation to provide indicators of quality and areas of concern (Barker, 2007)

Similarly, Ehlers and Pawlowski (2006; 2007) have placed quality approaches in two general directions including (see Table 8):

Table 8: Quality approaches in e-learning environments

STANDARDS' TYPE	PURPOSE	EXAMPLES
Generic quality approaches	- Concepts for quality management or quality assurance, (independent of the domain of usage)	-ISO 9000:2000(International Organization for Standardization, 2000) -EFQM(European Foundation for Quality Management, 2003)
Specific quality approaches for learning, education, and training	-Quality management or quality assurance concepts for the field of learning, education, and training	BLA Quality Mark (British Learning Association, 2005) -QAA Framework (Consortium for Excellence in Higher Education, 2001) -Quality on the Line Benchmarks (Institute for Higher Education Policy, 2000) -ASTD Quality Criteria, American Society for Training & Development (2001)
Other related approaches	-Manage or assure specific aspects of quality, e.g. learning technology standards are used to assure interoperability as a specific quality objective	- Learning Object Metadata IEEE Learning Technology Standards Committee (2002) - Data Quality, etc.

Adapted from Pawlowski (2007)

- *Generic approaches;* They argues that these generic quality approaches support quality development and assurance in organizations according to their specific needs and requirements. Usually, they comprise all the models and techniques in conventional education and service such as ISO 9000, EFQM, etc., and could be classified into standards for processes, products, and competencies
- *Specific or Technological approaches;* These approaches refer to certain aspects of the e-learning environments as in interoperability of components of learning environments (e.g. authoring systems, learning management

systems (LMS), and learning resources and services data quality or interoperability). These standards are used to assure quality for very specific aspects. The following table summarizes the potential choices for educational organizations (Ehlers & Pawlowski, 2006; Pawlowski, 2007).

Nevertheless, as mentioned earlier in this chapter (Quality as co-production), quality in e-learning is not something that can be delivered to students by an e-learning provider; rather, it is an empowerment procedure that can be *actualized just* through students active participation. This indicates that the product or outcome of an e-learning environment cannot exclusively be a product of the production process of an educational institution (Ehlers, 2004). In other words, like quality in education, quality in e-learning environments is an inconsistent concept that can only be viewed in the context of co-production (Husson, et al., 2002).

Given this, it can be argued that almost the same principles in higher education could be applied to the quality of e-learning. However, there are some special characteristics in e-learning that need to be specified.

Quality Measures in E-Learning

As higher education settings increase their e-learning provision, a variety of stakeholders are becoming increasingly interested in identifying appropriate ways of assuring the quality of e-learning. In the literature discussing quality of e-learning, however, two main trends are discernable: quality assurance and quality enhancement. In other words, different concepts and approaches in the quality of e-learning can be centered on two approaches; *assurance* and *enhancement*.

On the basis of these approaches, quality could be viewed as continuous process for improvement or a means of assuring and certifying a product. Despite the differences noted in the given approaches, it can be said that the right implementation of quality assurance promotes quality in educational settings and vice versa.

Quality Assurance

When ensuring fitness for purpose, the quality assurance compares the process and delivery of a course/program with a minimum standard set either by the producer, provider, government or other agencies. Accordingly, quality assurance makes no assumptions about the quality of competing products or

services (Inglis, 2005). In other words, quality assurance is a set of planned and process-oriented activities for guaranteeing the quality of a course/program; or to "prevent poor-quality products or services from being produced or delivered in the first place by focusing on processes and emphasizing prevention rather than cure" (Lomas, 2004, p. 158).

Quality assurance is usually carried out in the form of benchmarking or accreditation in virtual institutions. "Quality on the Line" could be said to be a good example of quality assurance that attempts to compare different institutions based on specified criteria.

Quality Enhancement

Quality enhancement (or improvement) refers to the continuous enhancing quality of e-learning in terms of process, outputs and outcomes. It concerns, thus, a "set of processes by which improvements are made to those aspects of a course or unit that are judged to merit improvement" (Inglis, 2008, p. 349). Quality enhancement is "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).

The focus of quality improvement is therefore primarily on the self rather than on others, which usually takes the form of ongoing self-assessments comparing current quality (status quo) with the quality of what it has been in the past or what it should be in the future. Recently, quality enhancement has been increasingly described in e-learning settings as defining and employing quality as a cultural construct totally dependent upon the cultural context.

Summary

What is quality? How can quality be defined in educational settings in general and in e-learning in particular? Can quality in higher education be explained as a result of a well-defined process? In this part of the thesis, the main challenges and issues concerning quality and quality in higher education settings are outlined. The conclusion to be drawn is that mechanistic approaches to/concepts of quality (such as quality control and technocratic top-down approaches) cannot work in higher education.

I have, in this chapter, moved progressively from clarifying fundamental issues about quality, quality dimensions in service and quality models to quality

in education and higher education. Next, quality in e-learning will be discussed. As argued, different perspectives have been dealt with to define the quality in e-learning, for instance, quality as exceptional, perfection or consistency, fitness for purpose, value for money and quality as transformation. The most acknowledged definition in quality of e-learning, however, is quality as transformation which can be achieved just through students' active participation. Correspondingly, quality in e-learning is defined in terms of its characteristic feature such as "added value", "fitness for purpose", "key actors' satisfaction", and "positive transformation".

It also argued that quality enhancement and quality assurance can be regarded as the main approaches in quality in e-learning. A large number of models have been developed to assure and enhance e-learning.

CHAPTER 5

QUALITY AND CULTURE

In view of the growing number of e-learning environments and virtual institutions all over the world, there is an urgent need to understand what quality in e-learning is and how the quality of e-learning could/should be articulated in different cultural contexts. In the same line of thoughts, this chapter briefly traces quality in e-learning as a cultural artifact embedded in values and premises of specific contexts. Current trends when it comes to considering quality as a cultural construct point to greater transformation in the service sections such as higher education. To address this trend, in this chapter I tried to exemplify how can culture influence and shape quality in general and in higher education in particular**.**

Introduction

Quality - as much as education - is grounded and rooted in cultural settings. Similarly, different definitions of quality, what counts as good quality in educational settings, how we understand whether one educational setting has high quality or not - are dependent on the cultural context. For instance, definitions and aims of quality in developing countries are mostly centered on *families'* and *communities'* understanding of specific phenomenon, while in other contexts such as developed countries, the definitions and aims of the quality are usually located in the technical vision of quality along with *individual* users' perceptions (i.e.in the eye of beholder).

A growing number of scholars (cf. Bardoel & Sohal, 1999; Barnett, 1992; Davies, Douglas, & Douglas, 2007; McMillan & Parker, 2005; Poirier &

Tokarz, 1996; Tomusk, 2001; Vermeulen, 1997) have argued for the importance of considering culture and cultural contexts when defining and employing quality in organizational settings. Richards (2003) argues that the productivity can be reached only by recognizing and developing *embedded cultural values* that push people's performance forward. Kekale (2002), quoting Gibbons et al. (1994), states that "peer reviews are no longer the dominant method of quality assessment; social relevance has become an increasingly important criterion when assessing results" (p. 66).

Similarly, Stephenson (2004, p. 62) addressing the central problem in quality assessment put forwards that "many people have commented that they are able to recognize quality when they see it, but find it almost impossible to define". This is difficult, Harvey and Newton (2004, p. 121) argue, as the concept of quality is both a "*personal and social construct*". They contend that each role player constructs a view of quality based on a few selected attributes, and that these selected attributes vary from role player to role player (Harvey & Newton, 2004). In a similar vein, Davies, Douglas and Douglas (2007) say that carrying out a cultural assessment before implementing TQM or other related quality initiatives is crucial for designing and employing a successful TQM program. Hence, the criteria for selection of attributes are based on personal values and judgments (Watty, 2003). Definitions of quality are, as Barnett (1992) noted, "bound up with our values and fundamental aims in higher education … [and are] connected with what we take higher education ultimately to be" (p. 16).

In the same line of thoughts Kells (1999) argues that a quality assurance model cannot transport between very different cultures; for instance, Mexico according to Hofstede's (1997) cross-cultural dimensions highly scored on "power distance" and "masculinity", and therefore may need a different e-quality model to Denmark which scored low on both. Van der Wende and Kouwenaar (1994), highlighting the cultural integration on quality, identify the following problems with international comparisons of external quality assessment:

- Cultural differences affect how 'quality' and 'level' are defined
- Data are not available in the same form, and opinions differ widely on which indicators should be used to measure quality

- Basic elements of the structure of educational systems and programs differ greatly, and the terms used to describe these are subject to interpretation
- National variation in educational objectives
- Subjectivity: everyone uses their own system as the frame of reference for judging other forms.

Given this, it can be argued that defining and employing quality as a social construct is always related to specific cultural contexts, and in a specific context, quality will be appreciated differently according to the values and mindsets of its main stakeholders (Husson, 2006).

Despite all these issues, a large majority of models developed for qualifying public services in general and higher education in particular have been developed and shaped based on Anglo-Saxon cultural premises. Neglecting the culture values, some of these models that were transferred from the industrial world, introduce a mechanistic approach to learning. This ignorance - mechanistic approach to education - is amplified when a quality model is exported to Eastern world. Accordingly, I will try to explore culture, cultural dimensions as well as pedagogical culture in the following.

Quality as Cultural Artifact

Quality as an admittedly multidimensional and perspective-bound phenomenon is implanted in a cultural setting. In other words, quality is understood according to how people assume and define it in a cultural context. This issue surrounding quality culture in higher education, however, has not been addressed properly in higher education settings.

In the last three decades, culture and organizational culture has gained wide acceptance as an intangible construct for understanding human behaviors. As a conceptual construct, organizational culture is a complex phenomenon with different definitions and interpretations. Although there is no consensus on the definition and interpretation of organizational culture, the following characteristics are found in most of the definitions: holistic, historically determined, related to anthropological concepts, socially constructed, soft, and difficult to change (Kujala & Lillrank, 2004). Schein (2004, p. 12) defines organizational culture as:

> A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.

This definition of organizational culture can be applied to higher education institutions to some extent (at least in administrative affairs). It signifies that conducting quality management programs in commercial and industrial part goes beyond implementing technical practices and needs a fundamental change in the way in which organizational members work together to meet the customers' demands.

Similarly, in higher education institutions, considering cultural and cultural-pedagogical constructs when assuring and enhancing quality can be regarded as a major move away from a mechanistic to a holistic and cultural approach in higher education. In such a move, the focus is on "change more than on control, development rather than assurance, and innovation more than compliance" (Ehlers, 2009, p. 343). This move can be characterized by an emerging understanding that quality enhancement, in essence, entails discerning the dominant cultural patterns and then developing a culturally sensitive e-quality framework based on shared values, necessary competencies and new professionalism.

The most visible features and levels of the cultures in higher education institutions are such artifacts as structure, policies, procedures and traditions. These features can be seen to be discernible reflections of embedded values and assumptions in a cultural context. The quality and strength of these features depends on how deeply these cultural values are embedded in the everyday life of people in specific settings (Kujala & Lillrank, 2004).

What is Culture?

Before discussing culture in e-quality, let us focus on what we mean by culture. Definitions of culture, like many other multi-definition concepts in the human sciences, are diverse, encompassing many aspects of human behavior, which are difficult to define and measure. From anthropological, sociological, and pedagogical perspectives, the term "culture" is broadly viewed as the beliefs, philosophies, traditions, values, perceptions, norms, customs, arts, history, experiences, and pattern of both individuals and groups (Chen, Yeh, & Sie,

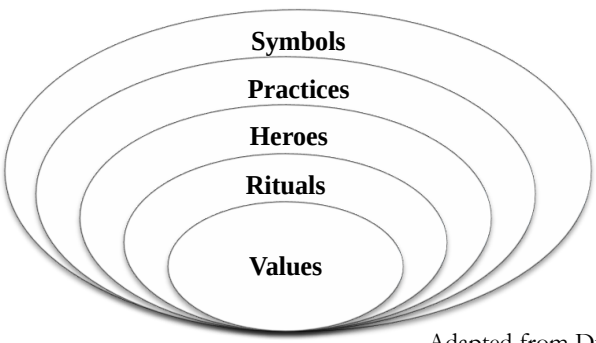
2006; Collis, 1999). However, the most common views of culture are based on the idea that culture is a set of value patterns that are shared across individuals and within groups (Szewczak, 2002).

According to Trice and Beyer (1993), "human cultures emerge from people's struggles to manage uncertainties and to create some degree of order in social life" (p. 1). They pinpoint six characteristics as the main features of this elusive phenomenon: *collective, emotional, historical, symbolic, dynamic,* and *fuzzy*. Similarly, Hofstede (1997) defines culture as: "patterns of thinking, feeling, and potential acting that all people carry within themselves" (p. 9), which he terms "mental programs". He also describes culture as being reflected not only in the "patterns of thinking, feeling and acting" but also in the "ordinary things in life: greeting, eating, showing or not showing feelings" (p. 11). The source of these "programs" lies within the social environments in which people grow up and collect their life experiences.

Some researchers, inspired by Vygotsky among others, see culture as a dynamic process of production and reproduction of meanings in a particular actor's concrete practices (or actions or activities) in specific contexts in time and space (Kashima, 2000). From the perspective of others, culture is seen as a relatively stable system of shared meanings, a repository of meaningful symbols, which gives structure to experience (Kashima, 2000, 2004).

Hofstede (2001) portrays the manifestations of culture as layers around a core of values. He proposed the metaphor of "Onion" to show how the various layers of culture relate to each other (see Figure 7).

Figure 7: Hofsted's "onion" model



Adapted from Dunn & Marinetti (2007)

In his view, the outer layers of culture are more visible, superficial, and potentially changeable, whereas the inner layers involve elements that are less visible and change very slowly.

Straub et al. (2002) take this a step further and use an analogy of a virtual onion, where the layers are permeable and do not have a given order or sequence, to convey the complexity and lack of predictability of an individual's cultural characteristics (Oliver., 2004).

From a sociocultural perspective, culture is seen as constituted in human practices in continuous negotiations between people and mediated by symbolic artefacts. Culture is something stable, but not static, at the same time as it is dynamic and changes over time. Furthermore, cultural identity is something socially constructed and learned, not inherited. It is made up of experiences people gain when growing up in specific cultural contexts (Mushtaha & De Troyer, 2007).

The very definitions of culture refer to culture as a set of core values evolving as people respond to new conditions and influencing the way in which life takes place (Kinuthia, 2007). Culture viewed as a set of core values and patterns of thinking, feeling and acting (Ford & Kotzé, 2005) influences the way in which people communicate amongst themselves and with cultural artefacts, for example, e-learning systems, computer tools of different kinds or informational resources provided on the Internet. Culture affects how we think, how we act, how we respond to our environment, in short, who we are. And more specifically, how we view quality, knowing and learning – our personal epistemologies – is a part of our cultural identity, which is embedded in specific cultural contexts.

Cultural Dimensions

In an attempt to understand culture more deeply, *industrial anthropologists* such as Hall (1976), Hofstede (1986, 1997, 2001), Trompenaars and Hampden-Turner (1998), and others have deconstructed the meaning of culture, and identified a number of dimensions of cultural variation to explain how members of different cultures communicate, perceive time, or view themselves in relation to others and to the environment, i.e. dimensions that appear in all cultures and in which cultures might differ.

In his studies, Hofstede (1997) identified five dimensions that can be used to distinguish different cultures. These dimensions relate to subjective culture and

have been used theoretically and empirically to explain and predict similarities and differences between cultures all over the world. What follow are examples/translations of Hofstede's five dimensions in educational settings: *individualism-collectivism, power distance, uncertainty avoidance*, *Masculinity-Femininity, long-term orientation*

Individualism-Collectivism refers to the extent a "culture encourages, fosters, and facilitates the needs, wishes, and values of an autonomous and unique self over those of a group" (Gunawardena & Wilson, 2003, p. 754). Students in nations with a high Individualism Distance Index (IDI) see themselves as separate and autonomous individuals who should look after themselves and their immediate family. They expect to be treated as equals among peers and teachers, preferring to work as individuals and expecting recognition of individual merit. In contrast, in collectivist societies, individual students' needs and desires are downplayed to satisfy groups' preferences. Further, social acceptance in terms of earning a diploma is highly acknowledged. Hofstede (1997) describes the differences between individualism and collectivism as follows:

> Individualism pertains to societies in which the ties between individuals are loose: everyone is expected to look after himself or herself and his or her immediate family. Collectivism as its opposite pertains to societies in which people from birth onwards are integrated into strong, cohesive in groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty (p. 260)

Power distance or hierarchy distance is the degree to which less powerful persons in a culture accept inequality in power and consider it as natural. In cultures with a *low-power distance index (PDI),* like most of the European and North American countries, teachers and students tend to be perceived as equals. Teachers are not authoritative subject matter experts, but rather facilitators of student-centered education. In *high-PD cultures*, like most Eastern countries such as Iran, teachers are considered to be authorities, and students do not question their knowledge, seeing them as authorized experts (Hofstede, 1997).

Uncertainty avoidance refers to the value placed on risk and ambiguity in a society. In cultures with a *high uncertainty avoidance index (UAI*), students try to avoid unstructured, unclear, or unpredictable situations by maintaining strict codes of behavior. In such cultures, teachers are also regarded as experts who are always right (a belief in absolute rights). Educational settings in these

societies are manifested through precise objectives, strict timetables, precise answers, and rewards for accuracy. In contrast, in *low-UAI cultures*, teachers act as facilitators of learning; students are comfortable with vague objectives, loose timetables, and multiple solutions to problems, and prefer to be rewarded for originality.

Masculinity-Femininity (MAS) refers to the extent to which a society fosters traditional gender differences among its members. In cultures with a *high-masculinity index*, students compete openly, are achievement-conscious, and are disappointed by failure, whereas in a *low-MAS culture*, teachers and students stress quality of life, interpersonal relationships have more relaxed expectations.

Hofstede's fifth cultural dimension, *long-term orientation (LTO)*, was theorized after his original 1984 study. In this dimension, individuals are identified as having either a tendency toward future-oriented or toward past- and present-oriented, which can be exemplified by steadiness and stability, protection of face, respect for tradition, and reciprocation of greetings, favors, and gifts (Gunawardena & Wilson, 2003).

Selinger (2004) has made a formative evaluation of the Cisco Networking Academy - a web-based course (developed in the US) about installing and maintaining computers - involving more than 300,000 students in 149 countries. She found that the same online materials were used in widely differing ways in different cultures. For example, students in Sweden and Denmark were encouraged to take responsibility for their own learning compared to students in France. The Scandinavian students were described as having greater autonomy, collaborating more, and relying less on the tutors than those in France, where there was little group work or peer support. These findings are broadly consistent with Hofstede's terms: more feminine (low MAS); low power distance (low PDI); and lower in uncertainty avoidance (low UAI) in Sweden and Denmark than in France.

Despite the fact that Hofstede's work is widely referred to, it has been subject to extensive criticism. For instance, Yeganeh and Su (2006) argue that his cultural dimensions ignore important characteristics of culture such as subcultures in various countries and, most importantly, historical and social context.

Trompenaars and Hampden-Turner (1998) describe eight cultural dimensions at the national level. Each of their dimensions, like Hofstede's, was described as a continuum bounded by two extreme, opposing characteristics. Unlike

Hofstede, they rarely speculated about the implications of cross-cultural dimensions in education (Edmundson, 2006a). In their first main category, "Relationships and Rules," Trompenaars and Hampden-Turner (1998) identify five dimensions:

Universalism vs. particularism refers to the balance between rules and relationships. The so-called universities tend to adhere to rules, whereas particularists regard rules as flexible guidelines over which relationships typically take precedence.

The *individualism vs. communitarianism* dimension, similar to Hofstede's IDV, refers to the tendency to perceive oneself primarily either as an individual or as a member of a group.

Members of *affective vs. neutral* cultures may be, emotionally expressive or emotionally detached and objective, respectively, in verbal or non-verbal communication.

The *specific vs. diffuse* dimension accounts for the degree and level of interaction between people. Members of specific cultures tend to use direct and purposeful communication, while diffuse cultures tend to be less direct, often to the point of appearing evasive.

The achieved *status vs. ascribed* status dimension refers to whether a culture accords status based on accomplishments or according to markers of group membership. This dimension shares characteristics with Hofstede's PDI.
Trompenaars and Hampden-Turner (1998) also described two dimensions in the category 'Attitude Towards Time':

Orientation to past, present, and future reflects how members of a culture perceive the importance of each of these periods

The dimension *sequential vs. synchronic* refers to whether time is perceived as linear and composed of discrete events or as circular and composed of integrated, overlapping events.
Lastly, they categorized 'Attitudes towards the Environment':
Members of *inner-directed* cultures believe they have significant control over the outcome of events and aggressively try to manage situations, whereas

Members of *outer-directed* cultures believe they are subject to an external locus of control and are, thus, more comfortable and flexible when confronted with change.

Hall (1976) pictured cultural differences as binary positions on a continuum that resemble the indices and characteristics, respectively, of Hofstede (1986, 1997), and Trompenaars and Hampden-Turner (1998). He proffered the following six main dimensions of social and cultural settings: Speed of Messages, Context, Space, Time, Information Flow and Action Chains.

According to Hall (1976), members of *monochromic (M-time*) cultures tend to emphasize schedules, promptness, and segmentation of activities. Their communication tends to be low context, depending more on direct language than on subtle signals or context. In contrast, members of *polychromic (P-time*) cultures engage in multiple activities simultaneously and tend to focus on relationships and the completion of transactions, rather than on scheduled events. Their communication is high context because it is dependent on what they already know about their culture (Edmundson, 2006a). Low-context communication emphasizes how intention or meaning can be best expressed through the explicit verbal message, whereas high-context communication emphasizes how intention or meaning can be best conveyed through the context (e.g. social roles, positions, etc.) and nonverbal channels (e.g. pauses, silence, tone of voice, etc.) of the verbal message (Hall, 1976).

According to Hofstede's (1986) work, Western cultures such as the USA, Sweden and Finland tend to be low-context and most Asian cultures such as Iran, Turkey and Korea are more likely to be high-context. This pattern is supported by other studies (see for example Kim & Bonk, 2002; Moran, 1991; Steward & Bennett, 1991).

The above-mentioned models have identified cross-cultural polar dimensions that appear in any cultural setting (Edmundson, 2007). However, Hofstede (1986), Trompenaars et al. (1998) and other theorists of intercultural communication do not specifically deal with cultural aspects in educational settings. The cultural-pedagogical models and frameworks that are developed on the basis of the cross-cultural models will be discussed in the next chapter.

The Need for a Cultural-Sensitive Quality Framework

In line with massification in educational settings and a mechanistic approach to education, in the early generations of distance learning, "one fits for all" was the dominating notion. As a result, there was a strong emphasis on "quality control" in educational settings. Similarly, industrial production principles including specialization, division of labor, line management, mechanization, packaging and delivery of educational resources were applied to a large extent in the contexts of distance learning (Garrison & Kanuka, 2008). The core of this approach was that quality in education is objective, measurable and predictable.

However, this somewhat objective and mechanistic approach to quality in distance learning did not last long. With emerging new thinking about quality in services, it is concluded that quality is a two-dimensional construct that synthesizes *a subjective (*weight) with an *objective (*criteria) dimension (Dondi, et al., 2006). The objective part can be captured by means of cultural-free benchmarks and standards, but the subjective dimensions can only be apprehended within a cultural setting.

Similarly, in quality of e-learning we can discern *subjective dimensions* such as educational paradigms, teachers' role, etc. and *objective dimensions* such as accessibility, interface design, and other technical and infrastructural features. Unlike other services, however, the subjective dimensions of quality in e-learning are more significant than objective dimensions due to learning and teaching as cultural artifacts are deeply embedded in the subjective situation/cultural context. As such, the mechanistic and top-down approach in terms of "one fits for all" has no relevance to quality of e-learning.

Despite of the importance of cultural issues, little attention has been directed at the cultural and cultural-pedagogic issues in designing and establishing quality framework in educational settings. As a result, there is tendency among virtual institutions in developing countries to take normative stances in enhancing and assuring quality in educational settings. For instance, in many developing countries, as Kohn and et al (2010, p. 20) argue "education is centralized and curricula are standardized. A curriculum of a study program also defines the didactical approaches needed to grant quality".

This normative orientation can be animated by the fact that the developing countries, as already mentioned, are the consumers of the

developed quality models which are mostly developed based on the Western cultural premises and expectations (Kohn, et al., 2010; Lam, 2006; Tomusk, 2001). To initiate a system for assuring and enhancing quality in most of the developing countries as Kells (1999, p. 218) put forwards "They tend to copy a scheme from another country". He adds that "what is worse, they often copy but part of the system forgetting that it was designed to meet specific national needs and to do so with *several* complementary policies and procedures".

In the same line of thoughts Kells (1999) argues that a quality assurance model cannot transport between very different cultures; for instance, Mexico according to Hofstede's (1997) cross-cultural dimensions highly scored on "power distance" and "masculinity", and therefore may need a different e-quality model to Denmark which scored low on both. Following Kells (1999) and Billing (2004) caution should be concerned with applying a e-quality framework/model in countries with different cultures.

Consequently, there is a need to recognize and take into account culture and cultural-pedagogical issues in developing and implementing e-quality framework to assure and enhance quality e-learning. When problematizing culture and cultural-pedagogic issues in quality, however, the culture should be viewed as something that is beyond e-learning and equality frameworks that intertwined and embedded in every factors and benchmarks of a quality model.

Summary

Can quality in higher education be explained as a result of a well-defined process or is it, rather, a cultural and cultural-pedagogical construct that is embedded in a cultural setting? To address this question, in this chapter, quality is discussed in terms of being cultural artifacts, which are embedded in values of specific contexts.

Including culture and cultural dimensions when enhancing and assuring quality in higher education can be considered a major move in this area and one that changes the accepted premises and assumptions. Considering quality as a cultural artifact presupposes the necessity for new ways of thinking about quality of learning and consequently quality assurance and enhancements in e-learning. Accordingly, it is argued that objectivity in terms of "one fits all" and "quality control" which is informed by an industrialized and mechanistic approach to education may have no relevance to quality in e-learning.

As regards cultural and cultural-pedagogical dimensions, it was concluded that quality in e-learning is not and could not be context-free, thus a valid model for assuring and enhancing quality in e-learning should take into account these cultural and cultural-pedagogical constructs when defining and implementing quality measures. However, a majority of the quality models and frameworks developed are grounded in the Anglo-Saxon cultural premises, and thus, their success in other contexts can be questioned.

CHAPTER 6

CULTURAL-PEDAGOGICAL ISSUES IN QUALITY OF E-LEARNING

In the light of the growing number of e-learning environments and virtual institutions all over the world, there is an urgent need to understand how quality of e-learning could/should be articulated in different cultural and cultural-pedagogical contexts. This chapter briefly traces the quality of e-learning with a cultural-pedagogical perspective and reviews the most prominent cultural-pedagogical constructs. It initially discusses the widely known educational paradigms. Then, by discussing cultural and cultural-pedagogical dimensions, it is argued that quality in e-learning is deeply rooted in a specific culture and institution's cultural-pedagogical climate.

Introduction

As mentioned, learning and teaching are deeply embedded in a cultural context. Along with cultural dimensions, more specific dimensions and orientations are discernable in educational settings, which are addressed as "educational paradigms" and "cultural-pedagogical" dimensions in this study. Indeed, mention is made in the literature that cultural-pedagogical dimensions in a higher education setting is very much influenced and shaped by the underlying cultural premises in general and the dominant educational paradigms in particular.

While emphasizing instructional programming, the current trends in ICT-mediated learning neglect the more cultural perspectives of e-learning (Remtulla, 2008). Similarly, a question that struck us when ICT in education is

implemented and virtual institutions are established is whether these virtual institutions will continue within the dominated educational paradigms and norms (i.e. instructional programming) or if they should "adapt to the epistemic shift of the information revolution and the philosophical shift of the postmodern" (Tiffin & Rajasingham, 2003).

All technological tools have been furnished within a particular cultural context and as a result they carry with them attributes of the given culture (Lave & Wenger, 1991; Sutherland & al., 2004). Similarly, integrating ICT in education is believed to be an expression of and a way to introduce new models of learning and teaching. This can be seen in the emergence of a new paradigm, and inevitably demonstrates shift from transmission of knowledge to the construction and situating of new knowledge, from behaviorist to humanistic, and from inauthentic and context-free to authentic and context-specific tasks.

Similarly, quality and quality approaches in e-learning as cultural artifacts are subject to critical changes when they are adopted or imported into other cultural contexts. Among cultural constructs, a number of them that are critical in educational settings can be foregrounded. In other words, this is not purely a sociological notion but also a cultural-pedagogical issue, as can be seen in the work of researchers such as Henderson (1996) and Reeves (1994). The epistemic stances in educational settings are the core constructs of all e-quality models; however, they have been mostly ignored when enhancing and assuring quality in e-learning environments.

To address this issue at this juncture, it is appropriate to reflect on the main theoretical stances, including embodied principles and values that delineate the meaning, approaches as well as goals of quality in e-learning. Thereafter, accurate articulation and mapping of epistemological grounds in various settings will provide a decent chance of formulating more reflexive and consistent pedagogical processes, tools and techniques. The multiple existing pedagogical stances might be framed in three main trends. A brief description of these paradigms is given in the following.

Objectivism

Objectivism was hegemonic pedagogy in educational settings for most of the 20th century. Similarly, "Most of the traditional approaches to learning and teaching that are based on behavioristic and cognitive theories, share philosophical assumptions that are fundamental in objectivism" (Vrasidas,

2000, p. 340). Originating in realism and essentialism (Jonassen, 1991), this paradigm is placed in a dualism between knower and known.

The long tradition of the objectivism approach in education can be traced back to the thoughts of Aristotle. In terms of current approaches, the objectivism origins can also be recognized in Taylor's ideas about scientific management such as standardization and task analysis, which were developed to ensure the most efficient production possible in industry (Vrasidas, 2000). It can be said that emphasizing on rationality and engineering of educational settings for effective transmission of knowledge is the main issue in objectivism. Similar to industrial settings, there is strong emphasis in this approach on reducing educational activities to small chunks.

In this tradition knowledge is regarded as externally "decontextualised", which can be *transferred*, learned, tested, and applied more or less independently of specific contexts (Biggs, 1996). Similarly, students are viewed as passive recipients of knowledge, drop by drop, from the full teacher vessel. Jonassen (1991) highlights the following attributes as the main assumptions of objectivism:

> The world is real, it is structured, and its structure can be modeled for the learner.
> The epistemology of objectivism holds that the purpose of the mind is to "mirror" reality and its structure.
> It does so by means of thought processes that manipulates abstract symbols (primarily language) that represent that reality. Those thought processes are analyzable and decomposable.
> The meaning produced by the thought processes is external to the knower; it is determined by the structure of the real world.
> The meaning of the world exists objectively, independent of the human mind and it is external to the knower (Jonassen, 1991, p. 10).

Instruction and learning is seen in this paradigm as a process of engineering learning environments. Similarly, "transmission of knowledge" (Jonassen, 1991, p. 8) is perhaps the most common concept of instruction in objectivism, a notion that is prescribed by subject-matter analysis. In other words, instruction in this paradigm is seen as a matter of transmitting knowledge from experts to students and learning is perceived as receiving and duplicating transmitted knowledge accurately, storing it, and using it appropriately. Similarly, tutors are expected to help learners to learn about the real world (objective reality). As Bigges (1996) points out, objectivistic theories, with their links to positivism,

are also greatly concerned with quantitative measurement. Accordingly, the measurement of learning effectiveness should be made in terms of final outputs that can be measured by means of objective and cultural-free models.

Most of the traditional approaches to learning and teaching such as linear and programmed learning are based on behaviorist and cognitive theories and share philosophical assumptions that are fundamental in objectivism (Vrasidas, 2000). This view was and has been a dominant approach in most educational settings in developing countries, including Iran, for many years. However, an objectivism approach to learning and teaching has been criticized by educators and educational philosophers all around the world, many of whom argue that this approach to education "promotes shallow learning, mindless memorizing and regurgitating, and the decontextualised acquisition of definitions and facts" (Nunes & McPherson, 2007, p. 10).

Despite all the criticism and shortcomings, this approach has been and still is the dominant approach when designing e-learning environments and conducting e-learning activities, particularly in developing countries. Further, early forms of technology-mediated learning such as computer-based learning were based on this approach in terms of programmed instruction/learning.

Constructivism

Rejecting positivistic dualism, the *constructivism* tradition claims that learning is created by the learner, not imposed by reality or transmitted by direct instruction (Jonassen, 1991; Rovai, 2004). The emphasis in constructivism is thus on "*constructing* knowledge" instead of injecting knowledge (Jonassen, 1991). This tradition comprises a family of theories including cognitive, critical, radical, and social constructivism, which all share the same core "centrality of the learner's activities in creating meaning" (Biggs, 1996, p. 347) and not the teacher, as the transmitter of knowledge (Boghossian, 2006).

Jonassen (1991) scrutinized the following characteristics as inherent assumptions of constructivism tradition:

- The world is structured by our individual minds based on our experiences/interpretations in interactions with different contexts.
- Reality is determined by the knower, and is dependent upon human mental activity.
- The human mind is the "perceiver/interpreter of nature" by creating symbols

- Symbols are products of culture (internal reality) that are used to construct reality.
- Human thought is imaginative, and grows out of physical and social experience and interactions.
- Meaning is a construction which is rooted in, and indexed by, experience depending on the knower's understanding and experience)

In the same vein, Driscoll (2005) contends that the following five main principles can be articulated in the Constructivism tradition:

- A complex and relevant learning environment,
- Social negotiation,
- Multiple perspectives and multiple modes of/strategies for learning,
- Ownership in learning (constructing own learning), and
- Self-awareness and knowledge construction

Accordingly, in this tradition learning is regarded as an interpretive, recursive, construction of meanings as a result of actively interacting with and in the physical and social world (Nunes & McPherson, 2007). As Jonassen et al. (1995) state, "learning environments are constructivism only if they allow individuals or groups of individuals to make their own meaning for what they experience rather than requiring them to 'learn' the teacher's interpretation of that experience or content" (p. 13).

Unlike the objectivism approach, learners in this tradition are not considered to duplicate (copy) reality from outside objects, rather, they themselves construct such reality (Boghossian, 2006). Constructivists warn that the knowledge that is transmitted may not be the knowledge that is constructed by the learner. They maintain that, rather than prescribing learning outcomes, instruction needs to focus on providing tools and environments for helping learners interpret the multiple perspectives of the world so that they can create their own world views (Jonassen, 1991).

This approach to learning assigns more significance to learning contexts and active knowledge construction by imposing meaning to learning experiences. This also makes it possible to build knowledge, perform activities closer to the real world as well as develop meta-cognitive skills, higher order thinking, deeper understanding and a greater motivation to learn (Moreno, Gonzalez, Castilla, Gonzalez, & Sigut, 2007). Similarly, Jonassen (2006) argued that it is possible to elaborate the constructivism principles in *instructional design* processes, which are clearly focused on the generation of learning

environments that facilitate and do not mold learning, that allow and reinforce the personal learning processes supported in one way, in personal reflection, and in other ways, in collaborative learning processes based on real and contextualized problem-solving frameworks (Jonassen, 2006).

Constructivism is rapidly becoming the dominant paradigm in educational settings in general and in e-learning in particular; "it remains, however, to see it as a common theory-in-use in higher education" (Biggs, 1996). It can be pointed out that constructivism is not the panacea for all of the instructional problems in education settings, no more than other theories or technologies are.

Sociocultural

The last perspective I will discuss is a sociocultural tradition or socio-historical perspective. In the objectivism tradition, it is argued that reality is located on the outside of individual minds and in constructivism (mostly in radical constructivism) it is located in the mind of individuals (individual development in the social interaction context). Thus, it can be said that in both of these traditions, knowledge is *decontextualized* and *situated* within *individuals*. Since then, the sociocultural perspectives have challenged the individualist origin of these traditions. Knowledge in this tradition is not an entity in the head of an individual, which can be transferred, acquired or enriched but rather an activity constructed in joint activity settings that cannot be considered separately from the context in which it takes place (Koschmann, 1996b; Mason, 2007). In other words, "knowledge is not merely stored in our minds; it circulates between us when we communicate with each other in concrete activities" (Säljö, 1999, p. 150).

The sociocultural perspective is grounded in the pragmatism of Dewey and Mead, and in various strands of 20th century Marxian social theory associated with Vygotsky (Sawyer, 2002). As Wertsch (1998, p. 24) contends, "the task of a sociocultural approach is to explicate the relationships between human action, on the one hand, and the cultural, institutional, and historical contexts in which this action occurs, on the other" (p. 24). This approach is based on the notion that human activities take place in cultural contexts through interaction among and between the individual and the environment, which are mediated by language and other symbolic systems, and can best be

understood when investigated within their historical development contexts (John-Steiner & Mahn, 1996).

In other words, sociocultural theorizing builds on the premise that learning and knowing are socially and culturally situated (Bruner, 1996; Cole, 1996; Lave & Wenger, 1991; Wertsch, 1991). Learning is situated in cultural practices (mostly institutional), permeated with cultural values and norms about knowing, learning, teaching, instruction and, more generally, education. These values and norms, inscribed in cultural practices, comprise what we can call a pedagogical culture.

Learning in this tradition is regarded as an aspect of social practices in society that involve artifacts, institutions and other people (Säljö, 1997). Learning can be undertaken at two levels. First on a social level when participating in a social practice and then on an individual basis in the way the individual appropriates his/her meaning of taking part in collective activities (Vygotsky, 1981). Similarly, communication for learning and progress takes place in the interplay between the collective and the individual.

According to Cobb (1994), some of the major features of this tradition can be characterized in the following terms:

- The mind (reality) is located in the individual-in-social interaction,
- Learning is regarded as a process in an established community of practice,
- The goal is to account for a constitution of social and cultural process by actively interpreting individuals,
- Theoretical attention is on social and cultural process,
- The analysis of learning sees learning as acculturation, implicitly assuming an active construction, and also
- The focus of analysis is on individuals' participation in culturally organized practices

A basic assumption in a sociocultural perspective is that the "human mind is *mediated*" (Lantolf, 2000, p. 1). In other words, the reality we experience, is "mediated to us with the tools we act through" (Wertsch, 1998, p. 40). These tools are "psychological" (Vygotsky, 1978, p. 53) in nature and incorporate a wide range of artifacts including language, signs, symbols, texts and mnemonic techniques. However, the most significant sociocultural tool or 'master tool' is language, which is regarded as the "tool of tools" (Cole & Engestrom, 1993).

In a sociocultural perspective, learning is regarded as situated and embodied in practical activities and as achieved through participants' increasing appropriation and mastery of meditational means as part of social practices (Wertsch, 1998). Similarly, learning is seen as cultural apprenticeship into community practices going beyond knowledge construction or acquisition, instead being an "integral part of generative social practice in the lived-in world" (Lave & Wenger, 1991, p. 35) that is grounded in the learning situation/context.

Therefore, learners do not accumulate knowledge from the outside, but rather participate in activities that are distributed among the individuals, tools, and artifacts in a community. Similarly, Vygotsky (1978) argues that in the learning process, experts use tools to mediate learning. Thus, "cognitive development is not a direct result of activity, but it is indirect"; other people (experts) must interact with the learner, use mediatory tools to facilitate the learning process, and then cognitive development may occur (Hall, 2007, p. 94). This can be achieved through what Vygotsky refers to as the Zone of Proximal Development (ZPD). In other words, cognitive growth is regarded as a process of learning in which the intellectual tools provided by a culture are used to promote development as "the guidance provided by interaction with people who have achieved some skills in the use of those intellectual tools" (Rogoff, 1990, p. 140).

The "situative perspective views learning as a process of enculturation into a community, which is reflected in the various processes of participation in the community of discourse, practice, and thinking" (Mason, 2007, p. 2). Accordingly, learning in this approach is undertaken interdependently of social and individual processes in the co-construction of knowledge. *Participation* can be an alternative metaphor to summarize and vividly illustrate the sociocultural approach (Sfard, 1998, p. 6), whereby learning, for instance, a subject domain, is viewed as a process of becoming a member of a particular community.

Educational Paradigms as the Crossroad

As I have argued so far, there are multiple pedagogical approaches that foreground e-learning environments. These pedagogical stances not only shape and influence the design and conduct of e-learning settings, they also form the ways that e-learning environments could/should be assured. In literature, the multiple existing pedagogical theories are mostly located within two main

trends, including objectivism and constructivism. Similarly, the socio-cultural stance is typically mapped within constructivism.

Despite this, growing attention is being paid to socio-cultural notions when designing and conducting e-learning environments. Similarly, in a broad spectrum, the socially and culturally oriented approaches to learning are becoming increasingly important in e-learning environments (Conole, Dyke, Oliver, & Seale, 2004).

To get the big picture of the addressed pedagogical notions in e-learning environments, these notions can be mapped in a triangle. Any angle (notions) of this triangle has a specific focus and emphasis; therefore, each of them can have specific strengths and thus can be used to promote specific aspects of learning. It can be claimed that the other theories can take positions somewhere in the middle of this triangle.

In other words, all these paradigms and theories try to make learning and teaching a more realistic, meaningful and effective process. Since learning obviously entails all of these theories, as Jonassen (2006) contends, the most realistic model of learning lies somewhere on the continuum between these positions. Thereafter, these theoretical traditions are complementary rather than oppositional (Jonassen, 1991).

The underlying premises and pedagogical notions in e-learning not only shape the designing and facilitating of e-learning environments (i.e. aims, process, teaching and learning scenarios, and so on) but also form the ways that these environments should/could be assured and improved.

Emerging concepts such as learning ecology, virtual communities of practice, network learning, and e-learning for the 21st century along with Web 2.0 bring about and signify a pedagogical shift in e-learning environments (either consciously or without specific plan). The key idea in this shift is that e-learning is a contextualized process of transforming information into knowledge, in which teacher, subject and student relationships are embedded or situated in "a context where complex interacting influences shape the quality of learning outcomes" (Frielick, 2004, p. 1). Accordingly, e-learning can be seen as the physical manifestation of a pedagogical epistemology.

Similarly, shifting from one educational paradigm to another can change assuring and enhancing procedures and approaches (e.g. identifying aspects of the e-learning environment that could be enhanced). Young (2007) suggested that along with the shifting paradigms from the 1960s-1970s, the testing and

evaluation methods also document a shift from "behavioral to cognitive objectives in techniques such as: criterion referenced measures, norm-referenced measures and task analysis" (p. 6). This implies that quality in e-learning is mainly influenced by the dominant cultural-pedagogical constructs.

Cultural-Pedagogical Models

Cultural-pedagogical dimensions are ubiquitous in the whole sphere of educational systems. Similarly, these dimensions are seen as a foundation for furnishing e-learning systems that can "modify the entire e-learning structure", affecting directly or indirectly a broad range of educational settings from design to evaluation. However, these effects essentially cannot be a cause-and-effect relationship.

Table 9: Exemplifying some of Hofstede's cultural dimensions in educational settings

LOW POWER DISTANCE	HIGH POWER DISTANCE
Teachers treat students as equals	Students are dependent on teachers
Teachers are treated as facilitator in educational settings	Teachers are treated as authoritative experts who should be respected (even out of class)
Parents may side with students against teachers	Parents may side with teachers to maintain order
Student-centered education	Teacher-centered education
LOW COLLECTIVISM	HIGH COLLECTIVISM
Teachers deal with individuals	Teachers deal with groups
Students are expected to speak up	Students are expected to listen
Learn how to learn	Learn how to do
Education is a way of empowering one's skills and competences to improve one's economic worth and self-respect	Education is a way of gaining prestige (earning social acceptance)in a social context, accordingly acquiring certificates are more important than acquiring competence

As Hofstede (2001) states, these dimensions can be exemplified in different settings such as educational settings (see Table 9).

Similar to above mentioned examples, a number of cultural-pedagogical models have been developed on the basis of the work of industrial anthropologists, such as the prominent work of Hofstede (1986, 1997).

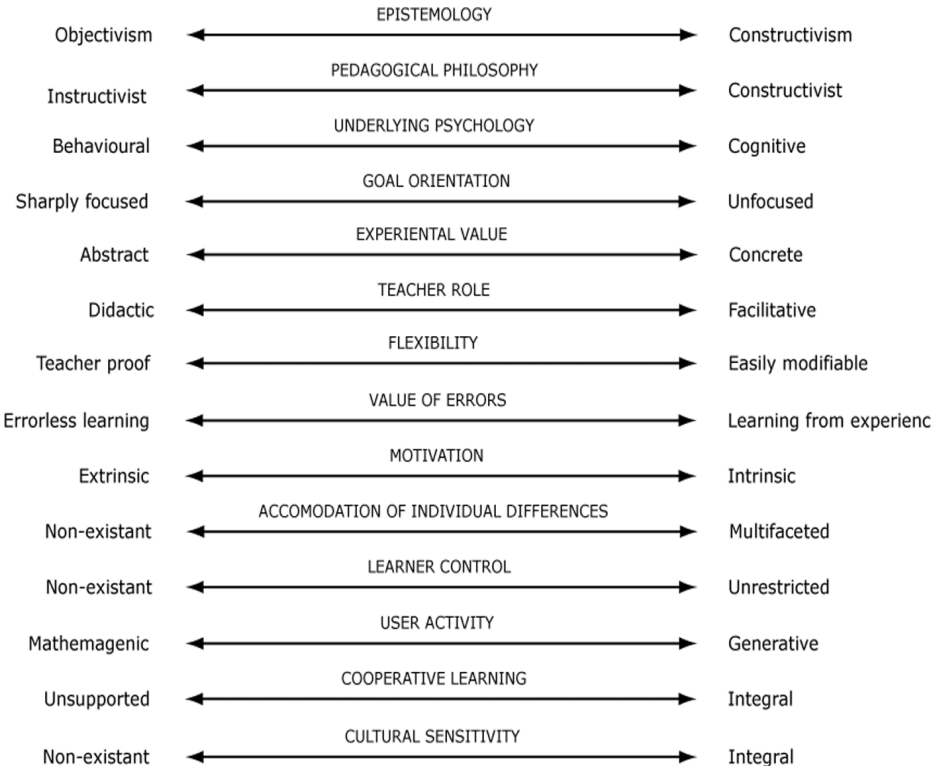
In these models, scholars have tried to exploit cultural dimensions in educational settings. To exploit and exemplify the cultural dimensions in educational settings, the scholars have used varying terminology to describe the cultural-pedagogical constructs, using different labels such as *Industrial age* and *Information age*, *Flexible* and *inflexible learning*, etc. What all these terms and metaphors have in common is that they describe cultural-pedagogical attributes in educational settings. In the following, a number of these models are outlined.

Reeves's Model

One of the well-known models is Reeves' (1992, 1994) Multiple Cultural Model. In his model, Reeves (1994) identifies fourteen cultural-pedagogical dimensions of interactive learning. It is interesting to note that these dimensions were driven by research and theory in educational technology, cognitive science and adult education. As shown in Figure 8, each of the dimensions is represented on a continuum with a graduated range of values between the two extremes. Providing an extensive breakdown of the characteristics at each pedagogical ends (objectivism and constructivism), Reeves (1992, 1994) proposes a useful basis for evaluating interactive multimedia by plotting each of the dimensions on a scale and thus obtaining a profile of any multimedia program. Similarly, his model has been characterized as a "systematic evaluation of Computer-Based Education (CBE) in all its various forms (including integrated learning systems, interactive multimedia, interactive learning environments, and micro worlds)" (Henderson, 1996, p. 1).

As shown in Figure 8, the Multiple Cultural Model focuses on the pedagogical aspects of online learning (Reeves & Reeves, 1997), rather than on the media and technology components.

Figure 8: Reeves' Cultural Model



Adapted from Reeves (1992)

The pedagogical dimensions in the model include epistemology, pedagogical philosophy and psychology, goals, instructional sequencing, the value of errors, role of teacher/instructor, learner control, and cooperative learning. In other words, Reeves grounded his model in the cultural-pedagogical dimensions.

Reigeluth's Model

In the same vein, Reigeluth (1996) articulates a helpful categorization of cultural-pedagogical dimensions/characteristics that reside on opposite extremes, which he calls the paradigms of the "Industrial Age" versus the "Information Age".

Table 10: Shift from an industrial age to an information age

INDUSTRIAL AGE	INFORMATION AGE
Standardization	Customization
Centralized control	Autonomy with accountability
Adversarial relationships	Cooperative relationships
Autocratic decision making	Shared decision making
Compliance	Initiative
Conformity	Diversity
One-way communications	Networking
Compartmentalization	Holism
Parts-oriented	Process-oriented
Teacher as "King"	Learner (customer) as "King"

Adapted from Reigeluth (1996)

As showed in Table 10, Reigeluth (1996) in his categorization draws on a binary system of objectivism versus constructivism in terms of "*industrial age* versus *information age*". He argued that educational shift is from "the industrial age to an information age" because of changes in upper systems' paradigms (i.e. society, industry, and so on).

Collis, Vingerhoets and Moonen's Model

In another attempt, Collis, Vingerhoets and Moonen (1997), tried to explore cross-cultural dimensions in terms of "flexible learning" versus "fixed learning" in the context of a European project. Investigating cross-cultural adaptation of courses using advanced learning technologies (the TeleScopia Project), they came up with five basic 'dimensions' of flexibility (see Table 11). These dimensions are further divided into 19 categories in a continuum with a graduated range of values between the two extremes of *"fixed" and "flexible"* learning (Collis, 1999; Collis & Moonen, 2001).

Alongside these dimensions, Collis (1999) contends that other implicit dimensions such as underlying philosophy (e.g. Instructivism or participation approach), the expected role of the tutors, the expected role of the learners, and the role of the course in a wider context (i.e., part of a degree program, required by employer or informal learning) should also be counted as critical dimensions.

Table 11: Flexible learning dimensions

THE DIMENSIONS OF FLEXIBILITY	More fixed <<-->> More flexible	
TIME	Fixed	Flexible
1 Starting and finishing a course		
2 Submitting assignments and interacting within the course		
3 Tempo/pace of studying		
4 Moments of assessment		
CONTENT	Fixed	Flexible
5 Topics of the course		
6 Sequence of different parts of the course		
7 Orientation of the course(theoretical, practical)		
8 Key learning materials in the course		
9 Assessment standards and completion requirements		
ENTRY REQUIREMENTS	Fixed	Flexible
10 Conditions for participation		
INSTRUCTIONAL APPROACH and RESOURCES	Fixed	Flexible
11 Social organization of learning (face to face; group; individual)		
12 Language to be used during the course		
13 Learning resources: modality, origin (instructor, learners, library, WWW)		
14 Instructional organization of learning (assignments, monitoring)		
DELIVERY AND LOGISTICS	Fixed	Flexible
15 Time and place where contact with the instructor and other students occur		
16 Methods, technology for obtaining support and making contact		
17 Types of help, communication available, technology required		
18 Location, technology for participating in various aspects of the course		
19 Delivery channels for course information, content, communication		

Adapted from Collis et al. (1997)

Sfard's Model

Furthermore, in her seminal article, Sfard (1998) outlined two learning metaphors that dominated educational settings in terms of the "acquisition metaphor and the participation metaphor" (i.e. two basic ways of

understanding the area of learning). The *acquisition metaphor* represents the traditional paradigm (Instructivism) of learning conceptualizing teaching and learning as a process of the transferring and acquisition of knowledge by the individual learner. Here, as shown in Table 12, learners are regarded as recipients and mind as container, which should be loaded through the learning process. Hence, knowledge is understood as a property or capacity of an individual mind.

Table 12: Sfard's pedagogical metaphors

	ACQUISITION	PARTICIPATION
GOAL of LEARNING	Individual enrichment	Community building
LEARNING	Acquisition of something	Becoming a participant
STUDENT	Recipient (consumer), (re-) constructor	Peripheral participant, apprentice
TEACHER	Provider, facilitator, mediator	Expert participant, preserver of practice/discourse
KNOWLEDGE, CONCEPT	Property, possession, commodity (individual, public)	Aspect of practice/discourse/activity
KNOWING	Having, possessing Knowing	Belonging, participating, communicating

Adapted from Sfard (1998)

According to Sfard, an alternative approach is the participation metaphor of learning that refers to learning as a process of participation in shared learning activities and social processes of knowledge construction. This metaphor assumes that knowledge does not exist either in a world of its own or in individual minds but is an aspect of participation in cultural practices that are distributed over individuals and their environments (Brown, Collins, & Duguid, 1989; Lave & Wenger, 1991; Paavola, Lipponen, & Hakkarainen, 2002).

From this perspective, learning is a process of becoming a member of a community by gradually transitioning from peripheral to full participation, engaging in corresponding enculturation that re-creates one's identity, and learning to interact according to its (the community's) socially negotiated norms (Lave & Wenger, 1991). Along with these metaphors, Paavola et al. (2002) highlight another metaphor, "*knowledge-creation metaphor of learning*", which

emphasizes the processes of deliberate transformation of knowledge, and corresponding collective social practices.

Henderson's Model

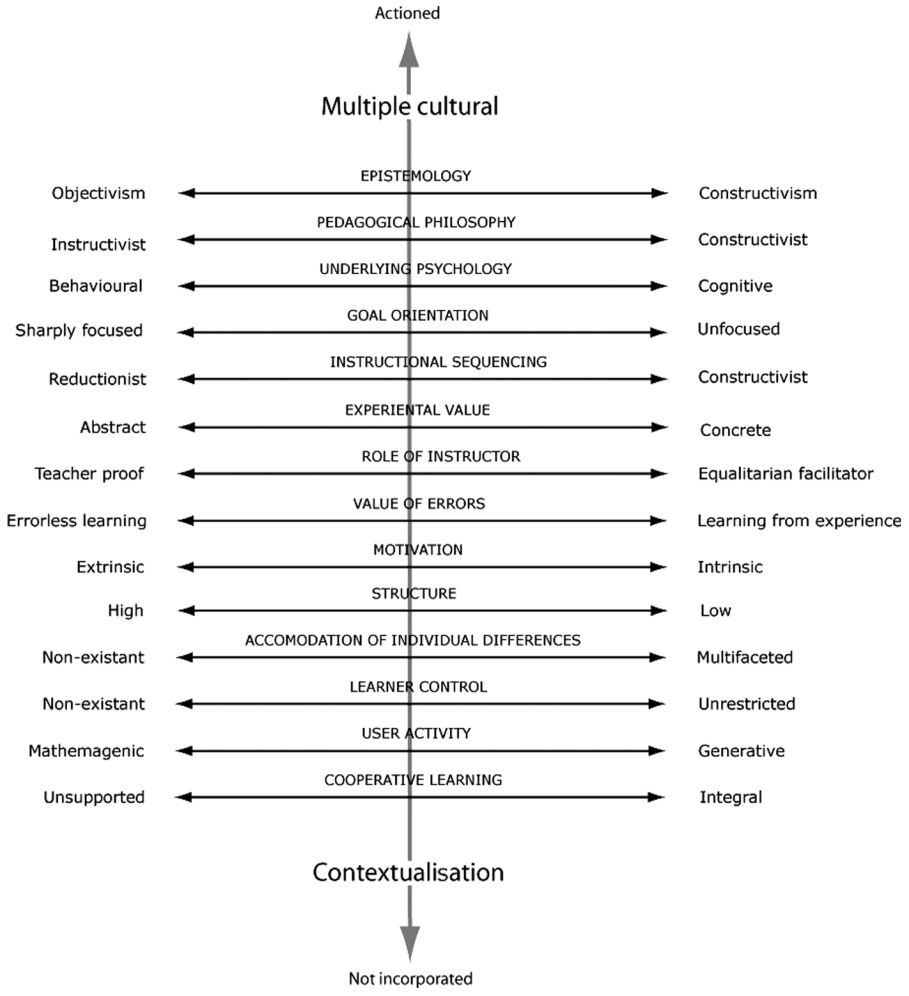
Finally, based on Reeves's (1992) model, Henderson (1996) developed a comprehensive "Multiple Cultural Model" for investigating cross-cultural dimensions in e-learning environments. She added the idea of cultural profiling and integrating multiple cultural perspectives to Reeves model (Nisbett, 2003; Zhang, 2007), so that various cultures can preserve their identities and can adapt technologies to their cultural environment and not vice versa. According to Henderson (1996), "minority ethnic groups or developing nations looking for technological solutions to their educational and training needs will not be well served by packages designed for a majority Western culture" (p. 93).

As indicated in Figure 9, the features and characteristics described on the left side of the model reflect an objectivism-instructivism educational paradigm, while those on the right side reflect the constructivism and cognitive-constructivism paradigm. Similarly, for different cultural groups, contrary endpoints of the dimensions could be appropriate. By adding the idea of cultural profiling and of integrating multiple cultural perspectives (Henderson, 1996), various cultures preserve their identities and can adapt the system to their cultural environment and not vice versa.

Henderson's model comprises 14 dimensions or features that can distinguish whether the e-learning environments' characteristics match the preferences of learners across different cultures. The extremes on each end are reminiscent of the continuum used by Hall (1996), Hofstede (1976), and Trompenaars and Hampden-Turner (1986, 1997) discussed earlier on in this thesis.

Drawing on the work of Henderson, McLoughlin (1999) expands her model by proposing a multiple cultures model of instructional design. His approach is characterized by an instructional design paradigm, which endorses multiple cultural realities. He attempted to present an approach to the design of a culturally responsive. Web environment for indigenous Australian students and to illustrate how cultural issues and decisions were incorporated in the pedagogical design of an online course.

Figure 9: Henderson's multiple cultural model



Adapted from Henderson (1996)

Essentially, this approach is a form of "eclectic paradigm," which entails designing learning resources that allow variability and flexibility while enabling students to learn through interaction with materials that reflect multiple cultural values and perspectives, include multiple ways of learning and teaching, and promote equity of learning outcomes by combining mainstream and non-mainstream cultural interests (Gunawardena & Wilson, 2003).

Characterizing Some Common Traits in Eastern Pedagogical Cultures[1]

As pointed out so far, Reeves (1992), Henderson (1996), McLoughlin (1999) and others have extended concepts of cross-cultural dimensions to education. Accordingly, proposing a multidimensional approach, the above-mentioned models have identified cultural-pedagogical dimensions in educational settings and, more specifically, to e-learning.

Several studies (cf. Delialioglu & Yildirim, 2007; Edmundson, 2004; Ford & Kotzé, 2005; Osman & Herring, 2007; Zhang, 2007) across the Eastern countries have been conducted based on the cultural[2] and cultural-pedagogical models presented above. It is appears that there are many commonalities and similarities in cultural and cultural-pedagogical values, expectations and traits among many Eastern countries (Osman & Herring, 2007; Zhang, 2007). Despite their commonalities, however, there are some differences among Eastern countries related to their specific social and cultural roots and contexts, such as religion, traditions, etc.

Recognizing and taking into account of these cultural commonalities could be very critical in designing and utilizing successful e-learning in other Eastern contexts. To have an account of these commonalities, a review of in common cultural-pedagogical values and traits between Eastern countries' educational settings is presented.

Gunawardena (1996), drawing on Hofstede (1986) cross-cultural dimensions, argues that Turkish culture, like other Eastern countries, manifests a high degree of 'Power Distance', a 'High Intolerance to Ambiguity', and tends to be 'Collectivist' in nature. She concludes that Turkish culture is typically teacher-centered, with teachers regarded as the source of wisdom and knowledge and supposed to guide students. They are usually not challenged. In a typical lecture students will only speak when addressed, but they will do so more readily in small groups.

In a university context in a high Power Distance culture, authorities are also more reluctant to share information; in many cases they would even limit access to information. In the same vein, authorities in any sections try to

[1] This part is based on my previously published article with B. Lindström in *Int. J. Internet and Enterprise Management, 6*(2), 124-142.

[2] More specifically Hofstede's (1997) cross-cultural dimensions.

control who has access to what. Such procedures are often advocated by gatekeepers using references to ethical and moral norms, social security etc.

Patronage (belittling yourself/denying your own self and identity/and emptying yourself of any standing you may have in front of the superior) is relevant to consider in educational settings. It encourages people to internalize obedience and respect for superiors and authority (Osman and Herring, 2007), which is highly valued in Eastern countries and particularly in the Middle East. As pointed by Usun (2004), learners embracing such cultural norms may be disadvantaged in environments with less hierarchical order. Furthermore, this is an example of an issue that is not easily separable from the ideological and political system of these societies.

Easterners are more in favor of collectivism, urging individuals to surrender their own genuine interests for the sake of the well-being of the collective, being that a family or a state (Huang, 2002). Close interpersonal relationships are emphasized, while independence and self-reliance are downplayed. Also collectivist cultures display intolerance for ambiguity, which implies a preference for structured learning situations.

Preserving the face of both students and teachers is very important. Such cultures may also emphasize maintenance of social harmony in learning situations (Osman & Herring, 2007). Norms like this obviously influence the conditions for adopting a Western participatory model of instruction, heavily relying on group interactions with students critiquing each other's work. For instance, Gillham (2004) argues that in Asia, many focus-group participants were reluctant to openly criticize software due to social norms of politeness and 'saving face'.

Oral traditions seem to play an important role in the most of the Eastern countries' culture, which should be considered in designing tools in e-learning environments. In cultures with a strong oral tradition, text-based tools, like chats, for communication in virtual communities might be less functional, since the status of written text might influences how it can be used. As an example, uncertainty avoidance cultures rely less on e-mail for important issues; in most of these countries authorities still think you need a signature and so on. For instance, even in some of the virtual universities in Iran, students are required to submit all their educational and administrative affairs (in particular financial ones) by mail, because e-mail is not recognized as a formal document, and have them signed.

Generally, the Eastern culture embraces a dialectical and holistic world view, perceiving human beings and nature as one unified entity, considering the interdependent relationship between living things and their environment, the natural and human elements, and their mutual shaping in the construction of meaning (Zhang, 2007). The Eastern tradition seeks harmony, order and well-being in a society by underlining social obligations of individuals and classes, who should behave in line with the social expectations of their social roles, spanning from seniors to young children, from governors to common citizens, for both male and female (Osman & Herring, 2007; Zhang, 2007).

These cultural commonalties, according to Zhang (2007), among educational settings of the Eastern countries could be sorted out in the following four main categories: *Epistemological beliefs*; *social values and issues*; *Centralized educational system*; and *Culture of examination*.

Epistemological Beliefs

This category roughly is in line with the *Educational Paradigms* and *Instructor Role* in Reeves (1994) and Henderson's (1996) Model.

Transferring or banking of knowledge is the dominating paradigm in most of the educational settings. So, in these setting reciting and reproducing the transferred knowledge is highly encouraged. Similarly, the virtual institutions of such contexts are mostly centered on transferring of knowledge and *e-teaching* rather than *e-learning*.

Students in such context should show full respects to teachers and authorities in general, are modest, concentrate on grasping the given knowledge and putting them into action as it prescribed. Interestingly, the virtual environment and platforms are based on the same value and premises. Take, for example, the teachers in virtual institutions, which their authorities in virtual environments cannot be questioned and they were treated with respect.

Social Values

Seeking social recognitions; accordingly, 'degree diseases' is popular in most of the Eastern cultural contexts. The acquiring degree/diploma specifically in engineering and medical sciences is highly praised. Earning such higher education diploma often is valued as a way to get social recognition. It needs to be mentioned that this issue *in which students view education as a way for earning higher social status and prestige's rather than individual development* can be considered as one

of the blocking factors in enhancing and assuring quality in higher education specifically in virtual institutions (cf. Liu, 2006; Nisbett, 2003).

Emphasizing moral education through extra-curriculum activities such as cultural and religious activities; the political authorities' version of morals is usually imposed alongside educational actvities. For instance, the cultural activities has been underlined in the Iranian higher education, even as, there is a vice-presidency for cultural affairs in the administrative system of any higher education settings to respond to students' cultural and religious needs through extra-curricular cultural activities.

In contrast to other Eastern countries such as Chinese social and cultural contexts - which Zhang (2007) refers to as "Encouraging learning together" and *large population* - large class sizes are not the case in Middle East. In these contexts the design of instruction is based on the individual pupils' practices and instructional settings are considered as contests in which learners are encouraged to be the best in this competition.

Centralized Educational System

In most of developing countries as in Iran, education is highly centralized and controlled by the government. Accordingly, central government design and execute policies and standards for all of the educational activities such as school finance, curriculum, textbooks, assessment, teacher training, etc.

Moreover, teachers are required to teach uniform content often based on the standard pace with reference to official teachers' guides. Based on such centralization, even the type of the lecturers' assessment is defined by the system. It needs to be mentioned that the centralized and hierarchical structure of higher education in the Eastern countries may have less value to education.

Culture of Examination

The performances of learners, teachers, and virtual institutions are largely defined according to exam scores and number of graduates.

Further, examinations are highly valued in the context of these countries. It seems that the main issue in such examinations is not assessing students' developments and learning but their memorizations. Accordingly, students even in virtual institutions should be tested by paper-based examinations in the off-campus of virtual institutions or their local office (Masoumi & Lindström, 2009).

It should however be noted that making a distinction between Western and Eastern cultures is a simplification. There are large, and sometimes critical, differences or commonalities between cultures within these spheres.

Mapping out a Cultural-Pedagogical Model in E- Learning

It appears that Henderson's (1996) Multiple Cultural Model proposes a valuable framework for evaluating and judging an educational setting by plotting each of the dimensions on a scale and thus obtaining a profile for an e-learning environment/virtual institution. In other words, this *eclectic* multidimensional approach provides a pragmatic typology of cultural constructs, which might work as a tool for considering dimensions of culture when designing e-learning environments.

Henderson (1996) in her Multiple Cultural Pedagogic Model contends that Reeves' cultural-pedagogic model[3] is "more logically represented as a field with the multiple cultural contextuality dimensions forming an axis to each existing dimension". She adds that "leaving cultural context as a separate dimension" (1996, p. 95) alongside other dimensions "ghettoized" cultural-pedagogical dimensions. In other words, cultural dimensions are interwoven with learning and naturally occurring in all of the educational theories and practices.

Henderson (1996) also puts forwards that the values embraced by Reeves' first dimensions including epistemology and educational philosophy may in turn be based on Western notions or theories of the nature of knowledge, and argues that diverse standpoints can be defined based on Asian, African, or Australian Aboriginal epistemologies. Collis (1999) contends that Henderson's key addition to Reeves' model is the "idea of incorporating multiple cultural perspectives into an *eclectic paradigm*, so that multiple cultures maintain their identities and can have their respective cultures accommodated" (p. 205).
Similarly, Henderson's work can be viewed as somewhat foundational as it has been utilized (as a framework) in numerous studies, including studies by Collis (1999), McLoughlin (1999) and Gunawardena et al. (2003). All these works call for authentic cultural sensitivity, constructivism learning strategies, and learning activities that offer flexibility, variety and choice for students.

[3] The 14 dimensions of interactive learning used by Reeves (1994) operationalized the accommodation of cultural difference in educational settings.

In the Henderson's (1996) model, however, two paradigms are described as polar extremes on a continuum: from externally mediated reality (objectivism or instructivism) to internally mediated reality (constructivism). As regards specific dimensions, the characterization of pedagogical philosophy as ranging between objectivism (instructivism) and constructivism does not capture the contemporary educational discourse.

For example, Sfard (1998) made a distinction between two metaphors of learning, the *Acquisition Metaphor* and the *Participation Metaphor*, that build on a socio-culturally informed analysis. It could even be argued that there is a more fundamental distinction to be made between a pedagogical philosophy that builds on an epistemology that views learning as based on social interaction (Vygotskian cultural historical theory) and an epistemology that builds on learning as rooted in the disposition of the individual (for example, Piagetian constructivism) (cf.Alexander, 2007; Martin, 2006). Distinguishing "Computer Supported Collaborative Learning" from a more individual Constructivism model, Koschmann (1996a), argues that the new paradigm of learning is aligned with the sociocultural stance. This also implies or builds upon another view of the poles of the underlying psychology, i.e. the major distinction that is made between cognitive and sociocultural psychology.

On the other hand, Henderson's *eclectic* Multiple Cultural Model comprises particular elements from "(a) the behaviorist-Constructivism-critical theory paradigms, (b) both mainstream and minority cultures, and (c) the modernist, postmodernist, and interconnectivity world views. It is informed by Vygotskian learning theory and sees the zone of proximal development as particularly relevant" (Henderson, 1996, p. 94). Similarly, sociocultural and Constructivism theories are seen as two parts of one theory in this model. Moreover, there are some dimensions and features in Reeves (1994) and Henderson's model (1996) that refer to sociocultural paradigms such as collaboration among learners and so forth. Thus, it could be claimed that the constructivism addressed in Reeves (1994) and Henderson's model (1996) cover the socio-cultural stance somehow.

It should be noted that the quality of the given cultural-pedagogical aspects could vary in a specific context, at the same time as these aspects are intertwined with each other. Similarly, cultural profiles may also vary within the timeline of an instructional setting itself or even in a course.

Moreover, any of the noted paradigms could be more appropriate for a specific situation compared to the others. In other words, "there are times that a more objectivism approach is appropriate and there are other times that a more Constructivism is appropriate" (Henderson, 1996, p. 359). For instance, whereas at the beginning, an Instructivism approach is chosen to teach novices, the course continues with Constructivism pedagogy for the more experienced students (cf. Collis, 1999; Jonassen, 1991; Vrasidas, 2000).

Cultural-Pedagogical Dimensions in E-Learning

As mention is made, among the given cultural-pedagogical models, Henderson's *eclectic* Multidimensional model can provide a valuable platform for exploring the dominant cultural-pedagogical constructs in e-learning environments. Core cultural-pedagogical building blocks/dimensions that construct Henderson's model address both underlying premises, values and practices in educational settings (Edmundson, 2004).

Each of the cultural dimensions can reflect particular epistemologies, and consist of values, expectations, and established procedures. What follows is a brief description of these cultural-pedagogical dimensions.

Epistemology

Epistemology is concerned with theories about the nature of knowledge. Epistemology or pedagogical philosophy refers to underlying educational paradigms that are embedded in the cultural context.

Objectivism epistemology establishes a definitive and transformative structure of knowledge, as opposed to constructivism, which calls for a variety of perspectives so that learners can construct their own knowledge. Similarly, in the instructivism approach, goals and objectives are considered apart from the learner and focus on direct instruction and assessments/evaluations are conducted concretely on the basis of the given objectives. In contrast, the focus in constructivism is on the goals and needs of the learners, along with their previous experience and their meta-cognitive strategies (Reeves, 1994, pp. 223-237).

Goal Orientation

The objectives of a course (or learning package) can range from sharply focused to unfocused, depending on the goals of the course and the expectations of teachers. An unfocused objective can be more open-ended, like

learning to appreciate modern art. Accordingly, the goals may vary from concrete (for example, the basic techniques of first aid) to abstract (learning resources aimed at developing an appreciation of modern art).

Experiential Value

The Experiential Value dimension ranges on a continuum from *Abstract* to *Concrete*. The earliest type of systematic learning activity probably involved some sort of apprenticeship (which has tangible, experiential value). More abstract learning activities, e.g. classroom lectures, were developed much later and mostly dominated approaches in most of the educational settings. The key point in this dimension is that learning activities should not be separated from "*real world*" experiences.

Teacher Role

This dimension is placed on a continuum from *Didactic* to *Facilitative*. The teacher's role may vary, from being a facilitator of e-learning environments to being a transmitter and source of knowledge. Similarly, the teacher's "didactic role" in a learning situation may strongly scaffold the learners, learning activities, and correspondingly, the students' independent activity may be increased when the teacher stays in the background, as a *facilitator*. Although some instructors may shift their roles comfortably, most instructors play primarily *didactic (*sage on the stage) roles whereas relatively few take on *facilitative (*guide on the side) roles – this seems to be an unarguable necessity in e-learning environments (Reeves & Laffey, 1999).

Flexibility of Programs

Flexibility of programs ranges from *teacher-proof* and *unchangeable* to easily *modifiable*. In other words, the learning activities could be articulated in a strict framework that should be followed precisely as in instruction programming, or it can be adopted and modified on the basis of the students' needs or learning environments.

Value of Errors and Experiential Learning

"Experience is the best teacher" reflects a belief that we learn much in life by trial and error. Although this approach is inefficient and even dangerous in some contexts, experiential learning is highly valued simply because it provides opportunities for us to "learn from our mistakes". In an errorless learning

approach, students learn until they make no mistakes, or the instructional method does not allow for errors. In contrast, the "learning from experiences approach to instruction" uses errors as part of the educational process.

Accommodation of Differences

The impact of individual difference is a very critical factor in the effectiveness of educational settings. Accordingly, in some learning environments, students' specific interests, needs and previous experiences is accounted for when designing and conducting learning activities. On the other extreme, learning environments without taking into account individual learners' differences are structured in a way that obviates the need for accommodation of individual differences (taking one size for all).

Learner Control

Learner control refers to the opportunities in educational settings that allow learners to make decisions about what, when and how (paths to follow) they can pursue their studies. In this dimension, students either learn along and within a very predetermined path, or they have partial or complete *control* over their learning path.

User Activity

Along with the instructivism view in *mathemagenic* (instructor-provided) learning environments, students are provided with the learning resources to be learned (to perform their learning activities). A *generative* (learner-generated) learning environment, on the other hand, is aligned with the constructivism approach, which emphasizes students' active engagement in developing and running a course (creating or elaborating on knowledge).

Collaborative Learning

Collaborative[4] learning refers to methodologies and environments in which students *negotiate* and *share meanings* relevant to the problems and issues arising (Dillenbourg, 1999). Similarly, learning in this context takes place socially as the collaborative construction of knowledge (Stahl, Koschmann, & Suthers, 2006).

[4] Unlike other studies, the researcher uses *collaborative* insisted of *cooperative* learning to describe this dimension in e-learning environments. As Dillenbourg (1999) contends "in cooperation, partners split the work, solve sub-tasks individually and then assemble the partial results into the final output. In collaboration, partners do the work 'together'" (Dillenbourg, 1999, p. 8).

Collaboration can be undertaken both synchronously and asynchronously in e-learning.

Based on the taken paradigm, in some learning environments, there is very little or no support for collaborative learning and in others, it is fully integrated in learning environments. There is a considerable body of research supporting the benefits of collaborative learning (Reeves & Laffey, 1999).

Origin of Motivation

Motivation is a primary factor in any learning setting. The "source of motivation" dimension could range from *extrinsic* (outside the learning environment and learners) to *intrinsic* (integral to the learning environment and learners). Although intrinsic motivation and the love of learning are precisely what attract many students to learn and engage in learning environments, intrinsic motivation often takes a backseat to the extrinsic motivational factors that students consider important such as getting high marks (Reeves & Laffey, 1999).

Structure

Learners' response to new information is shaped within the cultural contexts they encounter. This cultural context could range from low to high. High context cultures prefer implicit messages as opposed to low context cultures that prefer explicit messages. Other high/low context differences include reactions, movement between groups and commitment (Reeves, 1994, pp. 223-237).

Some of the above mentioned dimensions entail relatively similar cultural-pedagogical constructs. For instance, these three dimensions, *epistemology, pedagogical philosophy* and *underlying psychology* address the underlying educational paradigms. These cultural-pedagogical dimensions shape the whole educational sphere, including the quality assurance and quality enhancements. It needs to be mentioned that the range and quality of these core cultural-pedagogical dimensions can vary from one context to another. It should also be noted that there may be other cultural-pedagogical dimensions that still need to be delineated (Reeves, 1992).

Summary

Addressing the main educational paradigms, it is noted that the underlying premises and pedagogical notions in e-learning environments not only shape the designing and facilitating of e-learning environments (i.e. aims, process, teaching and learning scenarios, and so on) but also form the ways that this environments should/could be assured and improved. In the same vein, a number of scholars have argued that the most important shift from traditional education (face to face) to e-learning should involve the change of cultural-pedagogies issues such as the nature of the tasks, the teacher's role in terms of didactic or facilitative (cf. Hase & Ellis, 2001; Reeves & Reeves, 1997; Wang & Reeves, 2006).

In this chapter, the quality in e-learning has been considered as a cultural artefact that is embedded in cultural-pedagogical contexts. These cultural premises have been addressed and characterised by a number of anthropologists as "cultural dimensions". Aligned with these cultural dimensions, a number of features/dimensions have been explored in order to characterize the specific attributes of educational settings. In other words, it is argued that quality in e-learning is dependent on cultural values and beliefs including assumptions about the nature of knowledge, what success should look like in a educational setting (expectations), how subject discipline should be taught, how students learn, and even choice and use of technology.

On the other hand, as pointed out in chapter one, the developing countries not only are increasing their dependence to the West being consumers of hardware (Edmundson, 2006b; Unwin, 2005), they seem to be passive users of the developed platforms and frameworks such as e-quality models with limited value added (Kohn, et al., 2010; Lam, 2006). Accordingly, it can be said that importing the tools and platforms (quality model, LMS, CMS, etc.) and learning resources - ignoring the local cultural premises and procedures- can determine the effectiveness of e-learning in the developing countries. Given this it is argued that to integrate culture and cultural-pedagogical issues when developing and implementing e-quality frameworks, cultural understanding and avoidance of hegemonic premises and behaviors is essential.

This is followed by an overview of the cultural-pedagogical dimensions in educational settings in general and in virtual institutions in particular. Next,

Henderson's model is mapped out for exploring the cultural-pedagogical orientations in e-learning settings. It is noted that her model can provide a valuable framework for evaluating and judging an educational setting by plotting each of the dimensions on a scale, thus obtaining a profile for an e-learning environment/virtual institution.

Finally, the cultural-pedagogical dimensions are highlighted. Reflecting the contrast between objectivism and constructivism, these dimensions characterize both values and practices in educational settings.

CHAPTER 7

RESEARCH METHODOLOGY

This chapter deals with the methodological logic and practice of this study. The logic of the methodology addresses the consistency of the research strategy based on the knowledge claim premises behind this study, on the one hand, and the research methods on the other. The methodological practice refers to procedures and essential concerns when conducting the study in terms of methodological approach (e.g. qualitative and quantitative design), the data collection methods (e.g. interview, focus group, survey, and observation), the participants, and the analytical procedures that have been carried out. The methodological practice is articulated in four sub-parts on the basis of the research questions.

Philosophical Assumptions

The "nature" of research problems in different areas can vary depending on underlying premises and knowledge claims in these areas. Accordingly, the research methods used in the natural sciences are different from those used in the social sciences. Accordingly, some research methods might be more "appropriate" than others for carrying out a study in order to make valid knowledge claims.

Similarly, the initial consideration for exploring a research problem is to determine which philosophical stance is to be adopted. As McPherson (2007) contends, one of the most contentious debates is whether to adopt a positivist view of social reality, in which social facts can be known with certainty and in which laws of cause and effect can be discovered, or whether to apply

humanistic and more interpretative approaches, which generally see social reality as constructed through social action on the part of people who undertake those acts because they have meaning for them.

Given this, the underpinning premises of this study have developed and evolved from a predominantly positivist epistemology towards a more naturalistic, interpretive epistemology. Such a standpoint implies that the researcher:

- Is focusing on trying to understand and interpret a particular phenomenon (i.e. the issue of quality of virtual institutions in the cultural context developing countries);
- Is directly and personally involved in the research project;
- Is investigating the 'taken-for-granted' (constructs such as quality, systems and evaluation);
- Has a concern for the individuals involved (the deans, lecturers and students' understanding and stances) - this is described as existential phenomenology - (cf. Cohen., Manion, & Morrison, 2000);
- Has a practical interest in the case study in order to develop a culturally sensitive framework for improving quality in developing countries.

The above-mentioned premises are in line with Creswell's (2003) pragmatic, mixed methods approach, which deals with applications and solutions to given problems. Although this research is methodologically grounded in so-called pragmatic principles in order to obtain insights into the research problem, which is centered on designing and developing an e-quality framework, I will primarily employ a development research approach.

In the development research approach, the researcher can use both qualitative methods (e.g. interviews, focus groups, observations, etc) and quantitative components (e.g. surveys, questionnaires, etc.). In the same vein, employing mixed method approaches can lead to new insights into the quality of e-learning in developing countries' cultural contexts. Consequently, this can generate a better understanding than studies that are tied to a single method (Greene, Kreider, & Mayer, 2005).

Introducing pragmatic principles (i.e. using mixed methods), on the other hand, is a way of validating and triangulating research findings and can thus minimize prior expectations and biases in the final analysis. Similarly, triangulation is used to assist in uncovering the whole picture and to cross-check the information collected (Yin, 2002).

Research Design

This exploratory study aims to investigate a range of issues concerning the quality of e-learning in order to provide a methodological framework for systematically enhancing and assuring quality in e-learning. Taking a development research approach along with utilizing a variety of research methods in order to collect the requested data can provide a genuine understanding of the situation under examination, which is centered on developing a cultural-sensitive e-quality framework.

In the same vein, the focal aim of this study is to contribute to enhancing and assuring the quality of e- learning in higher education contexts by developing a contextualized e-quality framework. This is done by developing and adopting a methodological framework for assuring and enhancing the quality of e-learning, which is outlined in the following questions:

What constitutes quality in e-learning in higher education institutions?

How can culture and cultural-pedagogical issues be integrated in the e-quality framework?

What are the dominant cultural-pedagogical paradigms in Iranian virtual institutions?

How can the e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?

Having selected an appropriate research design, an attempt was first made to develop an appropriate and comprehensive e-quality framework. Next, in order to contextualize the e-quality framework developed, cultural-pedagogical constructs of Iranian virtual institutions were investigated and, finally, the presented e-quality framework was validated and adapted in Iranian higher education settings.

The first stage in terms of developing a comperhensive e-quality framework furnishes a foundation for the rest of this development research. This stage is followed by two more phases including:

- Exploring the dominant cultural-pedagogical construct in Iranian virtual institutions
- Validating the developed e-quality framework in the context of the Iranian virtual institutions.

Development Research as Methodological Approach

There has been increasing emphasis on systematic studies of the processes involved in the establishment, validation, and implementation of educational interventions and models (cf. Richey, 1997; Richey, Klein, & Nelson, 2004; Tracey, 2007). Similarly, design and development[1] research as an engineering metaphor has become one of the imperative research methodologies in educational settings both at a macro and a micro[2] level, particularly in instructional technology, for developing and enhancing instructional interventions, technological tools and educational models (Richey & Klein, 2007).

This developmental approach allows the researcher to go beyond descriptive accounts of the educational phenomena as such, and involves working to change the phenomenon studied in effective ways with the broader goal of examining how these changes can potentially enhance learning and teaching activities (Barab, 2006). These types of development research can, in turn, contribute to rich insights into complex educational problems through continual testing and refinement of what works both in practice and theory. Similarly, when describing this kind of research studies, Cobb et al. (2003, p. 9) states:

> Prototypically, design experiments entail both "engineering" particular forms of learning and systematically studying those forms of learning within the context defined by the means of supporting them. This designed context is subject to test and revision, and the successive iterations that result play a role similar to that of systematic variation in experiment.

This process is usually instantiated with conceptual notions and frameworks that are tested by means of design, implementation, and systematic evaluation along with continual refinement in a specific context. In other words, it is a "series of approaches, with the intent of producing new theories, artifacts, and practices that account for and potentially impact learning and teaching in naturalistic settings" (Barab & Squire, 2004, p. 2). Such development study "might draw less from traditional positivist science or ethnographic traditions of inquiry, and more from pragmatic lines of inquiry where theories are judged

[1] Development research is interchangeably used with design research in this study.
[2] This process (development research) is often entitled *action research* when its focus is on an immediate problematic situation in a classroom or educational setting.

not by their claims to truth, but by their ability to do" (Barab & Squire, 2004, p. 6) and to acquire a sound picture of the given research problem.

Accordingly, design research in educational settings is defined as "a socially constructed, contextualized process for producing educationally effective interventions with a high likelihood of being used in practice" (Bannan-Ritland, 2003, p. 21). Similarly, Reeves, Herrington, and Oliver (2005) listed a number of characteristics of design research including a focus on complex problems, the integration of known and hypothetical design principles, testing and refining innovative environments to reveal new design principles, and intensive collaboration among researchers and practitioners. These characteristics can also be counted as development research features too (Reeves, 2000).

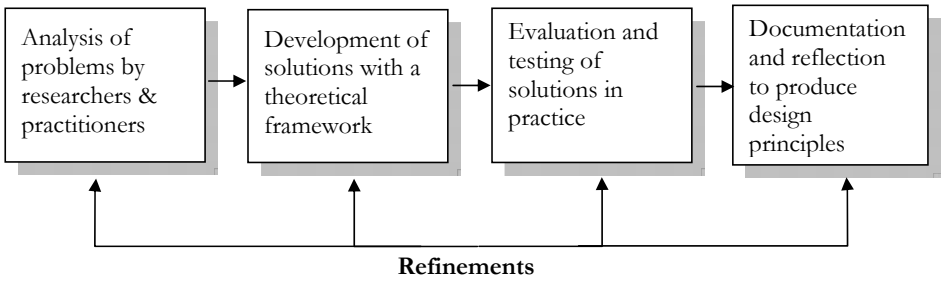
Development research as an instructional design methodology involves the understanding and production of knowledge with the ultimate aim of improving the processes of design, development, and evaluation in educational settings (Richey, et al., 2004). It can be asserted that development research is a pragmatic form of research that attempts to understand the dynamic development cycle of a given instructional product/process, test theory and validate practice (Hung, Smith, Harris, & Lockard, 2007; Richey, 1997). Moreover, it is a way of creating and establishing new models, procedures, and tools on the basis of a methodical analysis of specific cases (Richey & Klein, 2005). As Richey (1197) contends:

> Developmental research is compatible with the idea that research can have a broader function than the creation of generalizable conclusions or statements of law. It accepts the view that research, especially developmental research, can also produce context-specific knowledge and serve a problem-solving function. Still, the primary goal of developmental research is not to create instructional products and programs, but rather to determine the models and principles that best guide the design, development, and evaluation processes utilized in making these products and programs. As such, doing development and studying development are two different tasks (p. 93).

Consequently, developmental research can be defined as a "systematic study of design, development and evaluation processes with the aim of establishing an empirical basis for the creation of instructional and non-instructional products

or tools and new or enhanced models that govern their development" (Richey & Klein, 2007, p. xv).

Figure 10: Development research approach



Adapted from Reeves (2000)

In other words, developmental research is a systematic and iterative *process (*see Figure 10) in which the problem is analyzed and the bases are scrutinized, followed by a development process for creating an intervention that is then followed by continual refinement until an optimal state is reached.

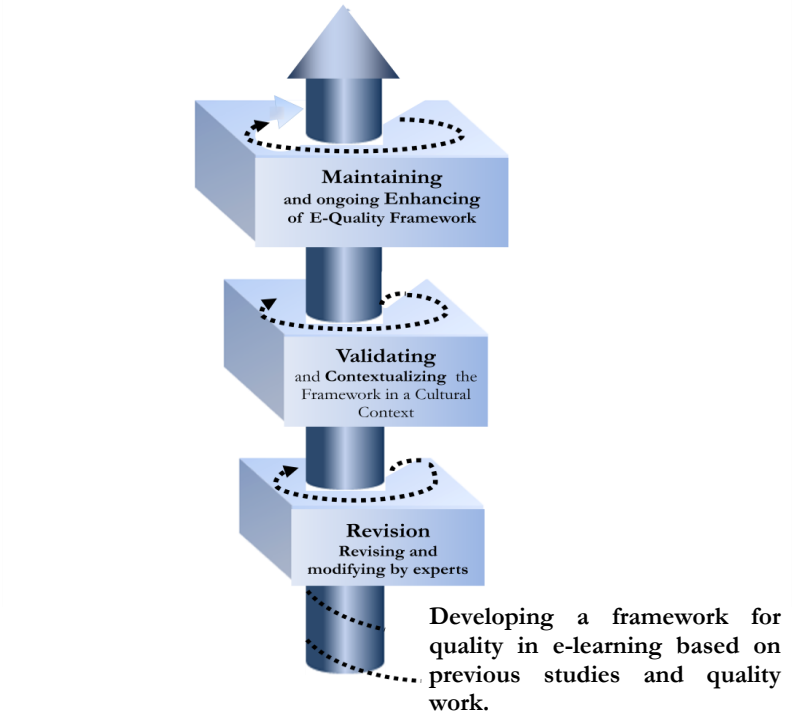
Van den Akker (1999, p. 9) argues that "Methods of development research are not necessarily different from those in other research approaches". Similarly, Richey et al. (2004, p. 1115) state that it is not "uncommon for a developmental research project to also utilize multiple research methodologies and designs, with different designs again being used for different phases of the project".

Accordingly, in keeping with the developmental approach of this study - to provide a contextualized e-quality framework, a combination of *etic* and *emic* data to be gathered: *etic* data from the surveys and *emic* data from the case interviews, document review, and observations (Creswell, 2003). It is like incorporating a quantitative mini-study and a qualitative mini-study when exploring different dimensions of a phenomenon as a means of harnessing the strengths of both approaches, triangulating data and illuminating statistical findings. In the same vein, taking a pragmatic approach aligned with the development research can lead to an in-depth search for new insights into the quality of e-learning in developing countries' cultural contexts.

Research Outline

As argued above, the production of knowledge is the ultimate goal of development research, which is often articulated in the form of a new/enhanced design or development model. In the same vein, this study builds on a development methodological framework for developing a contextualized e-quality framework to assure and enhance quality in e-learning environments.

Figure 11: Steps in development research for developing an e-quality framework



As illustrated in this Figure 11, developing e-learning quality framework is a sequential, evolutionary, and iterative process that should/could be modified and contextualized taking to account various factors including cultural constructs.

In other words, quality improvement, like other development research, is a *process* and not an *end* that is continuously evolving regarding cultural changes, technological changes, etc. This is particularly true of activities involving

design, development and testing (Ellis, Jarkey, Mahony, Peat, & Sheely, 2007). These iterative and intertwined stages represent the scope of activities carried out when developing an e-quality framework.

Accordingly, in current development research, the first step is to develop and conceptualize a framework for improving and assuring quality in e-learning environments based on the theoretical and practical knowledge produced in related areas (i.e. previous studies, guidelines, best practices, benchmarks, etc.). This iterative process continues with the following two parallel steps: revision (refinement), and validating. Quality and quality framework as cultural constructs cannot be validated abstractly, but should be validated and adapted in relation to specific culture and cultural-pedagogical settings (see chapters 5 and 6).

Because of the *dynamic* nature of quality as a cultural construct as well as bearing in mind the rapid technological changes, the e-quality models are subject to ongoing development and refinements (maintaining and developing frameworks). Thereafter, the validated model, even in specific cultural settings, cannot be regarded as "one measure for all sessions". Similarly, the e-quality framework should be refined continually. This refinement takes place via ongoing feedback from both lower systems (e.g. students, teachers, etc.) and upper levels systems (Industry, political systems, etc.).

Accordingly, it can be asserted that this study as development research is a long-term practice that is far beyond the scope of this study. Similarly, applying and testing the contextualized e-quality framework in Iranian or other higher education settings is the next step in this development research, but also beyond the scope of this study. Consequently, my focus in this study concerning designing and contextualizing an e-quality framework is centered on the early parts of this development research process. The procedures undertaken in this development research can be articulated in two core phases.

First Phase

The first phase of this development research takes the form of an extensive literature review of various initiatives and studies carried out about quality in e-learning in general and quality in e-learning and higher education settings in particular.

The reflective analysis and synthesis of these studies resulted in a comprehensive e-quality framework for enhancing and assuring quality in

virtual institutions. The "e-quality framework" developed was refined and continually improved based on discussions with and critical comments by other researchers.

Second Phase

In the second phase, we try to find out to what extent the *stipulated framework* is suitable as well as feasible in developing countries' cultural contexts. To this end, Iran is taken as an empirical case of a developing country.

To built in and integrate the cultural and cultural-pedagogical issues in developing and then implementing e-quality framework, foremost, ones needs to examine and made out the dominant cultural and cultural-pedagogical orientations. Accordingly, I was encouraged to attempt at scrutinizing dominant cultural-pedagogical paradigms in Iranian higher education, as well since there seemed to be a lack of studies considering dominant cultural-pedagogic orientations in Iranian higher educational settings.

The e-quality framework developed was tested and validated by means of the interviews that were conducted as part of this study. Moreover, to explore the feasibility of the e-quality framework, a focus group method with virtual institution practitioners (to openly and honestly exchange their views in this regard) was employed.

Research Method

From the outset, it was clearly understood that an interpretative approach can be beset by many difficulties and in some ways probably the harder approach to take. As McPherson (2007) contends, eliciting research data purely in the form of figures or statistics would not provide the new perspectives and insights being sought and that quantitative research would not reveal underlying e-quality factors affected by attitudes, beliefs or judgments held by various key stakeholders in the complex environment of higher education. In an attempt to make this study more meaningful, the research method consists of a holistic and methodological approach that considers the processes of designing, developing, implementing and delivering e-learning in specific cultural contexts.

Since this research was intended to contribute to enhancing and assuring the quality of e-learning, it was necessary to conduct an in-depth, holistic

investigation in quality of e-learning in a wider cultural and cultural-pedagogical context. Taking a development research approach, as pointed out above, a mixed method are pragmatically taken. This approach allowed the researcher to investigate this complex phenomenon using a variety of evidence types and perspectives. A brief description of the procedure, data collection tools, sampling (selection of participants), and data analysis was given based on the research questions. What follows is an overview of the methodological practice in terms of the research questions addressed.

What Constitutes Quality in E-Learning in Higher Education Institutions?

The first research question addresses what constitutes quality in e-learning in general and in virtual institutions in particular. The aim of this research question was to develop an e-quality framework for enhancing and assuring quality in virtual institutions.

As mentioned in *First Phase*, the methodology used to address this research question at the conceptual level came from reviewing the practical knowledge (developed models, guidelines, benchmarks, etc.) as well as the theoretical literature on the quality of e-learning and other related metaphors that are interchangeably used in this field.

To explore the knowledge produced and e-quality work and models, an extensive search was undertaken in a wide range of databases with a variety of keywords including *e-learning, quality, higher education, distance learning, virtual universities/institutions, online learning* and some other relevant concepts. To this end, along with employing well-known search engines such as *Google, Google Scholar, AltaVista, Yahoo*, etc., a large number of professional/academic databases such as *ERIC, Proquest, SpringerLink, informaworld*; as well as a number of active international organizations in the field of e-learning and e-quality including *European foundation for quality in e-learning*, *Institution for Higher Education Policy*, *The Sloan Consortium*, and *e-Quality consortium* have been searched.

As was argued previously, the literature review is centered on exploring related research studies of and contributions to quality in e-learning environments in general and in higher education settings (virtual institutions/e-universities) in particular. The following factors and concerns were considered when selecting and determining contributions and studies:

- Provide evidence of investigating quality in e-learning environments in particular.
- Provide evidence of dealing with quality in distance education.
- Provide evidence of determining crucial factors in higher education settings.

Investigating related literature on the quality of e-learning resulted in a large number of contributions including e-quality frameworks, guidelines, classic collections of benchmark criteria for judging promising or exemplary online courses, best practices, and indicators or principles. The most relevant contributions and studies, initially, were determined on the basis of the focus of those contributions. Then, the identified studies and contributions were critically examined one by one.

In other words, a comparative analysis of these studies was performed. This was especially important given the high degree of heterogeneity between the reviewed studies in terms of scope, methodologies and geographical contexts. Consequently, there was a special focus on recent research that has attempted either to "*assure* and *enhance"* quality in different frameworks or to "*assess"* and identify facilitating or blocking factors in e-learning environments in terms of learning inputs, process, and outcomes.

The reflective analysis and synthesis of these contributions and studies resulted in an e-quality framework for enhancing and assuring quality in virtual higher education institutions. The early manuscript of the e-quality framework was refined and improved continually for more than two years. This refinement and improvements were based on other researchers' comments and feedbacks. The refinements to the e-quality framework are made by adding, deleting, or rewording the benchmarks and sub-factors.

It should be pointed out that the interest this study in investigating quality in virtual institutions in higher education settings is not centered merely on the organizational or methodological aspects, as is the case in most of the models provided, but on the whole sphere of a virtual institution including teaching and learning processes, outputs and outcomes.

The literature review (practical and theoretical basis for developing the e-quality framework) is given in Chapter eight. The *e-quality framework* developed is presented in chapter nine as is the main output of the literature survey. The framework has incorporated 116 benchmarks divided into seven main building

blocks: *Institutional factor, Technological factor, Instructional design factor, Pedagogical factors, Teacher support, Student support,* and, finally, *Evaluation Factor.*

How Can Culture and Cultural-Pedagogical Dimensions Be Integrated in the E-Quality Framework?

A second research interest in this study was to investigate how culture can be integrated in developing and facilitating quality frameworks in e-learning. This issue, however, is scarcely addressed in educational literature. To address this challenging issue, the theoretical and practical knowledge from other domains of knowledge (e.g. management, industry, etc.) is brought in as a bridge to educational settings in general and to higher education in particular. This bridge is delineated in terms of the cultural and cultural-pedagogical constructs' influences on services such as higher education in general and on e-quality frameworks specifically.

In other words, the challenge addressed in this research question is how cultural issues can be embedded when developing and implementing the e-quality models and frameworks in of e-learning. Addressing the cultural-pedagogical issues, the core idea investigated in this research question is discussed and presented in chapters five, six, and 12.

What are the dominant cultural-pedagogical paradigms in Iranian virtual institutions?

In line with the second research question, the third research question focuses on investigating the impact of the cultural issues and cultural-pedagogical dimensions (see chapter six) on quality in e-learning. Consequently, the focus of this question is on identifying dominant cultural-pedagogical orientations in Iranian virtual institutions.

To explore the dominant *cultural-pedagogical* orientations in the context of Iranian virtual institutions, the study was conducted based on what Edmundson (2004) did in her study when she examined the cross-cultural dimensions of Western and Eastern e-learning settings. This study was carried out at the following three virtual institutions: the virtual institution at IUST, Shiraz Virtual institution and Hadith Science Virtual College.

Edmundson (2004), Dimmock & Walker (2002) and others support the use of a combination of quantitative and qualitative methods in social and cultural studies on the grounds that such meta-analysis can be used to correlate

approaches to learning and learning outcomes with characteristics of individuals and the learning context in a diverse range of social and cultural contexts. Accordingly, qualitative and quantitative methods were employed to address this research question.

Data Collection Instruments

A survey method adapted and developed on the basis of Edmundson's work (2004) was employed to explore dominant cultural-pedagogical orientations. In this survey, clusters (a set of two or three) of questions representing different cultural-pedagogical values were applied. The questions aimed to elicit the ongoing procedures (status quo) from the participants, rather than what they considered desirable. In the same vein, in the questionnaire developed, participants were asked to choose one of two possible statements that denoted their virtual learning environments. These two statements in each of the questions were intended to reflect the participants' orientations and preferences towards one of the noted extremes in the given continuum. In other words, given two statements in any question ranging from instructivism to constructivism were constructed in order to collect data on the participants' perception of virtual learning environments (i.e. their cultural-pedagogical values).

I agree with Edmundson (2004, 2007) that taking this approach (two-scale) instead of the Likert multiple scale, limits ambiguity, eliminates the need for a response scale, and provides clearer distinction preferences that reflect the poles of each cross-cultural dimension. Thus, in this study, the two- scale instead of the multiple scale is employed.

In this study, the researcher did not test the reliability and validity of the questionnaire since such tests were carried out in Edmundson's work (2004). Similarly content validity and construct validity were determined by Edmundson (2004) by referring to the theoretical constructs and previous studies (see Henderson, 1996; Reeves & Harmon, 1994).

In order to ensure that the translated questionnaire was as value-free and comprehensible as possible, three Iranian educators (scholars) were invited to look at the translated questionnaire in order to identify any confusing and vague statements with regard to the cultural context in which it was to be employed. The researcher also asked them for comments and suggestions for any possible improvements. The input from these scholars was used to revamp

the questions, correct errors, and to generate the final draft of the questionnaire instrument.

The surveys consisted of three sections. The first section of the questionnaire obtained demographic data about the participants. The second part, which was the main part, included questions that were adapted from the instrument developed by Edmundson (2004). The third part was an open-ended question addressing the participants' understanding of their virtual environment's status quo (explaining how the learning and teaching activities are carry out in their virtual institutions).

The original questionnaire had 18 questions. As some of questions concerning the cultural-pedagogical dimensions in the original questionnaire did not cover different aspects of the specific cultural-pedagogical construct, the researcher added three more items (questions) to the final draft of the questionnaire. These items, which were taken from the work of Reeves (1994) and Henderson (1996), were about Experimental Values (item 5), User Activity (item 18) and one statement of Origin of Motivation (item 12).

Each question comprises two statements examining different dimensions in a twofold continuum. Each cultural-pedagogical dimension is represented by at least two or three questions.

Two versions of the questionnaire were supplied: one for students and one for lecturers. It should be pointed out that the original questionnaire had been developed for students, so a parallel questionnaire was restructured (reworded) for lecturers (see appendix A for a copy of the questionnaire). As mentioned, the questionnaire was translated from English into Persian (to correspond with the project environment). Thus, participants could choose their language of preference.

An observation was carried out to gain full insight into the learning and teaching activities in the Iranian virtual institutions, along with the quantitative data (survey). The focus of this observation was on the students' and lecturers' activities in the given e-learning environments. This kind of qualitative data can shed light on how the participants reflected on and felt about the questions, and the results of the questionnaires helped validate and synthesize the emerging themes. As Malinovski (1992) contends, "to judge something, you have to be there" (Malinovski, 1992, p. 65).

Participants and Procedure

After a *prolonged* official and institutional adjustments in terms of explaining its objectives, importance and getting requested permissions, the decision-makers at three virtual institutions agreed to participate in this study. Thereafter, the adapted surveys were carried out among students and faculty members at these virtual universities in the winter of 2007.

The participants were chosen on the basis of availability and willingness to participate (i.e. participation was voluntary[3]). Around 70 participants, including 40 students from two virtual institutions and 30 faculty members from three virtual institutions were involved in this study. Unfortunately, the headmaster of one of the institutions opposed the distribution of the questionnaires among students with the argument that "*the questionnaires may raise students' expectations of our virtual institution"*. Consequently, we were forced to limit ourselves to participants from two virtual settings.

After initial arrangements with decision-makers, the survey was administered electronically (via e-mail) to the participants (students and faculty members). 25 students from two virtual universities and 19 faculty members from 3 virtual universities returned the questionnaires.

As mentioned, in order to get a precise picture of how learning and teaching activities are carried out in the virtual institutions under scrutiny, the researcher took part in the virtual environments of these virtual institutions. After the necessary arrangements and getting a user ID and password to log into their virtual environments, the researcher participated in one virtual course at the IUST Virtual institution and one course at the Hadith virtual institution in the spring of 2008 (in the case of Shiraz virtual institution, a description of the platform and procedures was provided). It should be pointed out that my participation in these environments was as a passive observer (watching, listening and reading the comments) rather than as an active participant engaged in the given learning environments, and students were not informed about the researcher's presence in their e-learning environments.

Data Analysis

In the analysis, the data set collected was inserted into the SPSS program. Each response was numerically coded, with "1" representing (Instructivism/

[3] Most of this procedure was carried out informally.

Objectivism approach) the left hand side of the questionnaire and "2" representing (Constructivism) the right hand side of the questionnaire. The descriptive overview is presented in chapter 10 and includes frequencies and means of any of the noted cultural-pedagogical dimensions (Educational paradigms, Experimental Value, Teacher Role, and so on).

How Can the E-Quality Framework Be Validated and Adapted to the Cultural-Pedagogical Context of Virtual Institutions in Iran?

The last research question is centered on investigating the influences of (culture and) cultural-pedagogical constructs on developing and implementing e-quality frameworks with a specific focus on validation of the developed e-quality framework in Iranian cultural contexts (i.e. Iranian higher education settings). To address this research question, thus, the e-quality framework developed was tested and validated in an Iranian cultural context.

This study involved five Iranian virtual institutions including Iran Science and Technology University (IUST) virtual institution, Shiraz virtual institution, AmirKabir virtual institution, Hadith Science virtual institution, and Tehran Medical University. The first three virtual institutions are technically oriented higher educational settings and the other two are non-technical settings with a focus on social and medical science. Along with interviews with decision-makers at these virtual institutions, a focus group discussion was held to address the feasibility of the e-quality framework.

Validation of Quality Framework

Validation of the framework/model developed is typically anchored in the scientific inquiry tradition in terms of "*what is scientific knowledge and how new knowledge can be confirmed?"* (Barlas & Carpenter, 1990; Pedersen, Emblemsvag, Bailey, Allen, & Mistree, 2000). This means that one's conception depends on the given epistemology, namely, how knowledge can be obtained and confirmed (Barlas & Carpenter, 1990). Along the same line of thought Barlas (1996, p. 187) proposes two main schools including:

> The traditional reductionist/logical positivist school (including empiricism, rationalism, verificationism and the "strong" falsificationism) would see a valid model as an objective representation of a real system. The model can be either "correct" or "incorrect"; once the model confronts the empirical facts, its truth or falsehood would be automatically revealed.

In such an approach, the validity of a model/framework is seen as a matter of accuracy rather than usefulness. Barlas adds that:

> The opposing school (including more recent relativistic, holistic and pragmatist philosophies), in contrast, would see a valid model as one of many possible ways of describing a real situation. "No particular representation is superior to others in any absolute sense, although one could prove to be more effective. No model can claim absolute objectivity, for every model carries in it the modeler's worldview. Models are not true or false, but lie on a continuum of usefulness.

Based on this approach, model/framework validity is strongly tied to the "nature and context of the problem, the purpose of the model, the background of the user, the background of the analyst, and other considerations" (Barlas & Carpenter, 1990, p. 148). Accordingly, model/framework validity "is not absolute and validation cannot be entirely objective and formal" (Barlas, 1996, p. 188).

As regards the e-quality model/framework as a cultural artifact, the validation of a framework/model as an inherently social, judgmental, qualitative process which can be proved valid based on the given model's usefulness in a specific context. Similarly, judgment about an e-quality framework can be made based on the "usefulness with respect to some purpose" or as to whether a tool is fit for its purpose (Barlas, 1996; Inglis, 2008). In such an approach, e-quality framework validation is regarded as a gradual process of "*confidence building*, rather than a binary *accept/reject* division" (Barlas, 1996, p. 188).

In line with *relativist epistemology* to obtaining and validating new models, it can be said that there is no accepted method for certifying and validating the quality frameworks. For instance, current literature focused on the implementation and systematic validation of instructional design models describe several different ways to model validation. These include *referencing to the literature* and *Theoretical Structural Validity*, *expert review*, *usability documentation, component investigation*, and *field evaluation* (Inglis, 2008; Richey & Klein, 2005, 2007).

In the same vein, the e-quality framework developed in this study is validated by various methods. Foremost, to build confidence in the validity of the individual constructs constituting the e-quality framework (C*onstruct's Validity*), reference is made to the appropriate research literature (as elaborated earlier in the First Phase). Further refinement is made to the e-quality

framework through other researchers' reviews (critical comments) for Theoretical Structural Validity[4]. Along with *referencing to the literature,* the e-quality framework developed is validated in terms of the knowledge of decision makers of virtual institutions in the field (who will use this model in their specific context) (cf. Inglis, 2008).

This validation is performed based on the *usefulness* of the e-quality framework for assuring and enhancing quality in virtual institutions. As argued, validation of an e-quality framework is a social, judgmental and qualitative process, which can be undertaken in a context. Thus validation of an e-quality framework for "use in one context does not certify its fitness for use in a different context. There is therefore an extent to which validation processes are tied to the contexts from which they have originated" (Inglis, 2008, p. 350).

Structured Interviews

To address the validity of the e-quality framework, structured interviews were conducted with the decision makers (deans and other authorities) of the Iranian virtual institutions. These interviews were conducted based on the e-quality framework developed despite the fact that this type of interview might leave "little room for variation in response" as "all respondents receive the same questions delivered in a standardized manner" in the process (Punch, 2005, p. 170). However, in practice, the interviews lead the researcher beyond the superficial data in order to reveal hidden cultural agendas, tacit manipulations that normally occur within complex social, political and organizational contexts.

Initially, the researcher intended to interview all the decision makers of the virtual institutions, but some of them did not respond to my initial attempts. Thus, the interviews were made with decision makers[5] of five Iranian virtual institutions including Hadith Science Virtual College, Iran University of Science and Technology (IUST) Virtual Institution, Shiraz Virtual Institution, Tehran Medical Virtual Institution, and AmirKabir Technical (AKT) Virtual Institution. The decision makers of these virtual institutions were invited to take part in an individual interview.

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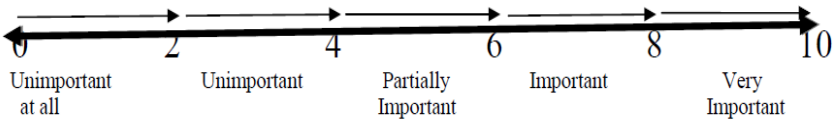
[4] Theoretical Structural Validity refers to the structural/logical soundness of a framework's constructs, both individually and integrally (Pedersen, et al., 2000).

[5] Unfortunately, the decision makers of state-run institutions, particularly in higher education settings, are frequently replaced. Thus, the researcher was forced to interview the former decision makers of the two virtual institutions.

After primary arrangements, the decision makers of these virtual institutions were invited to take part in an individual interview. In June 2009, the researcher visited each institution[6] and conducted structured interviews with dean. Prior to conducting the structured interviews, a survey using a Likert Scale was administered to each interviewee. The structured interview includes 116 benchmarks under seven headings (main factors) based on the e-quality framework developed.

The Likert Scale listed a set of pre-determined questions on the basis of the e-quality framework developed and ranging from "1" indicating *lack of importance* to "10" signifying the *high importance* of assuring and enhancing quality in e-learning. Correspondingly, the possible weight for the given benchmarks, sub-factors and factors range[7] from "1" to "10", in which "1-2" denoted *lack of importance at all*, "3-4" indicated *unimportance*, "5-6" denoted *partially important*, "7-8" pointed *important* and "9-10" indicated *high degree of importance* in a virtual higher education institution.

Figure 12: Possible weight for the given benchmarks



Initially the participants received the framework developed in two languages, English and Persian, two weeks before the interviews. The reason for this was to give the participants an opportunity to gain an overall understanding of the e-quality framework developed. At the beginning of the interviews, the participants were asked to weight the importance of each benchmark and sub-factor according to the common expectations and perceptions in their virtual institutions (the established and dominant procedures and traditions), not on the basis of their personal perspectives and thoughts.

In other words, it was assumed that what decision makers of these virtual institutions "desire" is more likely to reflect a desired norm or *actual behavior* than what they consider "desirable". According to Hofstede (1997), a statement or question that asks participants to express what is "*desirable",* implies a request

[6] Apart from Shiraz Virtual Intuition's former dean, who was interviewed in Tehran.
[7] This scale (Likert Scale) provides a series of statements to which decision makers can choose degrees of agreement or disagreement.

for what they view as ethically correct or reasonable; consequently, their answers are less likely to reflect the everyday practices they actually peruse.

Focus Group Method

As mention is made, to expand on the findings from the interviews and further explore the feasibility of the e-quality framework developed, a focus group method was also conducted among practitioners of the virtual institutions. Similarly, the focus group method can lead us beyond what is apparent as well as make us step out of institutional contexts in order to reveal feasibility of the presented framework.

Focus groups are a common method for collecting data in educational settings, particularly in the area of evaluation. Morgan (1997) defines focus group as "a research technique that collects data through group interaction on a topic determined by the researcher" (p. 6). Interestingly, in focus group interviews, the participants may not always be aware of their standpoints until they discuss the topic with other participants. Group interactions "may present the need to explain or defend one's perspective to someone who thinks about the world differently. Using focus groups to create such interactions gives the researcher a set of observations that is difficult to obtain through other methods" (Morgan, 1997, p. 46). He identifies three essential elements in focus group interviews:

- A research method devoted to data collection,
- Interaction in group discussion as the data source, and
- The researcher is involved in the discussion as an active participant

When discussing the use of the focus group method as a data collection method, Morgan (1997) argues that focus groups typically lie in structured discussions in a formal setting. In this study, all of Morgan's three essential elements are taken into account.

As noted, the focus group method in this study is centered on the feasibility of the e-quality framework in Iranian virtual institutions. In other words, a focus group method was employed to expand the findings from the interviews conducted and explore the feasibility of developed e-quality frameworks as well as the blocking and facilitative factors when implementing the e-quality framework developed.

This method was used with a group of practitioners (around 20 people) at virtual institutions and lasted three hours with a break halfway through on Hadith Virtual Institution's campus. The focus group was asked to 'focus' in particular on "Exploring feasibility as well as the blocking and facilitative factors for implementing the e-quality framework developed".

Demographically, the members of this focus group were a homogenous group of male (mainly males) and female employees at virtual institutions such as lecturers and middle and low-level administrators. The researcher first, gave an outline of the e-quality framework for 25 minutes (approximately). Then, to elicit and challenge participants to share a diversity of perspectives, the participants were given a number of motivating questions about the topic under discussion.

The participants talked about the feasibility of the framework developed as well as blocking and facilitative factors when implementing the framework. There were some heated discussion and disagreements on some points while on some points there was a slightly consensus among practitioners.

The information collected from the focus group discussions was analyzed by checking all statements about a particular aspect, by summarizing the main points where consensus was reached among the focus group respondents and by abstracting as well as selecting illustrative comments for inclusion.

It should be pointed out that the researcher faced some problems associated with collecting and interpreting such qualitative data (both interviews and the focus group method), for instance:

- When translating from Persian to English as well as when re-wording factors and items, the results are dependent on the researcher's interpretation of what the interviewee intended to imply.
- The similarity of categories enabled some of them to be grouped together, which would not necessarily have been done in the same way by another researcher (Morgan, 1997).

However, these types of threats to objectivity and reliability should not detract from the value of this exercise, since this study is an exploratory attempt to develop a contextualized e-quality framework.

Data Analysis

The data collected were analyzed and summarized using the SPSS program and reported according to identified themes and issues. The intention was for these qualitative or quantitative data to validate the e-quality framework developed in order to improve and customize this framework in Iranian virtual institution contexts. Accordingly, the data was considered and interpreted in rich detail. Similarly, the distribution of given weights and means were computed for each institution, factor and even benchmark separately (see chapter 11).

The frequency and means of the factors and sub-factors were also tabulated and summarized in chapter 11. Moreover, the responses to open questions were analyzed in terms of the issues that were raised by the virtual institutions' decision-makers.

In fact, drawing conclusions logically takes place more or less concurrently with the reduction and display of data. Similarly, any remarks and conclusions are noted in the analysis. Validation and customization of the e-quality framework, integrally linked to drawing conclusions, entail revisiting the data collected as many times as necessary to cross check the emerging conclusions.

Summary

In this chapter, an outline of the methodology employed in this study is provided. To combine the theoretical and practical knowledge and to develop a contextualized e-quality framework, the development research has been adapted to enhance and assure quality in e-learning environments. Accordingly, taking a pragmatic approach, a variety of research methods including survey, interview, focus group and observation are employed for collecting the data requested.

For further elaboration, a graphic presentation of the research methods utilized -for each research question- is provided in Table 13.

Table 13: Research questions with methodologies employed for data collection

STRATEGIES RESEARCH QUESTIONS	Literature survey	Survey	Interview	Focus Group	Observation
1- What constitutes quality of e-learning in higher education settings?	*		*[8]		
2- How can culture and cultural-pedagogical issues be integrated in the e-quality framework?	*				
3-How can the e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?	*		*[9]	*[10]	
4-What are the dominant cultural-pedagogical paradigms in Iranian virtual institutions?	*	*[11]			*

In the next sections, the research findings from this development research are presented in accordance with this data analysis strategy. The results are presented in several chapters based on the research questions.

[8] With my colleagues in general and supervisor in particular
[9] With the virtual institutions' decision-makers
[10] With the virtual institutions' practitioners
[11] With the virtual institutions' students and lecturers

CHAPTER 8

REVIEW OF CONCEPTUAL AND EMPIRICAL WORK ON E-QUALITY

Over the past two decades, the quality in e-learning has been brought and adopted in educational settings as a theoretically and practically informed domain of knowledge. This domain of knowledge has benefited from a significant number of studies, e-quality frameworks/models, guidelines, etc. all over the world, especially in Western countries. In what follows, current practical and theoretical knowledge, including the research studies, frameworks and guidelines for developing an e-quality framework, are critically reviewed and presented. It is believed that critically analyzing e-quality work can build a sound foundation for developing a comprehensive e-quality framework.

Introduction

A large number of research studies as well as models, guidelines, principles, etc. have been developed to enhance and assure quality of e-learning in developed countries in the last ten years. In this e-quality work (research studies, models, guidelines, etc.), critical success factors, best practices, benchmarks and standards for enhancing and assuring quality in e-learning have been discussed.

In most of the reviewed e-quality work, the quality is investigated very narrowly, dealing with specific aspects of e-learning. Having a more inclusive view of e-learning settings or virtual institutions, however, a few of them have looked into e-learning/virtual institutions systematically (cf. Higher Education Policy, 2000; Khan, 2005). However, the current state of research does not make it possible to make any generalizations (of such e-quality models,

frameworks) to the context of developing countries solely on the basis of systematic inquiry.

In the following, e-quality work is viewed as a combination of established epistemological and educational values and research findings along with the practical knowledge and experiences acquired. Current practical and theoretical knowledge can be regarded as an "assemblage of the *best available evidence* designed to give educators guidance in designing and delivering high-quality learning experiences" (Olson & Shershneva, 2005, p. 103). Thereafter, a critical review of current e-quality work in terms of models, guidelines, frameworks, etc. is presented with the aim of building a reliable foundation for developing a comprehensive e-quality framework.

To this end, notes are made to foreground the e-quality work developed in different settings. This e-quality work is mainly taken from published research studies and reports across the world. To give a good picture of the quality in e-learning, the foregrounded e-quality work is reviewed and divided into two main categories based on methodological and epistemological approaches as follows:

- Empirically oriented e-quality work
- Conceptually oriented e-quality work

It needs to be asserted that, undoubtedly, the e-quality work identified and presented cannot include all the contribution to and research studies about e-quality. Thus, there may be other e-quality studies not addressed in this study. Moreover, some of the e-quality work that does not address quality in e-learning directly - in terms of providing frameworks and guidelines to assure and enhance quality- such as *Quality in e-learning: Use and dissemination of quality approaches in European e-learning* (Ehlers, Goertz, Hildebrandt, & Pawlowski, 2005), *The Open University's internal quality processes*, etc. are not reviewed, though such e-quality studies are considered when developing the e-quality framework.

Empirically Oriented E-Quality Work

The first part of this literature review, refers to e-quality work in terms of e-quality models, framework, and research studies that are grounded in the empirical work. Accordingly, the e-quality work presented is supported by empirical research in the form of surveys, interviews, etc. It needs to be mentioned that some of this e-quality work addresses enhancing and assuring

quality in distance learning in general while e-quality work focuses specifically on e-learning.

Institute for Higher Education Policy (2000)

"Quality on the Line: Benchmarks for Success in Internet-Based Distance learning" is one of the oft cited studies carried out by The Institute for Higher Education Policy (IHEP). This study was developed in a three-step process by the National Education Association, the largest professional association of higher education faculties, and Blackboard, one of the top business providers of a software platform for delivering online courses, support and sponsors. As was pointed out in the introduction of this seminal work, the framework can be considered as a "first-of-its-kind study to bring reason and research data to this overheated debate" (The Institution for Higher Education Policy, 2000, p. vii). It aimed to map out more tangible measures to quality in technology supported learning.

In this study, a broad literature review (recommended by policy groups, educational organizations, and several leading experts in higher education) was conducted. The literature review came up with 45 benchmarks for ensuring quality in e-learning environments.

A number of institutions in the United State, which "have substantial experience and are providing leadership in distance learning" (IHEP, 2000, p. 9) were identified and studied to ascertain the extent to which the specified benchmarks were used, and how important the benchmarks were to the faculty, administrators and students. A total of 147 respondents from six institutions were surveyed. Along with surveys, IHEP staff also visited the institutions to assess the degree to which these institutions incorporated the benchmarks.

As a result, the list of 45 benchmarks was reduced to 24 benchmarks that were considered essential for ensuring excellence in e-learning settings. The 24 benchmarks were divided into seven categories (see table 14).

This study is one of the few comprehensive studies of assuring and qualifying the quality of e-learning environments with a specific focus on Web-based learning. Moreover, the framework addresses blended learning. As stated, this research has been used as framework for a number of the studies across the world (e.g. Yeung, 2002; Herman, 2001).

Table 14: The Institution for Higher Education Policy's framework for e-quality

INSTITUTIONAL SUPPORT BENCHMARKS	- A documented technology plan. - The reliability of the technology delivery system is as failsafe as possible. - A centralized system provides support for building and maintaining the distance learning infrastructure
COURSE DEVELOPMENT BENCHMARKS	- Guidelines regarding minimum standards are used for course development, design. - Instructional materials are reviewed periodically. - Courses are designed to require students to engage themselves in learning activities
TEACHING/ LEARNING BENCHMARKS	- Student interaction with faculty and other students. - Feedback to student assignments and questions is constructive and provided in a timely manner. - Students are instructed in the proper methods of effective research, including assessment of the validity of resources.
COURSE STRUCTURE BENCHMARKS	- Before starting an online program, students are advised about the program to determine (1) if they possess the self-motivation and commitment to learn at a distance and (2) if they have access to the minimal technology required by the course design. - Students are provided with supplemental course information that outlines course objectives, concepts, etc. Learning outcomes for each course should be clearly written. - Students have access to sufficient library resources. - Faculty and students agree upon expectations regarding times for student assignment completion and faculty response.
STUDENT SUPPORT BENCHMARKS	- Students receive information about programs (admission requirements, tuition and fees, books and supplies, technical, etc.) -Students are provided with hands-on training and information to aid them in securing material through electronic databases, etc. - Throughout the duration of the course/program, students have access to technical assistance. - Questions directed to student service personnel are answered accurately and quickly, with a structured system in place to address student complaints.

FACULTY SUPPORT BENCHMARKS	- Technical assistance in course development is available to faculty, who are encouraged to use it. - Faculty members are assisted in the transition from classroom teaching to online instruction and are assessed during the process. - Instructor training and assistance, including peer mentoring, continues through the progression of the online course. - Faculty members are provided with written resources to deal with issues arising from student use of electronically-accessed data.
EVALUATION and ASSESSMENT BENCHMARKS	- The program's educational effectiveness and teaching/learning process is assessed through an evaluation process that uses several methods and applies specific standards. - Data on enrollment, costs, and successful/innovative uses of technology are used to evaluate program effectiveness. - Intended learning outcomes are reviewed regularly to ensure clarity, utility, and appropriateness

Adapted from The Institution for Higher Education Policy (2000)

Interestingly, among the 24 benchmarks in this framework for ensuring excellence in e-learning, emphasis is placed on items such as *student interaction with faculty and other students, students engaging in higher-order thinking,* as well as *timely feedback to students and access to technology and library resources. Technical training* and *support to students and faculty members* are also included and recommended.

This study brought up, however, a set of factors and guidelines without considering cultural-pedagogical issues. In addition, the factors and benchmarks listed are regarded as statistical principles that should be accounted for in any e-learning setting. It seems that we cannot establish any framework for quality improvement and assurance in educational contexts without addressing its educational and epistemological values in order to define desired successful/effective learning (process, output or outcome).

Moreover, despite the important role of the institutional and administrative issues in organizing and coordinating of different resources, these issues are not considered in the framework. Finally, in this framework, the alignment of the purpose of a degree program and the mission of the host higher education institution is not addressed, whereas this issue is often regarded as a foremost criterion in the regional accrediting commissions.

Herman (2001)

In his M.Phil study, Herman (2001) investigated the applicability of IHEP benchmarks to an Internet-based distance education program at the University of Stellenbosch in South Africa. He attempted to apply the "Institute for Higher Education Policy" framework to a full distance program offered via WebCT.

He concluded that The Institute for Higher Education Policy's benchmarks cannot be implemented in the context of the University of Stellenbosch due to the premises of this framework not being aligned with the University of Stellenbosch's values and expectations. Thus, he suggested that the University of Stellenbosch develop its own benchmarks, taking international guidelines into account (Herman, 2001,as cited in Fresen,2005).

Yeung (2002)

In another attempt, "Toward an Effective Quality Assurance Model of Web-Based Learning: The Perspective of Academic Staff", Yeung (2002) like Herman (2001) based his study on *The Institute for Higher Education Policy's* framework. He investigated critical success factors contributing to quality assurance of web-based learning in Hong Kong.

To this end, he used a questionnaire to measure academic staff perceptions of whether the IHEP benchmarks were important for ensuring quality and also to what extent these benchmarks were present at the time at the University of Hong Kong. Out of a total of 50 faculty members, 34 took part in this survey.

According to his results, the benchmarks for quality assurance of Web-based learning were considered important and in general the institutional representatives strove to incorporate them in their policies, practices and procedures. He concluded that *The Institute for Higher Education Policy's* benchmarks could be suitable for the higher education settings in Hong Kong.

The final item in the Yeung (2002) survey study called for listing important quality benchmarks that are not present in the IHEP study. A number of benchmarks were highlighted by faculty members, including Attractiveness, Accuracy, Consistency, Creativeness, Feasibility, Motivation, Rich Content, User Friendliness, Interaction, Popularity, Stability, Capacity, Flexibility, etc. It can be argued that most of these benchmarks were already present in the IHEP framework (e.g. *interaction*, *motivation*, *reliability*, *technical*

support) and others such as *user friendliness* are an intrinsic part of sound instructional design practice.

The studies (Herman, 2000; Yeung, 2002) referred to here are examples of the several studies undertaken based on the IHEP framework. These studies were conducted on the basis of a survey (questionnaire data) alone. However, my argument is that employing a range of qualitative and quantitative methods such as mixed method approach, potentially allow for more reliable results. Moreover, in order to have an effective quality assurance model for e-learning, it is necessary to take into account all the role players' (stakeholders) considerations including students, faculty members and the administrative body (incorporating the results could provide full insight into the quality assurance model).

More importantly, the overall aim of the investigations discussed above (the application of a developed model in a specific context) is not clear, whether they want to validate the model developed or whether they want to apply it. For instance, in the case of Yeung (2002), the researcher tried to explore the weight of the benchmarks given, ignoring the applicability of the whole framework. It should be noted that the benchmarks came mostly from educational literature, thus it is matter of course that all the benchmarks can be considered important to some extents.

Volery and Lord (2000)

In their study "critical success factors in online education", Volery and Lord (2000) also concentrated on identifying key success factors in e-learning environments. These researchers developed their instruments based on previous studies, particularly the work by Reeves and Harmon (1994).

They conducted the study among 47 students enrolled in an online management course at a conventional (on-campus) Australian University. The survey they used was based on Reeves and Harmon's (1994) work on assessing and qualifying multimedia products, which is shown in Table 15.

With the initial objective of identifying key factors in e-learning, Volery and Lord (2000) ended up with three critical success factors: *technology, instructor* and *previous use of the technology;*

- *Technology*: addressing ease of access and navigation, interface design and level of interaction.

- *Instructor*: dealing with attitudes towards students, instructor's technical competence, teaching style, and classroom interaction.
- *Previous use of the technology*: addressing students' ICT literacy

Table 15: The measurement factors

TEACHING EFFECTIVENESS	Student involvement and participation, cognitive engagement, technology self-efficacy (i.e. the belief that one has the capability to interact with a given technology), perceived usefulness of the technology employed, and the relative advantage of online delivery.
TECHNOLOGY	A set of 11 items was developed using a five-point Likert scale to capture the reliability, quality, and medium richness of the technology.
INSTRUCTOR CHARACTERISTICS	A set of 12 items was developed using a five-point Likert scale to capture the attitude towards technology, teaching style, and control of the technology displayed by the instructor.
STUDENT CHARACTERISTICS	Access to the Internet at home, program of study followed by the student, country of origin, and gender.

They also acknowledged that the instructors continued to play a central role in online education, albeit this role was to become one of a learning catalyst and knowledge navigator. This study, compared to the other studies discussed, was conducted on the basis of *students' perceptions* of a particular e-learning environment (in a course) and also involved a small number of participants.

Considering that participants in this study were in an on-campus setting, their perceptions of critical success factors can be argued not to be representative of full e-learning settings. Likewise, taking the students "p*revious use of the technology"* as a key success factor in e-learning environments can be explained. It needs to be noted that not only students' but also teachers' ICT literacy, competencies and attitudes can be regarded as contextual factors that may be of specific importance when initiating blended courses or new e-learning programs.

Benchmarking of Virtual Campuses (2002)

In another initiative by the European Commission, the BENVIC project carried out a study of a consortium for qualifying e-learning environments and setting up a system for evaluating "Virtual Learning Platforms". The aim of this case study was to analyze learning activities in a sample of European virtual

campuses including institutions from Romania, Spain, Russia, Slovenia, Portugal and Italy.

In the preliminary baseline, eight core factors or "meta-indicators" were foregrounded. These meta-indicators and the associated benchmarks (see Table 16) were thus the result of the data analysis of the above-mentioned six European virtual campuses (organizations).

Table 16: Quality factors determined

LEARNING SUPPORT	In terms of performance of Learning Support Services, most of the organizations had trained all their staff in support service delivery, and most enrolled students had attended an induction course.
LEARNING DELIVERY	There was a relatively high level of implementation of Learning Delivery Services in the six organizations reviewed across the 10 measures used
LEARNING DEVELOPMENT	In contrast to Learning Delivery Services, the six organizations showed a low level of learning, development structures and practices, except for: Course Design and Delivery Guidelines, Authoring tools and authoring support systems and Central Support for content developers, which were all at least partially implemented in the six organizations
TEACHING CAPABILITY	Teaching capability structures showed a high level of implementation, with all six organizations having at least partially implemented support services for teachers; technical support for teachers; staff training for authoring systems and technical services to support staff interaction. In contrast, there was a lower level of implementation of the 'practice' elements – particularly with regard to providing regular needs analysis for teachers.
EVALUATION	The level of implementation of Evaluation structures and practices varied considerably between organizations and across the ten measurements. Quality standards and monitoring and Review systems were fully implemented in all organizations. However, tools and methods for assessing learning outcomes were adopted in only two organizations and none of the six had evaluation expertise in-house.
ACCESSIBILITY	This indicator showed the lowest level of implementation in all the organizations, with the exception of an 'open access' policy in student and staff recruitment, which was fully implemented in all but one.
TECHNICAL CAPABILITY	In contrast, this indicator showed the highest level of implementation in all the organizations, with all seven structural and practice measures being partially or fully implemented.

INSTITUTIONAL CAPABILITY	The implementation of Institutional capability Structures and practices varied between organizations and across the measures used, except for Transfer of research and monitoring results to teaching and learning management and practice, and regular competence reviews of staff, which were at least partially implemented in all organizations

In other words, these benchmarks were the result of identifying and analyzing the expected competencies by an institution in order to define, implement, manage and evaluate a virtual campus from an educational, technological, organizational and economic point of view. This initiated a base for qualifying the virtual learning environments and, consequently, the establishment of a comparative analysis among them (Sangrà, Guardia, Girona, Dondi, & Cullen, 2002). Each of these eight factors is associated with a range of assessment measures that enable BENVIC users to carry out initial benchmarking diagnostics. The assessment measurements consist of three types:

- Structural measurements
- Practice measurements
- Performance measurements

In order to verify the indicators and measures used in the system, participants in the 'BENVIC Club' were asked to evaluate and carry out a 'benchmarking audit' of their own organization and secondly, to provide details of how the practices listed in the BENVIC benchmarking system were implemented in their own institutions.

This study was a process-oriented Benchmarking System that provides a platform for auditing e-learning settings with a focus on self-evaluation. Additionally, it may enable the institutions to compare themselves with each other. This implies a process where institutions critically reflect on all the learning procedures to make possible continuous enhancement of these virtual institutions, particularly in the primary phases of setting up an e-learning environment. This study had the aim of validating the benchmarks in European settings and thus function as a quality assurance system.

The given category in this model is not out of the question. For instance, the institutional factor addressing the administrative issue, cost-effective issue, etc. is not dealt with in this framework. Similarly, *Accessibility* is regarded as a main factor (meta-indicator) along with the technological factor whereas accessibility is a subpart of the technological factor.

Sloan Consortium Quality Framework (2002)

The Alfred P. Sloan Foundation Consortium's (Sloan-C) *Five Pillars* of *Quality Online Educatio*n is one of the oft-cited initiatives in e-quality literature. By means of structured interviews and selected case studies, this study tried to identify the factors that contribute to successful distance learning. They came up with five *Pillars* of *Quality Online Educatio*n and also set up a website to collect and disseminate this practice. Each one of these *pillars* address a specific domain of e-learning environments as briefly described in the following.

- Access

This pillar refers to accessibility where all the learners who are qualified and motivated should be enabled to succeed and complete a course/degree/program through online access to learning in any discipline.

- Learning effectiveness

This pillar addresses the quality of learning in e-learning settings that should at least be as good as the quality of learning in traditional institutions.

- Cost effectiveness

This factor refers to institutional business (cost-benefit assessment of the given program/courses) practices along with support, high-quality educational programs and expansion to meet needs.

- Faculty satisfaction

This pillar highlights three main activities including: 1) to sustain and enhance faculty participation in online teaching, 2) to expand and deepen faculty awareness with online teaching and raise their satisfaction, and 3) to integrate faculty online and face to face with online purposes and practices (Lorenzo & Moore, 2002).

- Student satisfaction

The last pillar addresses the learners' satisfaction after a course/program has been completed. This could be investigated through: 1) level of interaction with faculty and other students, 2) learning outcomes matching the course description/outlines, and 3) adequacy and appropriateness of technology and support (Bourne & Moore, 2003; Moore, 2005)

These pillars, known as the pillars of quality, with the aim of conducting *continuous quality improvement* by identifying goals and benchmarks, seemingly measure the progress towards goals, refining methods, and improving outcomes. It should be noted that the pillars focus on the institution as the

entity that examines how its online programs meet the described goals for each pillar (Moore, 2005).

The Sloan-C research project for supporting off-campus institutions provides a catalog of effective distance education practices. To this end, five pillars are identified as core principles mapping a means for creating explicit metrics for assessing and improving e-learning environments, particularly the outcomes of e-learning institutions.

This metric benchmark can be an excellent source of case examples of best practices but does not, I would argue, provide an explicit statement of standards. It also has a strong emphasis on outcomes rather than procedures and inputs. Accordingly, it can be said that this model introduces a marketing approach in an educational setting. For instance, there is no sign of the benchmarks that address inputs such as institutional or technological factors.

Cohen and Ellis (2004)

"Validating a Criteria Set for an Online Learning Environment" Cohen and Ellis (2004) tried to map out what constitutes quality in an online course. In order to measure quality in online courses, the researchers carried out their study in three phases consisting of brainstorming, ranking and rating. They conducted their study among 125 students who were taking part in on-line education. Their initial brainstorming generated a set of the following five quality measures:

- *Community of learners*: referring to interactions among students and creating a social space in virtual environments.
- *Instructor accessibility*: addressing the effective instructor-to-students communication including just and on-time feedback to students.
- *Class organization*: covering a range of benchmarks including learner (student) centeredness, clarifying expectations and emphasizing self-paced schedules
- *"Feel" of the class*: addressing benchmarks about students' engagements such as simulates an in class 'feel', and
- *Peer Impact*: dealing with issues such as class size and student's preparation of e-learning environments.

These five quality measures (factors) were further analyzed in a second phase. The participants were divided into five groups corresponding to the five factors

identified. Each group was asked to work on one measure by means of the Nominal Group Technique (NGT[1]).

The researchers concluded that four of the measures/factors identified, including *instructor accessibility, class organization, feel of the class, and peer impact*, appeared to match well with *student expectations* and seemed to accurately reflect the students' perspectives on the constituents of quality in the online courses delivered. The factor *community of learners*, however, was not considered important when qualifying online learning (Cohen & Ellis, 2004).

In brief, this study concentrated on exploring and ranking key factors in e-learning environments based on the students' perception as one of the main actors in educational settings. From this perspective, this initiative could be a valuable for gaining insight into students' perceptions of critical quality measures. However, ignoring great literature and developed models, in this work researchers tried to reinvent the quality measures based on the one of the actors' (students' perceptions) understandings. Thus, it is hard to consider the outline of this study as a baseline for qualifying an e-learning environment.

Fresen (2005)

Through an extensive review of related literature, Fresen (2005) attempted to draw a framework for web-supported learning. In her PhD thesis at the University of Pretoria, South Africa, she investigated the quality assurance of web-supported learning. After outlining a framework based on the literature reviewed, Fresen (2005) tried to refine, validate and corroborate the given

[1] a) Initial idea generation: Each member of the group silently listed, on paper everything they thought would be indicative of the quality factor being examined.
b) Round-robin discussion: Each member of the group presented one and only one item from her or his list at a time: Each item was written on the flip chart by the recorder.
c) Brief discussion and clarification of each item: The group leader facilitated discussion of each item in the order in which they appeared on the chart: The discussion was limited to questions, statements of clarification, statements of agreement, and statements of disagreements.
d) Preliminary, silent vote by each member: Each member independently rank-ordered the items listed on the flip chart from most important to least important and rated each item on a five-point scale.
e) Discussion of the preliminary vote: The group leaders facilitated a second discussion of each item.
f) Final silent, independent vote: Each member again ranked each item listed on the flip chart from most important to least important and rated each item on a five-point scale.

framework by means of a focus group interview with her colleagues at the University of Pretoria.

Her attempts to map out a framework for qualifying web-supported learning through a literature survey and a focus group interview resulted in the following taxonomy of factors.

Table 17: Taxonomy of factors to promote quality web-supported learning

INSTITUTIONAL FACTOR	TECHNOLOGY FACTOR
Technology plan	Appropriate use of technology
Student selection and entry into courses	Reliability
Student consultation	Availability
Institutional program evaluation	System training for clients
Change management	IT support for clients
Standardization of information design and dissemination	Appropriate bandwidth and download demands
	Management of student data
LECTURER FACTOR	**STUDENT FACTOR**
Interaction/facilitation	Communication
Frequent feedback	Time management
Academic background	Self directed learning
Evaluation of teaching competence	Critical thinking
Community and empathy	Problem solving
INSTRUCTIONAL DESIGN FACTOR	**PEDAGOGICAL FACTOR**
Usability:	Learning outcomes, goals, expectations
Modular chunks	Flexible learning package
Use of media	Assessment strategies
Use of images, graphics, animation	Learning styles
Layout and presentation	Learner-centered learning environment
Standards	Content and learning resources: relevance,
Accessibility	accuracy, currency
Learning principles:	Adaptable, sustainable, scalable, reusable
Collaborative learning	Self reflection
Interactivity	
Engagement	
High expectations	
Higher cognitive levels	

Adapted from Fresen (2005)

Fresen (2005) divided her framework, as shown in the Table 17, into six main blocks: institutional, technology, lecturer, student, instructional design and pedagogical factors.

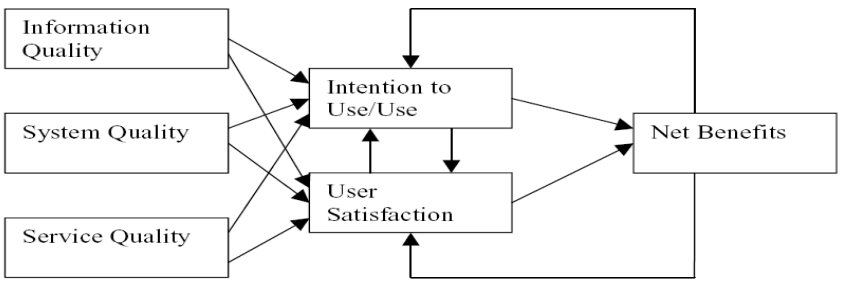
The taxonomy given, however, is an assemblage of factors and benchmarks based on the given literature set up together without any visible theoretical and epistemological approaches. Moreover, the foregrounded taxonomy has not been empirically tested in any contexts

Holsapple and Lee-Post (2006)

In another contribution, Holsapple and Lee-Post (2006) developed an "E-Learning Success Model" based on DeLone and McLean's (2003) Information Systems Success Model.

The E-learning Success Model (see Figure 13) provides a process-oriented approach for measuring and assessing quality in e-learning institutions. The process approach posits that the overall success of e-learning initiatives depends on the attainment of success at each of the three stages of e-learning systems development - *design, delivery,* and *outcome analysis*.

Figure 13: DeLone and McLean's (2003) updated information systems success model

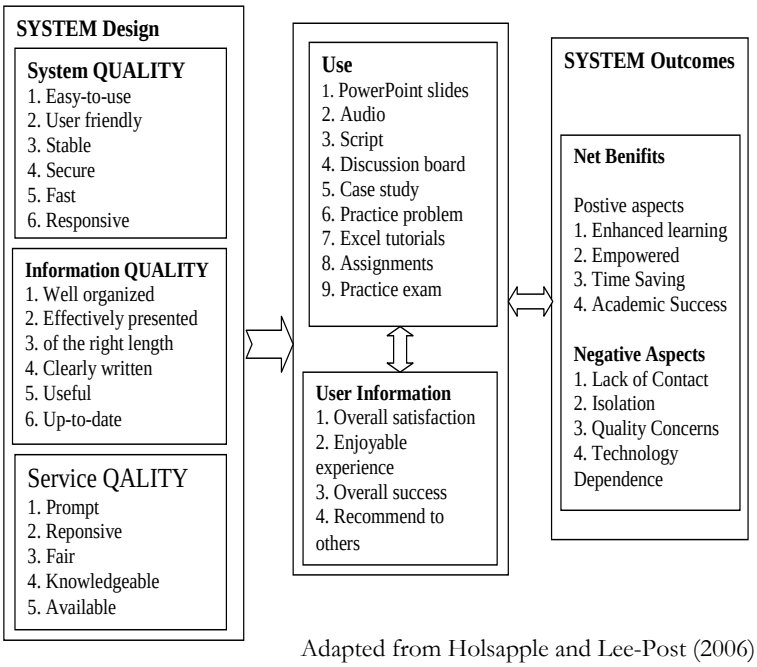


According to this model, the success of the design stage could be evaluated along with three success factor dimensions: *system quality, information quality, and service quality*. Success of delivery could be evaluated along with two success factor dimensions: *use* and *user satisfaction*. Finally, the success of the outcome of the learning settings could be evaluated along with the net benefits (Holsapple & Lee-Post, 2006).

As indicated in Figure 14, success in e-learning is defined as a multifaceted construct that can be grasped by means of the six dimensions noted: *system quality, information quality, service quality, use, user satisfaction,* and *net benefits*. The

assessments are assumed to occur in three stages of inputs, process and outputs.

Figure 14: The E-learning Success Model and sample metrics



Adapted from Holsapple and Lee-Post (2006)

The E-learning Success Model is validated through four cycles of action research in an online version of an undergraduate course in business, which was conducted using the Blackboard 5.0 platform. The researchers administered two surveys concerning students' satisfaction during the course and evaluation of the course at the end of the semester based on the six success dimensions (Holsapple & Lee-Post, 2006).

Holsapple and Lee-Post (2006) claimed that the results of their studies of both course satisfaction and evaluation surveys, give credence to the e-learning success model. Adapting frameworks and models from outside educational arena particularly from information systems, I would argue, can help us to gain a sound insight into the aspects of e-quality from different perspectives. Interestingly, online readiness of students has been assigned significant weight in this study.

However, it is hard to validate this model in a single course and make conclusions solely based on the surveys conducted. Accordingly, a validation of

the model needs to be approved by other research studies in virtual settings. Moreover, this model is centered solely on the process of learning and does not consider institutional and contextual aspects in e-learning environments.

Theoretically Oriented E-Quality Work

In this part, addressing conceptual e-quality work, a broad range of conceptual models, guidelines, principles and analytical studies are reviewed. It needs to be noted that these conceptually developed models, guidelines and principles are embedded in theoretical and practical knowledge of educational settings.

Seven Principles for Good Practice

Along with massification of educational settings, guidelines such as the Seven Principles (Chickering & Gamson, 1987) are intended to assist educators in making choices and in ensuring the best return on their investment. This marketing orientation towards educational services is intended to assist providers of e-learning to develop, evaluate and continuously improve their products and services.

Initially, the seven principles were developed by Chickering and Gamson in 1987. In these principles, they highlighted communication and just and on-time feedback to student. The researchers were motivated by the need to improve teaching and learning in higher education, as demonstrated by the quotation below:

> Apathetic students, illiterate graduates, incompetent teaching, impersonal campuses - so rolls the drumfire of criticism of higher education… States have been quick to respond by holding out carrots and beating with sticks" There are neither enough carrots, nor enough sticks to improve undergraduate education without the commitment and action of students and faculty members. They are the precious resources on whom the improvement of undergraduate education depends (Chickering & Gamson, 1987, online reference).

These principles have been acknowledged by educators as characterizing good/best practices in undergraduate education. Taking into consideration the dynamic nature of educational settings and the emerging new technologically enhanced learning/teaching initiatives, Chickering and Ehrmann (1996) tried to apply these seven principles to ICT-based education (see Table 18).

Table 18: Seven principles for good practice in ICT-based education

SEVEN PRINCIPLES	APPLICATION OF TECHNOLOGY
Encourage contact between students and faculty	The Internet, e-mail and learning management systems
Develop reciprocity and cooperation among students	Co-operative learning online
Use active learning techniques	Communication tools, online activities, electronic portfolios
Give prompt feedback	E-mail, online discussion forum
Emphasize time on task	Asynchronous access and computer record keeping of time spent
Communicate high expectations	Real life problems and scenarios,public scrutiny of work submitted
Respect diverse talents and ways of learning	Variety of learning experiences, anywhere, anytime learning

Adapted from Chickering & Ehrmann (1996)

Chickering and Gamson's (1987) seven principles have been enduringly strong and widely accepted as measures for evaluating the effectiveness of distance learning as well as traditional face-to-face teaching (Fresen, 2005; Herrington., Herrington, Oliver, Stoney, & Willis, 2001). The educational settings have thus changed significantly since 1996 but, as Chickering and Ehrmann (1996) contend, much has remained the same. However, the basic premises, such as students' engagement in learning activities, which such principles have been based on, are almost the same in both online and offline learning environments.

These principles, however, are not and cannot be the only principles in educational settings. Thus, it cannot be argued that taking these principles into account can lead to a successful learning environment.

Quality Guidelines for Technology-Assisted Distance Education

"Quality guidelines for technology-assisted distance education" is one of the classic and oft-cited studies carried out by Barker (1999). This work was the result of a community project commissioned by the Canadian Association for Community Education and carried out by *FuturEd* consulting company.

The project was based on a literature survey aimed at identifying the complete set of guidelines, principles and individual quality indicators for

distance learning (learning activities are designed to fit the specific context of e-learning). The researchers summarized many resources (mainly online) that informed developers of e-learning environments for quality education practices, principles and effective use of educational technologies. Barker (1999) proposed that the quality of e-learning could be sized through the "quality of learning materials, the availability of materials, support for students through well trained staff, a well managed system, monitoring and feedback mechanisms to improve the system. Stated more succinctly, quality education is education that produces an independent learner" (p. 14).

This project thus resulted in a set of guidelines and indicators to assure and enhance the quality of technology-enhanced learning. Barker (1999) outlined the guidelines in the following three categories:

- *Quality of inputs and resources*: addressing guidelines for learning inputs curriculum content, learning materials, learning technologies, instructional design and the provision of support personnel.
- *Quality of processes and practices*: referring to institutional factors such as the management of students, programs and human resources, as well as the use of technology to nurture active engagement and communication.
- *Quality of outputs and outcomes*: dealing with the skills and knowledge gained from the learning process, recognition and transferability of the qualification as well as return of investment with regard to effectiveness, efficiency and students' satisfaction (Barker, 1999).

These guidelines for "technology-assisted distance learning" are intended to assist educators (mostly developers and at the institutional level) in making choices and in ensuring the best return on their investment. In other words, taking a consumer-oriented approach to educational products and services, Barker (1999) tried to assist providers of technology-assisted distance learning to develop, evaluate and continuously improve their products and services.

I would argue that taking into account different approaches along with considering the perspectives of the main actors in educational settings can lead to the development of a comprehensive e-quality model. From this perspective, this work furnishes a valuable contribution about a piece of this puzzle (e-quality). However, taking students to be *consumers (*as it discussed in chapter four) cannot explain the realities of educational settings per se. It is generally accepted that educational settings should be regarded as an incorporated system (holistically) of activities that cannot be studied as separated.

Best Principles of Good Practices for Academic Degrees Offered Electronically (2000)

The Western Cooperative for Electronic Telecommunications (WCET) has developed a set of so-called Best Principles. These principles were a product of the 3-year project "Balancing Quality and Access" funded by the U. S. Department of Education's Fund for the Improvement of Postsecondary Education. Ironically, the details of the development process of these Best Principles have not been provided.

Applying these principles, attempts are made to map out what are considered to be the best practices in degree programs offered electronically. To this end, a set of standards in the form of questions was constructed to determine the strengths and weaknesses of a given dimension. These standards provide good coverage of the following four areas: *curriculum and instruction, role and mission, resources for learning, and commitment to support.* Furthermore, the following five factors are foregrounded as the best practices and critical factors in degree programs offered electronically (Regional Accrediting Commissions, 2001):

- Institutional context and commitment
- Curriculum and instruction
- Faculty support
- Student support
- Evaluation and assessment.

Strategies for Assuring the Quality of Online Learning (2001)

Oliver (2001) has discussed the major issues confronting the successful implementation and sustained use of online learning in Australian higher education. He describes examples and a number of strategies that can be used to support and sustain quality in online learning programs at universities in particular and in broader higher education contexts in general. These strategies are presented as: the development *of proactive programs to improve teacher expertise* in the design, development and delivery of online teaching; *the use of programs to support and maintain student readiness; the need to provide adequate technology infrastructure to support the programs;* and *the use of strategies supporting the design and development of online programs based on the customization and reuse of learning objects* (Oliver, 2001).

As Oliver (2001) notes, it is difficult to target a specific factor with discrete strategies because the contributing factors in quality of e-learning are

intertwined and intermeshed in such strong ways. He proffers an outline of key factors (see Table 19) that could be crucial in the success of e-learning environments.

Table 19: Critical factors for successful adoption of online learning

TEACHER EXPERTISE	Using technology in teaching; Technology currency; Teacher training.
STUDENT READINESS	Technology skills; Access to technology; Technology literacy; Self-regulated learning.
TECHNOLOGY INFRASTRUCTURE	Courseware delivery systems Technology infrastructure Service provision
REUSABLE LEARNING OBJECTS	The development of national frameworks to support and develop on-line learning Resources The development of libraries and databases of online learning resources for sharing and reuse, Consortia among institutions to create larger markets, The development of specialist organizations that broker instructional materials, Technical delivery support and learner support services for institutions
REUSABLE LEARNING DESIGN	Reusable Learning Design

Adapted from Oliver (2001)

Along with such critical factors, Oliver (2001) has also argued that there are four main issues (developing cost-effectiveness approaches; achieving and maintaining quality in online learning; ensuring access and equity in the delivery of online programs; and developing strategies to sustain online program delivery) that often impede universities from establishing successful e-learning environments.

In Oliver's (2001) work, a number of the critical factors have been outlined and some of them, e.g. Reusable Learning Design, seem have been, I

would argue, over-emphasized. It should be mentioned that many of these factors along with other factors that are not addressed here cannot be regarded as discrete entities.

A scoring rubric for evaluating online courses (2001)

Paloff and Pratt (cited in Graf & Caines, 2001) developed a scoring rubric for evaluating online courses. This scoring rubric was provided in two categories: academic rigor with ten items and content robustness with six items (see Table 20).

Table 20: scoring rubric for evaluating online courses

ACADEMIC RIGOR	CONTENT ROBUSTNESS
Course objectives are written at a higher level and clearly revealed to students.	The quality requirements of assignments (both web-based and non web-based).
Course assignments promote critical thinking strategies.	The degree to which course content is made available within WebCT
Course requirements include clearly stated expectations defining minimal levels of student participation	The degree to which the course content is made available in manageable segments.
Course makes appropriate use of inherent WebCT technologies.	The degree to which students interact with each other and the instructor to communicate about the course.
Course makes exceptional use of inherent WebCT technologies	The extent to which the course makes appropriate use of digitized images and graphics
Course assignments cause students to apply knowledge and skills in realistic and relevant ways.	They type and quality of student assessments included in the course
Course assignments require students to make appropriate and effective use of external resources, including print, library, web-based and other electronic resources	
Course assignments and content facilitate a high level of collaborative activities.	
Instructor makes appropriate ancillary resources available.	
The course content and requirements are as demanding as a face-to-face course with similar content	

Adapted from Graf & Caines (2001)

More specifically, academic rigor, on the one hand, addresses "the degree to which a web-enhanced or asynchronous online course causes students to become immersed in the course content through the application of higher level learning objectives" (Graf & Caines, 2001, p. 1).

Content robustness, on the other hand, refers to "the breadth and depth of the content included in or part of a web-enhanced or asynchronous course and the extent to which students are required to interact with that content and with each other" (Graf & Caines, 2001, p. 1).

As shown in the Table 20, *academic rigor* covers a wide range of benchmarks such as course objectives, assignments, student participation, etc. In the same vein, the c*ontent robustness* refers to benchmarks such as the extent to which the course content is available online, how the course is structured, and benchmarks related to interface design. Focusing on instructional design and, to some extent, pedagogical issues, these scoring rubrics address e-learning environments narrowly.

Methodological framework for online teaching and learning (2003)

Zhao (2003), in another contribution, advocates a holistic approach to assessing quality of e-learning. By examining a variety of perspectives on quality of e-learning and teaching, Zhao (2003) tried to explore a range of issues affecting the quality of e-learning in higher education. He proposed a methodological framework for measuring the process and outcomes of online teaching and learning.

Based on the commonly perceived criteria and standards for e-quality, Zhao (2003) highlighted the following four crucial building blocks that can address the quality of online teaching and learning:

- *Course effectiveness:* includes the curricula and learning resources, which should be up to date, relevant, comprehensive and culturally sensitive.
- *Adequacy of access in terms of technology infrastructure*: addressing accessibility, reliability, and quality of access. This also refers to technical support services for students and instructors and student training.
- *Student satisfaction*: covers a variety of issues including course quality, instructor-student interaction, peer collaboration, and support services.
- *Academic (lecturer) satisfaction*: deals with furnishing opportunities to have sound interaction with students for leadership, research and professional development. This also address ongoing staff training and development in ICTs (Zhao, 2003).

The author argues that successful implementation of quality measurements and improvement in e-learning requires the same management commitment as conventional teaching and learning settings (conventional higher education settings). The proposed methodological framework can be considered as guiding principle for continuously improving online teaching and learning in higher education in terms of pedagogy, technology and administration.

It needs to be addressed that the Zhao's (2003) work is heavily influenced by the Sloan's five pillars. Furthermore, I would argue that Zhao's guidelines need to be tried out in practice to see to what extent they could be viable in e-learning environment.

E-learning QUICK Checklist (2005)

Khan (2005) in an attempt to create a meaningful/successful online learning, mapped out an "E-learning QUICK Checklist". He argues that there are a large number of factors contributing to quality of e-learning. In other words, in his attempt to create a meaningful open, flexible and distributed learning environment, Khan drew up a comprehensive list of necessary ingredients.

Khan's (2005a) checklist is based on a review of relevant literature as well as on his own practical knowledge. In a wider perspective, his framework can be seen as an instructional design model that includes the same dimensions as the previously mentioned ADDIE[2] model, but with a few additions. Khan and Granato (2008) divide the furnished checklists into the following eight blocks.

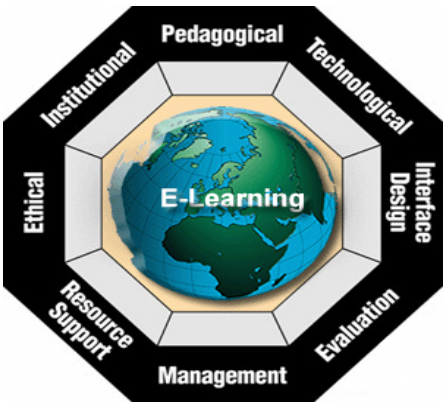
> *The pedagogical dimension* of E-learning refers to teaching and learning. This dimension addresses issues concerning content analysis, audience analysis, goal analysis, media analysis, design approach, organization and methods and strategies of e-learning environments.
> *The technological dimension* of the E-Learning Framework examines issues of technology infrastructure in e-learning environments. This includes infrastructure planning, hardware and software.
> *The interface design* refers to the overall look and feel of e-learning programs. The interface design dimension encompasses page and site design, content design, navigation, and usability testing.
> *The evaluation of e-learning* includes both assessment of learners and evaluation of the instruction and learning environment.
> *The management of e-learning* refers to the maintenance of the learning environment and distribution of information.

[2] Analysis, Design, Development, Implementation, and Evaluation

The resource support dimension of the E-Learning Framework examines the online support and resources required to foster meaningful learning environments.
The institutional dimension is concerned with issues related to administrative affairs, academic affairs and student services related to e-learning.
The ethical considerations of e-learning relate to social and political influence, cultural diversity, bias, geographical diversity, learner diversity, information accessibility, etiquette, and the legal issues (Khan & Granato, 2008, p. 2).

From an instructional design perspective, Khan's so-called octagonal framework (see Figure 15) can provide a good baseline for assessing large-scale e-learning projects.

Figure 15: Octagonal dimension framework (Khan & Granato, 2008)



In other words, this framework can be considered as a guide for planning, developing, delivering, managing, and evaluating e-learning or blended learning programs.

Although this framework is designed as a checklist, it includes the details of some dimensions, i.e. practical information educators might need to complete the steps in the process, and it shows how educators can plan to assemble components, modules and other sub-assemblies in the overall checklist. The checklist addresses issues both at the institutional and the management level, as well as handling issues related to pedagogy and ethics, interface designs, resource support and evaluation.

In this checklist, Khan (2005a) did not clarify in any explicit manner the process of developing his model. Nor did he refer to any of the practical and theoretical knowledge produced in this field. Accordingly, there is a lack of transparency with regard to the foundations in which he produced these critical factors and, consequently, the grounds on which we can trust the checklist he has provided.

Nevertheless, most of the foregrounded factors in Khan's work are similar to the factors and benchmarks in other frameworks and studies I have discussed. Furthermore, in this framework, Khan puts ethical and cultural issues in line with other factors. Cultural and ethical issues, as discussed in chapter five, are, however, beyond the institutional, instructional design, and other factors. In other words, all these factors need to be seen as embedded and shaped by cultural values.

WebCT Exemplary Course Project (2006)

As one of the main providers of integrated e-learning systems/platforms in higher education settings, WebCT proposed an Exemplary Course Project that would provide a specific scoring rubric for a specific WebCT course. The WebCT checklist can be seen as an international benchmark in the field of online learning, which justified its inclusion in this literature review.

The WebCT checklist attempts to recognize exemplary instructors and designers at institutions using the WebCT course management system. To this end, course designers across the world are annually invited to nominate their own or other WebCT courses for consideration for an award (WebCT, 2001). The best (winning) courses enjoy international recognition and are showcased at the annual WebCT conference. This initiative addresses a number of key factors in e-learning environments including:

> *Course Design*: addresses the instructional design of the course, which includes the structure of the course, learning objectives, and instructional strategies.
> *Interaction and Collaboration*: refers to type and amount of interaction and collaboration including learner-to-learner, learner-to-content, and learner-to-instructor.
> *Technology:* focuses on enhancing and enabling learning including appropriate use of technology and student connectivity issues.

> *Assessment*: addresses the quality and type of assessments within the course that encourage critical thinking, align with learning objectives, provide students with opportunities to practice and apply concepts, and encourage the use of external resources.
> *Learner Support:* refers to resources and opportunities offered to the student as part of the course, including tutorials on how to use the given platform, links to helpdesk personnel, access to the library, information on required plug-ins and appropriate instructor contact information (Collins-Brown, 2006, p. 95).

Each of the nominated courses can be ranked according to the above-mentioned factors as to how they are *exemplary*, *accomplished*, *promising*, *incomplete, not evident and not appropriate*. As has been mentioned, the WebCT Exemplary Course Project has been specifically developed to assess and evaluate e-learning courses on this specific platform. Thus, its structure can be helpful when evaluating single e-learning courses but not, I would argue, programs or activities at an institutional level.

The E-learning Maturity Model (2007)

The aim of the E-Learning Maturity Model (eMM) (Marshall & Mitchell, 2004, 2007) was to map out a quality improvement framework, which could be used by virtual institutions to assure and compare their capability to sustainably develop, deploy and support e-learning. The underlying idea in the e-learning Maturity Model (eMM) is that the ability of an institution to be effective in a particular area of work is mostly dependent on its capability to engage in high quality processes that are reproducible and sustainable. Accordingly, it attempts to foreground the characteristics of a virtual institution that enable high quality processes.

To sustain and deliver learning in virtual institutions, Marshall (2006) outlines his model in 35 benchmarks grouped into five blocks or main factors. These blocks are *Learning* (addressing processes that directly impact on pedagogical aspects of e-learning), *Development* (refers to processes surrounding the creation and maintenance of e-learning resources), *Support (*focuses on the processes surrounding the support and operational management of e-learning), *Evaluation (*addressing processes surrounding the evaluation and quality control of e-learning through its entire lifecycle), and *Organization (*dealing with the processes associated with institutional planning and management). All the processes, as Marshall argues, are interrelated to some degree.

It can be argued that this model is developed on the basis of "The Seven Principles", and "The Quality on the Line" to capture the range of activities that drive capability (i.e. success) in e-learning settings.

The eMM model with a process-oriented approach can be viewed as a useful starting point for enhancing quality in virtual institutions. Similarly, the model has been successfully applied to many institutions internationally and the resulting capability visualizations are being used actively to analyze institutional and sector capabilities.

E-learning Quality: Aspects and Criteria for Evaluation of E-learning in Swedish Higher Education (2008)

Finally, the Swedish Distance Education and Training Council (DETC) has outlined a framework - ELQ (e-learning quality) - for accreditation of distance education institutions. This framework is mainly based on an analysis of European policies and projects and practices from national organizations.
Addressing different topical areas, the framework is provided in ten categories. 1. Material/content, 2. Structure/virtual environment, 3. Communication, cooperation and interactivity, 4. Student assessment, 5. Flexibility and adaptability, 6. Support (student and staff), 7. Staff qualifications and experience, 8. Vision and institutional leadership, 9. Resource allocation, 10. The holistic and process aspect.

As mentioned in this framework, the suggested benchmarks in these categories have a clear focus on broadening participation, as well as emphasizing addressing the students' individual differences (Swedish National Agency of Higher Education, 2008). Interestingly, in this model there is a special emphasis on "pedagogical usability", which refers to factors such as learner control, learner activity, motivation and feedback. With its holistic approach to quality in e-learning, this framework can provide a sound basis for developing a comprehensive e-quality framework.

Summary and Commentary

In this chapter, an extensive range of literature is discussed in order to outline a 'baseline' of an e-quality framework for assuring and enhancing quality in e-learning. In the e-quality work referred to, a large number of critical success

factors, guidelines, best practices and benchmarks are addressed for improving and assuring quality in e-learning, particularly in higher education settings.
The e-quality work addressed (i.e. models, frameworks, etc.) is originated in different theoretical account. For instance, some of them are developed based on the TQM theory (Fresen, 2005), ISO family standards and EFQM (Schreurs & et al., 2008), accreditation and benchmarking (Barker, 1999; Khan, 2005a; Sangrà, et al., 2002; The Institution for Higher Education Policy, 2000, pp., etc.). On the other hand, some of the e-quality work addressed is based on instructional design theory (Khan, 2005a), technology acceptance theory (Selim, 2005), and so forth. Given this, it can be said that "quality in e-learning" as a unique phenomenon is viewed from different perspectives in the studies reviewed. Similarly, the e-quality work reviewed shed light on different perspectives of quality in virtual institutions.

There are large overlaps between the components (i.e. factors and benchmarks) of the e-quality work despite their different approaches. Thus, it is difficult to target particular factors with discrete strategies because the factors are intertwined and intermeshed (Oliver, 2003).

These convergences can be seen in the given factors that are systemically interrelated and interdependent. As mention is made, the e-quality work reviewed deals with quality of e-learning from different standpoints. Accordingly, the reviewed e-quality work address quality of e-learning differently and under various labels such as *Benchmarking, Quality Assurance, Best practice, Success condition*, etc.

An outline of the main factors contributing to e-quality is proffered on the basis of these reviewed studies and guidelines in Table 21. This can be taken as a base for shaping the outline of an e-quality framework. It needs be addressed that this outline is based on the occurrence of these factors in the e-quality initiatives reviewed.

Table 21: Taxonomy of commonly used categories in the studies reviewed

E-QUALITY WORK	COMMONLY USED CATEGORIES
Commission on Institutions of Higher Education (1999)	Curriculum and Instruction Evaluation and Assessment Library and Learning Resources Student Services Facilities and Finances
Institute for Higher Education Policy (2000)	Institutional Support Course Development Teaching and Learning Course Structure Student Support Faculty Support Course Evaluation
Western Interstate Commission for Higher Education (2001)	Institutional Context and Commitment Curriculum and Instruction Faculty Support Student Support Evaluation and Assessment
Oliver (2001)	Teacher expertise Student readiness Technology infrastructure: Reusable learning objects Reusable Learning Design
Sloan-C Consortium's 5 Pillars (2002)	Learning Effectiveness Cost Effectiveness Access Faculty satisfaction Student satisfaction
Sangrà, et al. (2002)	Learning Support Services Learning Delivery Services Learning Development Teaching Capability Evaluation Accessibility Technical Capability Institutional Capability

McGorry (2003)	Flexibility Responsiveness and support Learning Participation/interaction Usefulness and ease of use of technology Overall satisfaction
Zhao (2003)	Course effectiveness Adequacy of access in terms of technology infrastructure Student satisfaction Lecturer Satisfaction
Fresen (2005)	Institutional factors; Technology factors; Lecturer factors; Student factors Instructional design factors; Pedagogical factors
Khan (2005a)	Institutional factors Management factors Technological factors Educational factors Ethical factors Interface design factors Evaluation factors
Husson, Moretti, & Pawlowski (2006)	Course delivery Services (student support; staff support) Curriculum design Course design Management (institutional strategies
Holsapple and Lee-Post (2006)	System quality Information quality Service quality Use and user satisfaction Net benefits
The E-learning Maturity Model (2007)	Learning Development Support Evaluation Organization

Viewing quality from different perspectives - as was the case in the e-quality work reviewed - can potentially furnish a valuable basis for developing a comprehensive e-quality framework for assuring and enhancing quality in e-

learning. What can be concluded in critical review of the e-quality work in the preceding chapter is that:

One of the basic premises in most of the studies and guidelines reviewed is that "quality principles that underpin successful online teaching and learning are exactly the same as those that underpin successful face to face teaching" (Oliver, 2003, p. 9). This indicates that there are some basic principles (e.g. seven principles for good practice, Jonassen's (2006) "Constructivism framework for designing learning environment[3]") that are constant in educational settings regardless of the given context. Similarly, pursuing these principles when designing and delivering any educational entity could assure the success of the entity. Accordingly, the basic claim of such a premise is that "good" instructional design and "good" educational procedure could assure the success of educational activities beyond the delivery medium. However, I would argue that e-learning is not just a delivery medium along with other educational media such as instructional TV, etc.; rather, it ought to be viewed as a new way of or approach to learning and teaching.

There may never be a single definitive or universally accepted e-quality framework or set of criteria for assuring and enhancing quality in e-learning (Ehlers & Pawlowski, 2006; Jung & Latchem, 2007). This may explain why some of the work reviewed addresses quality of e-learning from different perspectives in terms of goals, methodology, target groups, phase (addressing input, process, and outputs), etc. Correspondingly, a number of the research studies addressed focus on students' perceptions of delivered or received quality (Husson, et al., 2002); a few of them focused on technological dimensions and interoperability in a particular course or program, while others focused on pedagogical aspects of e-learning. From another standpoint, some of the studies reviewed tend to align with a retrospective view of quality (focusing on the past). Focusing on the future and obtaining feedback to continue improvement, while others tend to align more with a prospective view of quality.

It is generally accepted that any model or framework for assuring and enhancing quality of learning in higher education must be underpinned by a

[3] The activity structures engaged by work; the tools, rules, and symbol systems that mediate that work; and the social and conceptual context in which that work occurs (Jonassen, 2006).

theoretical basis (e.g. what Sfard (1998) characterized as an acquisition or participation metaphor for learning), otherwise the purpose of the model, how to improve student learning, how to evaluate it, etc. cannot be articulated (Biggs, 2001; Ellis, et al., 2007; Harvey & Newton, 2004). In most of this e-quality work, however, developed models and frameworks have not been grounded in specific theoretical bases (at least, these theoretical standpoints were not visible). Thus, in developing frameworks and benchmarks for ascertaining and enhancing quality in e-learning, it is important to ensure that the benchmarks and examples of best practice that form an e-quality framework are reflective and align with the theoretical grounds given.

Some of this e-quality work such as IHEP (2000) and The Sloan Consortium Quality Framework has been employed as a cornerstone in numerous of studies in this area. However, these e-quality models/frameworks are mostly context dependent, which their effectiveness in other contexts is in question (Fresen & Boyd, 2005). For instance, in his study, Herman (2000 cited in Fresen, 2005) infers that IHEP benchmarks could not be applied in the University of Stellenbosch context in South Africa. Accordingly, I would claim that we cannot establish any framework for assuring and enhancing quality in e-learning without clarifying and considering cultural constraints, including educational norms, that clarify desired successful and effective learning environments. For instance, in Iranian educational settings there is an emphasis on memorizing delivered thoughts or course content, and thus the best students are the ones who can memorize and recite more accurately and completely than others. On the other hand, in other cultural contexts like Sweden, the focus is more on critical thinking and constructing one's own knowledge than on memorizing the contents delivered, and consequently the success factor in this setting differs from the previous one.

The definition of quality always takes place as a normative act (Ehlers, 2004), referring to a specific context whose definition is always influenced by specific contexts and interests. Similarly, in any endeavor to define, study and examine quality, the question: "quality for whom?" necessarily arises. Should the quality delivered satisfy the requirements of the founders, companies, etc. that pay for the measure, or should it meet the learners' needs or the needs of instructors? In most of the studies reviewed, the quality e-learning, however, is usually articulated based on the perspective of one group of role players

(stakeholders). Since these stakeholders' perspectives vary, depending on their different demands and expectations, it is important in my opinion that the framework developed be taken into account and incorporate the main stakeholders' expectations as much as possible.

The studies reviewed, particularly IHEP's report "Quality on the Line", provide an important foundation for application and research in the area of quality in distance education. I agree with Novak (2002) that "Quality on the Line outlines benchmarks that are necessary but not sufficient to ensure quality" (p. 83). The benchmarks provided in most of the e-quality work discussed, e.g. IHEP's report, emphasize pedagogical and curricular issues; however, issues surrounding social and cultural contexts, policy, marketing and institutions are not well addressed. Accordingly, it is essential to take these issues into account when developing and implementing an e-quality framework for e-learning.

Finally, some of researchers behind the e-quality initiatives reviewed (see Khan, 2005a) state that their work is based on extensive literature reviews, and some recommendations are made by, for instance, Chickering & Gamson (1987). However, as I have already argued, such models and guidelines need to be tried out in practice to see to what extent they can be viable in e-learning settings.

Even though several studies of quality in e-learning have been made, the current state of research, unfortunately, does not make it possible to make generalizations about e-quality models solely on the basis of a systematic inquiry. Therefore, findings from research studies that have already been conducted and models and guidelines that have already been developed, are best seen as syntheses of practical knowledge, widely agreed on as best practices, and the scientific evidence available. Accordingly, in the present study, the e-quality studies and contributions reviewed constitute a collection of the "best available evidence" designed to give us a basis for developing a comprehensive framework for enhancing and assuring quality in e-learning. The e-quality framework developed is described in the following chapter.

CHAPTER 9

A FRAMEWORK FOR PROMOTING AND ASSURING QUALITY IN VIRTUAL INSTITUTIONS

With the growing demand for e-learning, a large number of initiatives (e.g. articles, models, studies) have been carried out in order to enhance and assure quality in e-learning environments. Correspondingly, it can be said that this striving for "excellence" is the most decisive factor in determining the future of e-learning, particularly when there is competitive pressure to become more efficient. Taking into account the advantages and disadvantages of the e-quality models/frameworks reviewed, a comprehensive e-quality framework is developed. Accordingly, the e-quality framework developed for assuring and enhancing quality in e-learning is provided here. It should be noted that the framework needs to be viewed in the cultural-pedagogical contexts.

Introduction

With the proliferation of virtual institutions and e-learning programs, the concerns and issues facing e-learning and e-teaching, in terms of quality, are brought to the forefront. As argued in chapter one, in order to meet the demands of various e-learning environments, the needs of administrators, faculty and students, and the incorporation of sound pedagogical techniques in e-learning environments, a structured framework of what high-quality e-learning should look like is required.

As argued in chapter eight, most of the e-quality models and frameworks have approached the notion of quality in e-learning mechanistically rather than holistically. Apart from the mechanistic approach of these e-quality models, the

models presented are mostly rooted and furnished in Western cultural settings. This is especially important in light of the fact that the cultural context is claimed to be an influential factor in the implementation of e-learning environments. Correspondingly, it can be claimed that none of the frameworks outlined in Chapter eight is appropriate for and thus applicable to e-learning procedures in the cultural settings of developing countries. In the same line of thoughts the current state of the research (e-quality work in terms of models, frameworks, and guidelines), unfortunately, does not make it possible to make generalizations about e-quality models solely on the basis of systematic inquiry.

Pursuing the first research question[1] in terms of *what constitutes quality in e-learning?,* an e-quality framework is developed taking into account current practical and theoretical knowledge. In developing the e-quality framework, reviewing the e-quality work is best seen as syntheses of practical knowledge, widely agreed-on best practices and the scientific evidence available.

An Outline of the E-Quality Framework

The e-quality framework can be regarded as a quality enhancement framework with which virtual institutions can assess, assure and compare their capability to sustainably develop, deploy and support e-learning environments. Based on the surveys and practices presented in the preceding chapter, an e-quality framework is developed. The framework contains 116 benchmarks divided into 29 sub-factors, and these 29 sub-factors are divided into seven sets of main factors/building-blocks i.e. *Institutional Factor, Technological Factor, Instructional Design Factor, Pedagogical Factor, Faculty Support, Student Support,* and *Evaluation Factor*.

These factors or "building-blocks" represent a cluster of related benchmarks that are mostly centered on a specific aspect of e-learning settings. A benchmark can thus be incorporated in various factors or categories. Similarly, a benchmark cannot be said to exclusively refer to one factor in an educational system since all the educational components and building-blocks are integrated with each other.

[1] The procedures and methods used to address this research question were described in chapter seven.

As argued in chapters four and eight, "quality in e-learning" is seen as a dynamic, multifaceted and multilayered construct that is embedded in a specific cultural and cultural-pedagogical context (cf. Ehlers, 2004; Ehlers, 2007; Khan, 2005a; Oliver, 2003). Similarly, the e-quality framework developed cannot be and is not pedagogically neutral; it is much more influenced by socio-cultural ideas than other educational ideas. Correspondingly, there is a specific emphasis on social aspects such as *students' collaboration*, *community of practice* and so on in the e-quality framework. These aspects, as noted in chapter eight, were often ignored in the e-quality work surveyed.

It is important to note that the e-quality framework as a cultural artifact is subject to ongoing changes and modifications. Correspondingly, it is inevitable that other studies and e-quality framework/models present additional factors and benchmarks. In particular, with technological advances, some benchmarks and sub-factors become outdated so the framework needs to be continually updated.

The E-Quality Framework

The e-quality framework is constructed on three levels, including "factors", "sub factors" and "benchmarks" (i.e. best practice), which characterize and exemplify the sub-factors and factors. For further elaboration, these factors and sub-factors are briefly described based on the reviewed e-quality work and literature review (theoretical and practical knowledge).

It is important to be aware that the sub-factors and benchmarks are not numbered in order of importance, merely listed. It is also important to ensure that the benchmarks "are salient, sufficient and sound". Due to "an important part of enhancing the quality of teaching and learning is enhancing the measures on which quality judgments are made" (Coates, 2007, p. 92).

As pointed out, the framework is divided into seven main factors and 29 sub-factors. What follows is an outline of the e-quality framework with underlying assumptions and a brief description of factors, sub-factors and benchmarks.

Institutional Factor

It is generally accepted that successful implementation of e-learning depends on explicit institutional visions and goals (long-term aims that guide current

practice), along with well-established procedures and standards (Marshall, 2006). Correspondingly, this factor concerns how well the virtual institutions pursue their mission and goals and to what extent they take advantage of their diverse resources in terms of managing and organizing various recourses including physical, human resources, etc. It should be noted that the institutional issues is usually influenced by political forces especially in the developing countries (Berge, 2001; Khan, 2005; McKinnon, Walker, & Davis, 2000; Novak, 2002).

Institutional Affairs

Virtual institutions as learning organizations involve a "major realignment of the institutions organizational identity" (Marshall, 2006, p. 26) that calls for intensive, strategic development activities. This sub-factor encompasses issues related to institutional and organizational affairs i.e. institutions' structures, current and prospective constituents, academic procedures, budgeting, etc. (Oliver, 2003).

(1) The institutions should have a documented strategic plan addressing the following aspects:
- Mission, goals and objectives of the institution;
- Sustainability and expansion of its educational activities;
- Improving and assuring quality of pedagogical activities;
- Relating and utilizing e-learning activities (programs, courses) to other educational activities (in dual-mode institutions).

(2) There should be a documented institutional technology *plan* that clearly describes the procedures for acquiring, deploying, supporting, maintaining and upgrading hardware and software in e-learning.

(3) Institutional criteria should be defined for budgeting with a diversified source of funding and prioritizing the allocation of resources.

(4) Strategies and goals should be regularly analyzed to meet the increasing velocity of change according to societal and market expectations (e.g. by systematic reviewing and modifying plans and strategies).

(5) The institution's rules, regulations, staff roles and responsibilities and its operations should be documented and made transparent, e.g. entrance and admission, examination procedures, tuition fees, etc.

(6) The institution's human resource policies and practices (e.g. recruitment, retention, promotion, etc.) should be documented and linked to its strategic plan.

(7) The institution should document on which premises the students should be participating in its educational activities such as e-literacy, access to technology and so on.

Administrative Affairs

The recognition of the importance of smoothly functioning administrative (governing body) processes and good administrative support, which is accounted an important prerequisite for establishing and maintaining high quality, is one of the key results of many years of research on quality in educational settings (cf. Frydenberg, 2002; Inglis, 2005; May & Short, 2003; McKinnon, et al., 2000; PLS Ramboll Management, 2004; Wirth, 2005). This sub-factor thus refers to the efficient and effective use of the institution's diverse resources to ensure that right decisions are made and implemented competently.

(1) Systematic activities should be designed and implemented to exploit the diverse resources of the institution to acquire the best products (in teaching, research and consultancy).

(2) A risk assessment (apart from financial and operational efficiencies) is regularly undertaken to update the risk profile of the institution and assess whether any different action is required to manage risks better.

(3) Students should be formally involved and participate in decision making with respect to institutional strategies and associated operational issues (e.g. by means of a flat organizational structure).

(4) Teachers should be formally involved and participate in decision making with respect to institutional strategies and associated operational issues.

(5) Decision makers need to be confident that they can maintain their positions and assigned duties for a definite period of time and their positions would not be affacted political vagaries.

(6) The administrative procedures, including negotiations, decisions, financial issues, etc., should be transparent.

(7) A systematic approach should be designed and implemented to provide an appropriate institutional climate (e.g. degree to which staff feel they are valued,

encouraged to take initiatives and have the opportunity to realize their own career goals, etc.).

Research

It is claimed that the interdependence of research and instruction is the foundation of higher education. Accordingly, research is considered to be an activity along with teaching in any higher education settings (Dirr, 2003; Kyvik, 2009; McKinnon, et al., 2000). This sub-factor centers on how and to what extent the institutions' research strategies and efforts are in line with an institution's broader goals and objectives.

(1) Institutions' research strategies should be defined in ways that achieve the desired outcomes

(2) Educational activities should be based on and linked to research activities that address following aspects:

(3) Proportion of academic staff in more senior teaching/research positions (e.g. staff with PhD degrees, professorships)

(4) The degree of teachers' engagement in research activities

(5) Research outcomes should be measured and developed on a regular basis (e.g. number of national or international grants received, funds for research from industry, publications with high impact, etc.)

(6) Research activities should be interlinked with institution developmental processes, (e.g. assessment, supervision of thesis work, etc.).

Reputation

A good reputation and adequate recognition of the institution among different clients and role players (including prospective students, parents, employers and local and national media) is crucial for attracting and retaining students and staff, securing endowments, attracting research funds and marshalling community support on both a national and an international level. This could be achieved through successful implementation of the institution's mission, the quality of its pedagogical and research activities and the quality of its community service (McKinnon, et al., 2000; Moore, 2005).

(1) The institution's academic reputation should be measured and enhanced in terms of:

- Graduates/alumni evaluations;
- Industry and employer views;

- Crisis response capability;
- Extent and ratio of positive/negative media broadcasting

(2) Competitiveness of the institution when it comes to attracting students should be measured and improved (e.g. students' first choices, proportion of top five percent of applicants and median entry scores over time).

(3) Institutions should develop a formal strategy of community service (e.g. sharing facilities with local and other groups) as a means of enhancing their external impact.

Technological Factor

This factor addresses technical infrastructures and assets that form the backbone of an e-learning entity. The *technological infrastructure* is viewed as the ensemble or *'web'* of equipment, techniques, applications whose efficiency can be characterized in terms of *availability and reliability*, *the adequate functionalities, usability and integration into the existing infrastructure* (Guribye, 2005). This technological infrastructure is one of the most dynamic and rapidly changing features of e-learning environments that needs to be systematically improved and up-dated on a regular basis. It should be noted that the technological infrastructure includes the Learning Management System (LMS), Learning Content Management Systems (LCMS) and Authoring Tools, although it is not restricted to these issues.

Development and Sustainability of Technological Infrastructure

This sub-factor centers on ongoing development of technological platforms as well as on sustainability and durability of learning environments (Brockbank, 2003; Institution for Higher Education Policy, 2000; Khan, 2005b; Laurillard, 2002; Marshall, 2006; Oliver, 2001; Pat Brogan, 2008; Zhao, 2003).

(1) E–learning platforms should be regularly analyzed to seek out and adjust to upcoming challenges and changing expectations.

(2) The capability of adding new functionality or features (*Extendibility*) should be given to existing platform (LMS).

(3) There should be a documented specification and plan that ensures the reliability, integrity and validity of information collection, storage and retrieval.

(4) Students' feedbacks should be collected and considered in terms of the ease of use, effectiveness, robustness and reliability of the e-learning infrastructure on a regular basis.

(5) Maintaining of produced, delivered and collected information including content and data produced should be granted (e.g. constructed discussions and student records).

Functionality of Technological Infrastructure

The e-learning infrastructure is a complex environment in which a multitude of connections and interactions is facilitated by means of highly interdependent technical elements (Chua & Lam, 2007; Fresen & Boyd, 2005; Gunawardena & McIsaac, 2004; Holsapple & Lee-Post, 2006; Institution for Higher Education Policy, 2000; Martz, Reddy, & Sangermano, 2004; Stoyanov & Kirschner, 2004; Tham & Werner, 2005; Wirth, 2005; Zhao, 2003). The functionality and reliability of this technological infrastructure, including LMS and LCMS, is critical for attaining and success of e-learning environments.

(1) A standardized (common) set of tools, including t*racking facilities*[2], instant messaging, forums, etc., should be put in place and used.

(2) The functionality of the technological platform should be regularly appraised.

(3) The reliability of the e-learning system should be as failsafe as possible (a high degree of failsafe such as backup of the "virtual settings" in the event of a catastrophic failure)

(4) *Security* and P*rivacy* of delivered, collected and stored information in e-learning settings should be granted.

(5) There should be a satisfactory reaction time in the event of malfunction.

Accessibility

Broadly speaking, accessibility usually goes beyond computers and connections. This sub-factor deals with providing the right information to the right people when they need it and in forms they can understand (Chua & Lam, 2007; Hosie, et al., 2005; Inglis, 2005; Marshall, 2006; Moore, 2005; Pat Brogan, 2008; Regional Accrediting Commissions, 2001). It should be noted that, in a narrow-spectrum, accessibility refers to learning resources being accessible to all students, regardless of physical, technological or other usage limitations.

(1) Learning materials should be reasonably and adequately accessible to students whenever they want.

[2] Virtual attendance record

(2) Access to learning materials should be granted to learners with disabilities (e.g. "screen readers" for those with limited vision, "text narration" for persons with limited or no hearing abilities, etc.).

(3) The e-learning platform should satisfy appropriate bandwidth demands (e.g. materials are accessible without lengthy delays).

Reusability

Reusability and the (potential of) sharing learning resources (pre-fabricated contents) and tools, which can be regarded as the key economic and efficiency advantage of e-learning, can protect the investments that have been made. Similarly, creating learning objects or modules that can be reused and restructured ensures future reusability (Brockbank, 2003; Marshall, 2006; Oliver, 2001; Wirth, 2005). It should be mentioned that the possible *reuse and modification* of learning materials and tools is dependent on the ability to store and retrieve them effectively.

(1) Institutional strategies, policies, contracts and standards should support and encourage the reuse of e-learning materials (e.g. utilizing the metadata templates and standards such as SCORM, LOM, etc.).

(2) Special settings for reusability (*Interoperability)* within and across institutions should be decided on (e.g. adapting and replacing objects throughout the systems without writing additional code).

(3) (Re)development of the e-learning design and tools should be considered before a new platform or resources are created.

(4) Teachers should be provided with training, guidelines and examples for creating and adapting reusable resources.

Interface Design

The interaction between users (students/other actors) in e-learning environments and technological platforms has been seen as a necessary and fundamental mechanism in the design and use of e-learning environments. The interface[3] between students and e-learning platform, however, is one of the most neglected aspects in these settings (Sims, Dobbs, & Hand, 2002). Without such tools for structuring learning environments, students fail to find relevant information or are forced to devote cognitive resources to navigation rather

[3] As Head (1999, p. 4) draws "an interface is the visible piece of a system that a user sees or hears or touches"

than the content of the site (Cohen & Ellis, 2004; Fresen, 2005; Holsapple & Lee-Post, 2006; Karoulis & Pombortsis, 2003; Khan, 2005b; Reushle, et al., 1999; Sims, et al., 2002; Volery & Lord, 2000; Zhao, 2003).

(1) The e-learning platform should provide students with a user-friendly environment, self-evident and predictable pathways that help them perform learning activities smoothly and effectively by
- Developing a user-friendly e-learning environment
- Cognitive load through the appropriate use of color and layout
- Assisting users visually by the appropriate use of text, images, audio, video, animation, graphics, etc.
- Standardized navigation (i.e. fully connected network) in which users can find their way with a minimum of clicks.
- Providing well-programmed search options.

(2) The E-learning platform should give students a high degree of control and speed in their personal management tasks such as email, address books, calendars.

(3) Information should be "chunked" effectively to allow for easy scanning.

Instructional Design Factor

Instructional design is an iterative process that refers to the structuring and arranging of resources and procedures used to promote learning in an institution (Gagne´, Wager, Goals, & Keller, 2005; Laurillard, 2002). Quality of e-learning can be provided through constructive alignment of pedagogy, technology, and learning resources. In a similar way, this factor concerns the framing all the components of a learning environment in order to create successful teaching and learning environments.

Clarifying Expectations

It is commonly accepted that having clearly defined learning objectives and outcomes is essential for effective teaching and student achievement. Similarly, learning goals or outcomes prefigure unity between learning activities describing the learning content, the actions to be taken or performed and how these will be assessed (Holsapple & Lee-Post, 2006; Institution for Higher Education Policy, 2000; Khan, 2005b; Laurillard, 2002; Marshall, 2006; Regional Accrediting Commissions, 2001).

(1) Objectives and goals of instructional units should be clearly stated.

(2) A clear and complete course overview and syllabus should be provided.

(3) The instructional format/methods and the expected level of participation should be explicitly stated (i.e. course workload expectations).

(4) Course outlines should provide information about the type of interaction and expected times to get feedbacks in different communication channels.

(5) Learning objectives should be linked explicitly throughout learning and assessment activities (e.g. criteria for assessment and examination).

Personalization

This sub-factor addresses the notion that the learning environment should be adapted to the learner's needs. Correspondingly, personalizing and customizing e-learning environments enable learners to take control of their e-learning environments in accordance with their needs, goals, knowledge, interests (Marshall, 2006; Sims, et al., 2002; Woolsey & Rodchua, 2004; Zhao, 2003; Zimmermann, Specht, & Lorenz, 2005).

(1) In the design and use of e-learning settings, students' needs, skills, and knowledge should be addressed and supported to meet their individual needs or preferences.

(2) Various didactic scenarios to support diverse learning styles and learner capabilities should be provided.

(3) Full portfolio capability should be granted, enabling students to take artifacts from each of the courses and keep them in their own personal space (e.g. materials, tasks, etc).

(4) Students should have opportunities to manage and modify their learning environments in terms of content structure, layout, color, information, etc.

Selecting Proper Learning Scenarios

The learning scenario, which can be considered to be a pedagogical method, can shape and influence every aspect of teaching and learning, both as a means of understanding how students learn and as tools for guiding the design and aligning of learning activities (Marshall, 2006). Correspondingly, learning scenarios and styles should be selected and employed purposefully and properly based on the goals of the course, type of content and type of audience (Chickering & Ehrmann, 1996; Holsapple & Lee-Post, 2006; Hosie, et al., 2005; Huddlestone & Pike, 2007; Khan, 2005b; Oliver, 2001).

(1) Learning scenarios should be appropriate for the intended purpose, type of content and students' needs.

(2) Learning media and tools should be selected according objective, content, and students' preference along with selected learning scenarios.

(3) Effective learning strategies (e.g. team problem-solving) that actively engage students in the learning process should be underlined in designing and delivering e-learning courses.

Organizing Learning Resources

E-learning is placing increased responsibility on students for achieving their goals in a given setting (Husson. & Waterman, 2002). In such virtual settings, learners expected to work independently. The main quality issues concerning learning resources are selection and sequencing of resources, and the quality of the material used and produced in a course. Consequently, organizing and structuring learning resources can ultimately determine the effectiveness and efficiency of the learning environment (Chickering & Ehrmann, 1996; Holsapple & Lee-Post, 2006; Pat Brogan, 2008; Regional Accrediting Commissions, 2001; Sims, et al., 2002; Swedish National Agency of Higher Education, 2008).

(1) Developed learning resources (content and materials) should be appropriate for the specified course.

(2) Sequencing and/or hierarchical structuring of learning resources should be granted in a way that best supports learners needs (coherent, time).

(3) Learning resources/course content should be comparable in rigor, depth and breadth with traditionally delivered courses (e.g. course elements acquired or licensed from conventional universities).

Currency and Accuracy of Learning Resources

This sub-factor concerns currency (i.e. up to date) and accuracy (i.e. correctness and free of error) of learning resources and materials in e-learning environments (Chua & Lam, 2007; Fresen, 2005; Holsapple & Lee-Post, 2006; Hosie, et al., 2005; Institution for Higher Education Policy, 2000; Khan, 2005b; Oliver, 2001; Zhao, 2003).

(1) The learning resources should be accurate and reliable.

(2) Learning resources should be reviewed and updated on a regular basis (internal evaluation and subsequent improvement)

(3) Course ownership and copyright status in the design and (re)developing a course should be clearly defined.

Pedagogical Factor

How pedagogical approach and resources are creatively and constructively employed is the most important factor in e-learning, not technology (medium) (Marshall, 2006). This factor, which addresses the process of learning and teaching in terms of how learning and teaching is carried out (communication, collaboration and interaction) is at the core of e-learning environments. Accordingly, the pedagogical factor is considered to be most critical when constructing a high quality e-learning. The measures and benchmarks for this factor could be constant regardless of the context and mode of delivery (Chickering & Ehrmann, 1996; Cohen & Ellis, 2004; Fresen, 2005; Marshall, 2006; Swedish National Agency of Higher Education, 2008; Volery & Lord, 2000).

Student-Centeredness

Learners' success can be significantly affected by their active engagement in vocalizing and writing about their learning, integrating past experiences, and applying them to their daily lives (Chickering & Ehrmann, 1996). Similarly, a student-centered learning environments affords a supportive environment for engaging in more critical and self-directed approaches to learning by providing degrees of freedom, decision-making, reflection and self-regulation (Carmody & Berge, 2005; Fresen, 2005; Graf & Caines, 2001; Holsapple & Lee-Post, 2006; Hosie, et al., 2005; Institution for Higher Education Policy, 2000; Marshall, 2006; Oliver, 2003; Oliver, Herrington, Stoney, & Millar, 2006).

(1) Developed e-learning environments should facilitate and motivate students to play an active role in gaining new competencies and constructing their knowledge.

(2) Learning activities should encourage analysis and develop learners' capabilities (e.g. intellectual) rather than recalling and acquiring knowledge as follows:
- Develop students' reflective thinking and meta-cognitive skills.
- Provide opportunities to describe and reflect on their own learning.
- Integrate previous experience and knowledge into course activities and tasks.
- Provide degrees of freedom, decision-making reflection and self-regulation

(3) Students should be engaged in authentic learning activities and tasks (i.e. discussion and assignments relating to real life experiences)

(4) Assessment tasks and learning activities should be designed to build and develop student engagement.

Communication and Interactivity

Interaction (i.e. between learners and teachers, among students, and learning environments) is at the core of learning that can create opportunities for learning and encourage dialogue between and among all the actors in an e-learning environment (Chickering & Ehrmann, 1996; Cohen & Ellis, 2004; Collins-Brown, 2006; Dillon & Greene, 2003; Fresen, 2005; Graf & Caines, 2001; Holsapple & Lee-Post, 2006; Institution for Higher Education Policy, 2000; Marshall, 2006; Moore, 2005; Regional Accrediting Commissions, 2001; Wirth, 2005; Zhao, 2003). It should be noted that interaction between teachers and students is a vital component in e-learning settings that guide students towards successfully negotiating and exploring all paths for interactivity (Sims, et al., 2002). As Moore and Kearsley (1996) have argued, more planning is required to facilitate interaction in e-learning environments compared to campus-based learning settings.

(1) Multiple communication channels should be defined for establishing and facilitating students' interactions[4] with teachers and other students.

(2) Constructive feedback (in terms of reinforcing learning, being authentic, correcting errors and supplying information in context) should be provided in a timely manner.

(3) A variety of communication channels should be used to provide in-depth and contextual feedback.

(4) Opportunities to interact privately (e.g. virtual 'office hours') with teachers should be granted when requested.

(5) Lecturers and students should be known to each other (e.g. by means of a bio, personal web page, email message, photos, etc).

Social Aspects

Socialization and acculturation of students is one of the main, though hidden and informal, outcomes of any educational environment. Socializing and

[4] Synchronous interaction (such as chat, shared whiteboards, audio or video conferences, discussion forums, etc.) and asynchronous interaction (such as emails, threaded discussions, announcements and messaging, bulletin boards, discussion forums, listservs, groupware and document sharing.

building a sense of community attracts and retains learners in e-learning settings (Marshall, 2006). Similarly, social presence and support of students are counted as influential factors in the success of e-learning (Fresen, 2005; Herrington, Oliver, & Herrington, 2007; Herrington., et al., 2001; Institution for Higher Education Policy, 2000; Nisbet, 2004; Reeves & Reeves, 1997; Rovai, 2001; Zhao, 2003). Accordingly, creating opportunities for students to collaborate and share their ideas and/or personal and professional experiences are important design elements that can strengthen students' socialization and identification.

(1) Students should be encouraged and given opportunities to participate in *on/offline* communities (e.g. via threaded discussions forums, cyber cafés, chat rooms, and various e-mail services, students' hyperlinks (be able to see other students' status who is online, etc.).

(2) Productive and constructive exchanges of views (e.g. buddy systems) as well as an atmosphere of mutual respect should be fostered.

(3) Collaboration among students to create products that could not be produced individually should be encouraged (e.g. peer tutoring, peer feedback and group learning).

(4) Various tasks and assignments that require students to collaborate meaningfully should be emphasized.

(5) Utilizing and participating in interactive tools such as web 2.0 (e.g. blogs, wikis, etc.) should be encouraged.

Learning Environments

Establishing and improving a sense of space and place as well as feeling at home could be an important factor in reducing the dropout rate among e-learning students. A space without any meaning to the students (i.e. without personal motivation, suitable content or opportunities for social interaction, cultural identities and personal involvement which are supported and embedded in the environment) is not the best place for learning. It is only a temporary space that needs to be transformed from space to place. In this transformation, social interaction in the e-learning environment is critical for enabling the users to achieve a sense of placeness in it. In other words, by shifting the design focus to *social interaction*, e-learning environments adopt environmental and social characteristics and *become more like places of learning-but*

still without physical restrictions (Achtemeier & Simpson, 2005; Macdonald & Mason, 1998; Shepherd, 2003; Wahlstedt, Pekkola, & Niemelä, 2008).

(1) All higher education institutions' spaces, including offices, libraries, Information computer laboratories, etc., should be mapped (linked) in virtual environments.

(2) Learners should become inhabitants of the e-learning place, feeling comfortable and having support for their interpretations of a place (the transitions from space to place in a way that makes students feel at home).

(3) E-learning environment should offer different types of opportunities for private and public interaction

Assessment

Impacting on the nature, effectiveness, and importance of learning activities, the assessment (type and ways of assessment) can shift and challenge learning approaches and outcomes. Similar to conventional educational settings, assessment in e-learning can be carried out in different modes by teachers, peers, by means of self assessment as well as the students' (e) portfolios (monitoring and analyzing students' learning progress). Assessment in e-learning environments, however, can be challenged due to issues of security, accessibility, identification and plagiarism (Laurillard, 2002; Marshall, 2006; McKinnon, et al., 2000; Sims, et al., 2002; Swedish National Agency of Higher Education, 2008; The Institution for Higher Education Policy, 2000; Wahlstedt, et al., 2008).

(1) Assessment of students' achievements should span the whole lifecycle of the course/program.

(2) Assessment of students' achievements should be fair, flexible and pedagogically justified.

(3) The validity and reliability of assessments should be regularly monitored and amended in response to collected feedback (e.g. criteria should reflect the aims and objectives of the course and be made known to students).

(4) Utilizing a range of assessment formats (regarding the type of learning activities) along with implementing policies for dealing with plagiarism should be considered.

(5) Assessment of students should be designed to progressively build up their competence including their critical thinking.

(6) Students should be provided with details of the workload and specified timetables (deadlines) for key learning activities.

Learning Resources

Providing adequate learning resources and services is essential for the attainment of superior academic skills. Institutions are expected to provide a wide range of learning resources - any entity, digital or non-digital, that can be used, re-used or referenced during technology-supported learning (Zhao, 2003) - to support students' learning activities (Fresen, 2005; Holsapple & Lee-Post, 2006; Institution for Higher Education Policy, 2000; Khan, 2005b; Learning Technology Standards Committee, 2001; Marshall, 2006; McKinnon, et al., 2000; Zhao, 2003).

(1) Full range of learning resources and services should be available for students (e.g. through an institutional library) including web access to databases and other on or offline resources.
   - Students should be given clear information on how to access the full range of library services.
   - Standard templates for library resource pages listing useful databases, journals, etc. are provided and supported by designated course or discipline librarians.

(2) Learning resources and information services should be easily accessible when dealing with any of the delivered courses.

(3) Development of students' research and information literacy skills should be explicitly supported (e.g. how and where to find reliable and valid resources).

(4) Facilities and opportunities for downloading and printing learning materials should be supported (when necessary).

Student Support

A large number of studies have indicated the importance student support for successful e-learning implementation. In addition to typical technical support, announcements and guidelines, more administrative and social support is required to bring the students into the e-learning environment, especially by eliminating assumptions that learners will know what and how to do. Correspondingly, the effectiveness of the support can determine the perceived quality from the learners' perspective (Fresen, 2005; Institution for Higher Education Policy, 2000; Laurillard, 2002; Marshall, 2006). Considering the fact that many of students who take an e-learning course/program may never visit a

campus and may not use campus-based student support services, providing alternative forms of student support services is critical for academic success and retaining students.

Administrative Support

All educational institutions - on-campus as well off-campus - need efficient and economical core student administrative services covering enquiries, admission, progression, graduation, fees and other dues, which are oriented towards student service (Sims, et al., 2002). Students should be given information about the study programs including procedures, financial issues, resources and supplies and other necessary information (Caplan, 2004; Ellis & Calvo, 2007; Fresen & Boyd, 2005; Institution for Higher Education Policy, 2000; McKinnon, et al., 2000; Oliver, 2001; Pacey & Keough, 2003; Swedish National Agency of Higher Education, 2008).

(1) Instructions and guidelines describing e-learning technologies and pedagogies should be defined, including plagiarism, academic procedures, access to counseling and advisory services, etc.

(2) Enquiries and questions directed to student service should be answered quickly (i.e. within a time frame) and accurately (e.g. acknowledgement of payment of fees, billing, etc.).

(3) A structured system should be in place to address students' complaints using a variety of alternative communication channels consistent with the course as a whole.

(4) A counseling service for students' academic and personal issues should be available.

(5) A number of training courses should be available to empower students to maximize their mastery of learning environments.

Technical Support

Technical support for students is an integral part of any successful e-learning program. Appropriate levels of technical support or specific training to aid students in mastering the respective e-learning environments should be made available as needed (Fresen & Boyd, 2005; Institution for Higher Education Policy, 2000; Marshall, 2006; Zhao, 2003).

(1) Just-in-time, just-enough, and at-the point-of-need technical assistance should be available throughout the duration of the course/program.

(2) Clear and consistent instructions about the type and extent of student technical support should be outlined.

(3) A high-quality "helpdesk" with trained site facilitators/coordinators should be available throughout the duration of the course/program for students who need assistance.

Teachers Support

In addition to student support, teachers should be give technological and pedagogical support in developing and teaching e-learning courses/programs (Harasim, Hiltz, Teles, & Turoff, 1995). E-learning involves a dynamic and complex information and communications environment that necessitates a range of professional support when teachers encounter issues during their work (Fresen & Boyd, 2005; Institution for Higher Education Policy, 2000; Khan, 2005a; Marshall, 2006; Stoyanov & Kirschner, 2004; Tham & Werner, 2005; Zhao, 2003).

Technical Assistance in Course Development

A lack of or insufficient technical support of teachers is one of the main obstacles to developing and running successful e-learning courses or programs. In particular, teachers are often thrown into e-learning settings with little or no technical and professional development to assist them in adapting to the new teaching environment (particularly in developing countries such as Iran).

(1) Teaching staff should be provided with design and development support such as templates, examples, etc., particularly in transition from a conventional system to an e-learning environment

(2) Course design, development and delivery should be guided and informed by formally developed e-learning procedures and standards.

(3) Teachers should be provided with hands-on assistances in running e-learning courses (e.g. in dealing with student-related technical issues).

Administrative Support

Much research has shown that workload as well as copyright issues have a considerable impact on teachers' motivation when moving towards innovative learning scenarios (Marshall, 2006). Hence, the decision-making and participatory structures should be explicitly defined and the workload and intellectual property issues and other administrative dues should be tackled by means of appropriate guidelines and recommendations that are operational

(Brennan, McFadden, & Law, 2001; Moore, 2002; Stoyanov & Kirschner, 2004).

(1) Issues related to workload, compensation, ownership of intellectual property, etc. should be clarified.

(2) Incentives for the staff involved in the design and running of the courses, particularly for those who creates resources that can be effectively reused, should be considered.

Pedagogical Support

E-learning is not just a technological add-on that teachers need to learn how to use; it is a new educational approach involving new pedagogical and professional procedures and processes that require support and professional development beyond conventional teaching forms (Marshall, 2006; Wirth, 2005). In the same vein, teachers' pedagogical knowledge and qualifications along with their specific subject knowledge could be imperative for their success in e-learning environments (Ellis & Calvo, 2007; Fresen, 2005; Khan, 2005b; Marshall, 2006; Moore, 2005; Oliver, 2001; Tham & Werner, 2005; Wirth, 2005).

(1) Pedagogical assistance should be provided to teachers in designing and (re)developing courses (e.g. by providing templates, examples).

(2) Teaching staff should have access to pedagogical support when running and teaching online courses.

(3) Teachers should be provided with hands-on training in order to master an e-learning platform. Alongside of this, new technologies may have important educational advantages, but without support and ongoing training for staff and students, they could prove an expensive disaster.

(4) Appropriate professional development opportunities for teachers should be provided on a regular basis along with staff development strategies in terms of:

- Updating of teachers' technical knowledge and skills to empower with tools, and
- Improving their pedagogical knowledge and skills to enable them to carry out their educational roles properly.

Evaluation Factor

This factor, as a meta-indicator, is used to stress the ability of an institution to produce the desired result as measuring criteria for how and the extent to

which it meets the demands at different levels. Similarly, performing these kinds of analyses and measures, which are closely connected to the output and outcomes of the activities, may uncover conflicting situations and areas for ongoing updating and improvement using a holistic approach.

Correspondingly, this factor centers on examining the effectiveness of the institution, program and course (how and to what extent learning objectives are met), as well as its cost effectiveness from both institutional and educational perspectives. It also addresses the immediate stakeholders' satisfaction (students and teachers) with and standpoints concerning the services constructed and received.

Cost effectiveness

Along with boosting e-learning environments, the need for explicit assessment of their cost effectiveness becomes more obvious (particularly in terms of being sustainably funded and financially able to improve). Similarly, institutions seek to satisfactorily function within a limited timeframe, budgetary constraints and logistical boundaries. This can help institutions to forecast their costs as well as to identify benefits in a systematic manner (Barker & Wendel, 2001; Holsapple & Lee-Post, 2006; Institution for Higher Education Policy, 2000; Khan, 2005b; Moore, 2005)

(1) Cost-effective (benefit) analyses should be carried out on a regular basis in terms of:
- Course completion rates,
- Enrollment rate,
- Retention, particularly from first to second year,
- Number of students in a course, and
- Number of teaching hours per student (instructor-led interaction).

(2) Tuition rates should provide a fair return for the institution and, at the same time, best value for learners (i.e. less than or equivalent to on-campus tuition).

(3) Institutions should look for ways of improving its services while reducing costs (e.g. by forming appropriate partnerships).

Learning Effectiveness

Learning effectiveness in terms of producing/achieving the desired result is one of the main concerns of educational institutions when it comes to satisfying students' and other gatekeepers' demands. This sub-factor addresses learning effectiveness and quality of outputs as well as outcomes of the institution

(Bourne & Moore, 2003; Chua & Lam, 2007; Holsapple & Lee-Post, 2006; Inglis, 2005; Jung, 2003; Marshall, 2006; Moore, 2005; Zhao, 2003).

(1) Intended learning outcomes should be regularly reviewed to ensure appropriateness, utility and use with respect to ongoing enhancement of e-learning initiatives.

(2) High quality of learning outputs and outcomes should be regularly examined in terms of:

- Outcomes achieved by students (i.e. skills and competence), which should be comparable to on-campus institutions outcomes.
- The proportion of employed, unemployed (graduate students) and those enrolled in further studies.
- Students' (graduates) competence from employer perspectives.

(3) Effectiveness of learning activities should be regularly assessed for a specific course/program.

Student satisfaction

As the main role player in educational settings, students are able to provide reliable feedback on the quality and effectiveness of their academic experience, both directly and indirectly. Acknowledging students' feedback and perceptions regarding their learning experiences can be an effective way for institutions' ongoing improvement (Institution for Higher Education Policy, 2000; Marshall, 2006; McKinnon, et al., 2000; Moore, 2005; Zhao, 2003). Similarly, this sub-factor is concerns with students' standpoints and satisfaction[5] with regard to their educational experiences.

(1) Students' feedback and perceptions regarding their learning experiences should be collected and taken into account on a regular basis in terms of:

- Level of interaction with faculty and other students
- Timely and constructive feedback from teachers
- Learning outcomes, matching the course description
- Adequacy and appropriateness of technical and pedagogical support
- Satisfaction with services (advice, registration, access to materials)

(2) Students' feedback should be collected and considered regularly as regards the quality and effectiveness of their e-learning experience.

[5] Student's perception pertaining to the college experience and perceived value of the education received while attending an educational institution (Moore, 2005).

Teachers' Satisfaction

E-learning provides a variety of potential advantages (anytime, anywhere and any-pace learning). However, the utilization of these possibilities can be substantiated by teachers' supportive and reliable presence. Teachers' satisfaction and motivation is seen as an important success indicator and can thus influence the quality of e-learning (Bollinger & Martindale, 2004; Holsapple & Lee-Post, 2006; Marshall, 2006; Moore, 2005; Zhao, 2003).

(1) Teachers' satisfaction and standpoints regarding their educational experiences should be collected and taken into account on a regular basis in terms of:
- Confirmation of initial expectations
- Administrative affairs
- Expected technical and pedagogical support
- Ownership of intellectual property
- Staff training and development.

(2) Teachers' feedback should be collected and considered regularly as regards the quality and effectiveness of their e-learning experience.

CONCLUDING REMARKS

The outlined e-quality framework in this chapter can be seen as a response to the concerns about quality in e-learning in general and in developing countries in particular. As argued, the framework is formed based on an extensive literature review (theoretical and practical knowledge). In other words, it stands on the shoulders of the proceeding e-quality models, frameworks and studies, particularly those addressed in chapter eight.

The e-quality framework has two primary functions: quality enhancement and quality assurance. As a quality enhancement, it is explicitly designed to foster quality improvement in virtual institutions. In addition to its quality improvement imperative, the framework sets out to measure and assure the quality of e-learning (virtual institutions) against predetermined benchmarks and criteria, as opposed to taking a purely benchmarking approach.

It should be noted that the framework is more influenced by the socio-cultural notions than other pedagogical notions. Moreover, the e-quality framework developed must be viewed as whole in a systematic way. In other words, the quality of a virtual institution can be determined by considering all of the given benchmarks together, and by their interrelationships.

Adopting a holistic approach, the e-quality framework is structured in 116 benchmarks that are divided into 29 sub-factors and seven main factors. Accordingly, each subd-facotr consists a number of items or issues focused on a specific aspect of an e-learning environment. Table 22 gives an overview of the e-quality framework.

Table 22: E-quality Framework

TECHNOLOGICAL FACTOR	PEDAGOGICAL FACTOR
Development and sustainability of technological infrastructure Functionality of technological platforms; Accessibility Reusability Interface design	Student-centeredness communication and interactivity Social aspect Learning environments Assessment Learning resources
INSTITUTIONAL FACTOR	INSTRUCTIONAL DESIGN FACTOR
Institutional affairs Administrative affairs Research Reputation	Clarifying expectations Personalization Selecting proper learning scenarios Organizing learning resources Currency & Accuracy of learning resources
STUDENT SUPPORT	FACULTY SUPPORT
Administrative support Technical support	Technical assistance in course development Administrative support Pedagogical support
EVALUATION FACTOR	
Cost effectiveness Learning effectiveness Student Satisfaction Teacher Satisfaction	

It should be pointed out that some of the benchmarks or even sub-factors can be placed in different factors/sub-factors, or can straddle more than one of those categories depending upon the approach, different role players' interests and the method. For instance, Students' support, Faculty support and even Technical factors can be counted as a part of Institutional Factors in a broad spectrum. Moreover, there are some other critical factors and benchmarks beyond e-learning - such as national and regional ICT infrastructures and

policies; information literacy of clients; students' work load; and different actors' positive or negative attitude towards e-learning- which are not listed in this framework.

Most importantly, the cultural and cultural-pedagogical context such as the pedagogical paradigms and values, the nature of the institution, play a significant role in specifying and developing an appropriate framework for enhancing and assuring quality in e-learning. As argued in chapter eight, however, a wide majority of the models developed for qualifying and assuring public services in general and higher education in particular have been developed and shaped on the basis of the Anglo-Saxon cultural premises. Even some of these models, which originated in industrial world and represent a mechanistic approach to learning neglect the aims of education in acculturation of students rather than producing one size products.

This ignorance along with mechanistic approach to e-quality is amplified when an e-quality model as cultural artefact was exported to the Eastern world's cultural context. In the same vein, Henderson (1996) contends that the "developing nations looking for technological solutions to their educational and training needs will not be well served by packages designed for a majority Western culture" (p. 93).

Given this, the e-quality framework needs to be viewed as a cultural artifact, and thus needs to be adopted in circumstances that will be implemented. To this end, in the next chapter, the dominant cultural-pedagogical orientation in Iranian virtual institutions will be addressed.

CHAPTER 10

CULTURAL-PEDAGOGICAL PARADIGMS IN IRANIAN VIRTUAL INSTITUTIONS

> *If I would again start with the unification of Europe, I would start with the culture and not with the economy.*
> *Jean Monnet*[1]

Quality as a cultural artefact is embedded in a specific cultural setting. Thus, in order to design and conduct quality in e-learning in appropriate ways, the cultural-pedagogical premises of a context need to be explored. Accordingly, this chapter looks dominant cultural-pedagogical values in Iranian virtual institutions. Exploring the embedded cultural-pedagogical premises and values, the developed e-quality framework can be adopted in Iranian virtual institutions.

Introduction

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

[1] An important figure in the European unification process.

A large number of studies (cf. Collis, 1999; Edmundson, 2004; Henderson, 1996; Reeves, 1994; Usun, 2004) have looked at the issue of culture in e-learning. In these studies we also find support for carrying out a cultural assessment before implementing quality frameworks or similar initiatives, in order to identify potential barriers and to help in designing and the adoption of such frameworks (Davies, et al., 2007; McAdam & Welsh, 2000). Similarly, Poirier and Tokarz (1996) address the importance of understanding and exploring the culture of an institution in order to achieve the proper application of quality frameworks.

Crook (1996) depicts ICT-supported initiatives in education as a 'cultural amplifier' heightening the cultural voices and ordinations that transforms the nature of human productivity and favor specific patterns of meaning negotiation. Furthermore, it may also change the processes of cognition and amplify the cultural dimensions of communication, task analysis, problem solving, etc.

On the other hand, e-learning as a subset of numerous macro-systems, for instance, higher education, education, industry and society, can be subjected to both cultural and political influences. In the same vein, technological infrastructure in e-learning appears to be the primary structure influenced by macro systems such as cultural contexts (Blanchard, Razaki, & Frasson 2005). With the rapid growth of ICT-based initiatives, e-learning is becoming an important part of higher education in the globalized world. As argued in chapters one and three, e-learning services and products (e.g. platforms, digital resources, etc.) have been developed in Western countries in alignment with Western cultural values. However, the largest and fastest growing consumers groups when it comes to e-learning are in Eastern countries such as China, India, and Iran, etc. (cf. Olaniran & Agnello, 2008).

It can be said that these services and products as cultural artifacts are rooted in specific contexts. Accordingly, e-learning in terms of services and products cannot be regarded as a means of serving specific ends. By this I mean that these services and products -as general model- during importing and adapting to different contexts may be "implanted" in their cultural contexts or pose their own cultural values. In a similar vein, Gunawardena et al. (2001) empirically verify that diverse cultural values influence both the e-learning process and development. It has also been claimed that new technologies as a

cultural artifact can be adopted or hijacked by social, cultural and political settings (Guribye, 2005).

Given this, it can be asserted that a lack or insufficient attention to cultural issues in general and the cultural-pedagogical dimensions in particular can be an ultimately determining factor as regards the success or failure of e-learning initiatives. Educators will thus be challenged to provide e-learning opportunities that result in equitable learning outcomes for targeted cultures by addressing differences in educational systems and cultural values. In the same vein, many research studies have found the need to consider cultural-pedagogical dimensions not only in shifts from traditional classroom-based learning to e-learning, but from one cultural setting to another (cf. Dakers, 2006; Olaniran & Agnello, 2008; Van Dam & Rogers, 2002)

On the other hand, the Iranian educational system in general and higher education in particular - like those of other developing nations - have oriented to Instructivism notions namely a lecturer instructing a group of students. It can be described as teacher-centered where lecturers are viewed as the predominant means of delivering educational content. Similarly, the focus has been very much on transferring a body of knowledge to a set of learners using a variety of teaching methods (see chapter six for more elaborations). With the introduction and growing use of ICT-based initiatives and intelligent artifacts in educational settings, this view of teaching and learning has been challenged. Accordingly, it can be claimed that the shifts in educational paradigms along with the shifts in educational settings and tools are inevitable.

Given this, exploring and understanding dominant cultural-pedagogical values and orientations in Iranian virtual institutions are critical not only for effective implementation of e-learning but also for developing and adopting proper e-quality frameworks for enhancing and assuring quality in e-learning. Because only with a clear sense of these theoretical foundations that underpin assumptions about learning and teaching, can efficient e-learning be appropriately designed, used and qualified. These cultural-pedagogical values and premises provide the foundations and means to bring in an appropriate framework for ensuring and improving quality in educational settings (Collis, 1999; Edmundson, 2004; Hase & Ellis, 2001; Henderson, 1996).

In investigating the last of the research questions in this thesis, the aim of this chapter is to explore the dominant cultural-pedagogical values in Iranian virtual institutions. This will be followed by a closer look at dominant cultural-

pedagogical values in Iranian virtual institutions in order to outline the dimensions that may affect design, use and qualify of e-learning in different settings.

Cultural-pedagogical values and premises as a social fact is multi- layered issue. Thus, these social facts can be investigated at different levels including the personal structure (the individual's level of everyday meaning) or the institutional level (Durkheim, 1977). To gain a better understanding of this complex phenomenon, this study is informed by a mixed-method research approach where a variety of resources have been considered. Furthermore, studied virtual institution's settings in practice have also been observed based on these pre-determined cultural-pedagogical dimensions, which could support and strengthen the conclusions made in this study.

As I have argued in chapter seven, this study was conducted with Iranian virtual institutions' students and lecturers including Iran University of Science of Technology (IUST) virtual institution, Shiraz virtual institution and Hadith Science Virtual College. This exploratory study mostly draws on what Edmundson (2004) did in her study in order to examine the cross-cultural dimensions in different e-learning settings. Accordingly, Edmundson's questionnaire addressing the cultural-pedagogical dimensions (see chapter six for further elaborations) was adopted. To provide a comprehensive understanding of cultural-pedagogical dimensions, these dimensions are summarized in Table 23.

Table 23: Cultural-pedagogic dimensions

UNDERLYING EDUCATIONAL PARADIGM	Instructivism; (Behavioral, Reductionist, Sharply Focused	Constructivism, Cognitive, Constructivism, Unfocused Goals
EXPERIENTIAL VALUE	Abstract: To what extent the learning activities are undertaken abstractly? (removed from real world)	Concrete: To what extent learning activities are concrete, experiential (apprenticeship) indicating relevance to the learner's real world?
ROLE OF INSTRUCTOR	Teacher Proof: Are the lecturers regarded as the "authoritarian source and provider of knowledge? (teacher centered)	Facilitative: Does the teacher facilitate learning activities along with students without controlling outcomes?

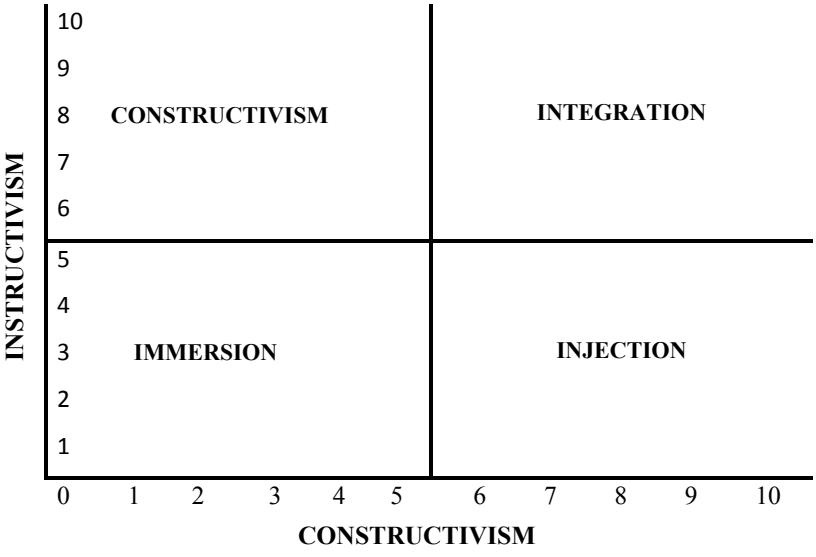
VALUE OF ERRORS	Errorless learning: Ideal learning involves no errors. So students learn until they make no errors (like programmed instruction)	Experiential learning: Students have opportunities to learn through trialing, they also get opportunities to learn from their mistakes (as part of the learning process)
ORIGIN OF MOTIVATION	Extrinsic: Does motivation originate from factors separate from the learner's interest, needs and so on (like the need to get an 'A'?	Intrinsic: Does motivation comes from within, from a true desire of students?
ACCOMMODATION OF INDIVIDUAL DIFFERENCES	Non-existent: Are learners individual differences (affective and physiological factors) accommodated in learning environments?	Multi-faceted: Is knowledge and learning presented in a variety of ways so that learners can utilize what best suits their affective and physiological factors' preferences?
LEARNER CONTROL	Non-existent: Do the learners learn along a predetermined path (complete program control)?	Unrestricted: Do learners have unrestricted control of the path? Learners are allowed to choose what section, and/or what paths to follow.
USER ACTIVITY	Mathemagenic[2] Do the learners access various representations of content (along a predetermined path)?	Generative: Do learners engage in the process of creating, representing, and elaborating knowledge?
COOPERATIVE LEARNING	Unsupported: Do the learning environments support Cooperative Learning? (learners work independently of others)	Integral: Are collaborative and cooperative learning embedded in learning environments?

These cultural-pedagogical dimensions give a picture of possible values in educational settings. The fact that these dimensions were incorporated into nine dimensions needs to be addressed. Accordingly, similar dimensions were merged into a singular dimension by combining certain dimensions. In order to better understand and estimate educational settings, Cronjé (2006) argues that utilizing an integrative right-angled model instead of a twofold

[2] Mathemagenic environments enable learners to "access various representations of content", whereas generative ones "engage learners in the process of creating, elaborating, or representing knowledge" (Blanchard, et al., 2005).

continuum model could provide a more realistic overview of educational settings.

Figure 1: Four quadrants of educational settings



Adapted from Cronjé (2006)

The advantage of Cronjé's model (2006) is that while it still shows how the two polar extremes relate to one another, that same relationship does not need to be mutually destructive or inimical. As shown in Figure 16, when the two axes have been plotted against each other, four quadrants with varying degrees of integration emerge. Cronjé (2006) named these quadrants Injection, Construction, Integration and Immersion. Employing this tri-angled model can furnish a better understanding of different educational settings. It can also "allow a learning event to be characterized as both highly Constructivism and highly objectivism without any inherent contradiction" (Cronjé, 2006, p. 394).

Results

After providing an outline of initial data exploration (demographic and descriptive data), each one of the cultural-pedagogical dimension is addressed separately.

Demographic Information

As noted in Chapter seven, participants in this study were students and faculty members of three Iranian virtual institutions including IUST virtual institution, Shiraz virtual institution and Hadith Science virtual institution. A total of 70 individuals (40 students and 30 faculty members) took part in this study. The participating students were enrolled in an e-learning program and completed at least two semesters (25 percent of his/her program) in one of these virtual institutions.

Approximately 25 students from *two* virtual institutions completed the questionnaire, and 19 faculty members from *three* virtual institutions responded to the questionnaire (for a more detailed elaboration, see Chapter seven). This response rate represented an overall return of 62.5% for students and 63% for faculty members. It should be mentioned that most of the faculty members who took part in this study did not answer the demographical questions. The demographic statistics of students, however, are outlined in the following Table.

Table 24: Demographical description of participants (students) based on age, sex, discipline and their major fields of study

Degree Level	BACHELOR		MASTER				TOTAL
Discipline	IT		Industrial Engineering		IT		
AGE	Female	Male	Female	Male	Female	Male	
19-21	2	3	1	3			9
22-24	2	5	1	3	2	2	15
25+						1	1
Total	4	8	2	6	2	3	25

As indicated in Table 24, almost all the student participants from two virtual institutions were 24 years or younger. 72 percent of them were enrolled in studies in the field of "Information Technology" and 28 percent in "Industrial Engineering". More male students (68%) than female students participated in this study. More than 80 percent of the respondents were Bachelor students. Moreover, more than two-thirds of the respondents had already completed around 60 percent (5 semesters) of their program.

Addressing the Cultural-Pedagogical Dimensions

After having collected date through surveys and observations, each cultural-pedagogical dimensions is separately dealt. Obtaining the information and data requested from different sources can give us a better understanding of dominant cultural-pedagogical values and dimensions in Iranian virtual institutions. To this end, the researcher attempted to scrutinize this phenomenon by different means. Thus, comparing the data collected from different sources, for instance, students and lecturers, is not a key issue in this study.

As discussed in chapter seven, to explore the dominant cultural-pedagogical approaches, clusters (a set of two or three) of questions/statements representing different cultural-pedagogical values are employed. The aim of the questions is to elicit what the ongoing procedures (status quo) by the participants were rather than what they consider *desirable*.

In the same vein, when introducing the questionnaires, students and faculty members were asked to select one of the two options given from one polar extreme or the other on each continuum based on their understanding of the dominant procedures, characteristics or features of the e-learning program. Features and characteristics on the left hand side of the questionnaires reflected orientations towards Instructivism-Objectivism, while the characteristics on the right hand side reflected Constructivism preferences.

Educational Paradigm

To explore the dominant *educational paradigm*, three questions/statements were presented. The respondents were asked to choose one of the options in the continuum on the basis of their perception of the e-learning program (and not a specific course) they had attended. The following three statements/questions were presented in order to explore the *educational paradigm dimension.*

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	I follow a well-defined, logical path to learn what I learn.	Students are assumed to explore different paths to learn what they need to learn.
Q 2	I am tested with questions that are based on the stated goals and objectives of the course	I am tested by applying what I have learned from the course to different situations.
Q 3	I am given predetermined learning goals.	I learn as I go, depending on my own learning goals.

In Table 25, the distribution of both students' and lecturers' answers are reflected in the *educational paradigm* along with three questions.

Table 25: Comparison of responses to educational paradigm

QUESTIONS¤	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	16(64%)	9(36%)	18(95%)	1(5%)	.017*
2	18(72%)	7(28%)	13(68%)	6(32%)	.528
3	24(96%)	1(4%)	16(84%)	3(16%)	.207

As regards the first question, 64% (16) of the students noted that they followed a well-defined path while 36% (9) of them stated that they followed more explorative path in their learning environments. The lecturers' answers are distributed slightly differently; almost all of them indicated that students follow a well-defined, logical path to learn what they should. This difference between students' and lecturers' standpoints could be explained as being due to some of the students possibly exploring different paths to learn beyond their formal education.

As regards the second question, as indicated in Table 25, almost two-thirds of both students and lecturers answered that in their learning environments "students are usually tested with questions that are based on the stated goals and objectives of the course". One-third of the participants, however, indicated that the "students are tested by applying what they have learned from the course to different situations". This difference between participants could be explained by considering the field of study and type of course where some of the courses could be conducted in the laboratory.

As regards the third question, almost all the students and 84 percent of the lecturers stated that in their learning context "students are given predetermined learning goals". However, 26 percent of the lecturers noted that "students learn as they go, depending on their own learning goals" in their educational settings. These results indicate that their learning environments tended to have an Instructivism approach on the basis of the participants' understanding. It should be pointed that based on the Chi-square test, significant differences was found between students' and lecturers' standpoints as regards the first question,

but no significant differences were found for the other questions (second and third).

Experiential Value

To explore the dominant experiential value in Iranian virtual institutions, three questions were asked. The following questions/statements examine this dimension.

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	I can tell I have learned something because I can perform the activities requested by the instructor or course designer.	I can tell I have learned something because I have applied what I have learned to my actual activities. "
Q 2	More or less memorizing content, I am not expected to relate learning resources to my past or potential experiences.	I can tell I have learned something because I have applied what I have learned to my actual activities.
Q 3	I learn from any kind of examples as long as they make sense.	I learn from examples as long as they are related to my work or personal life"

In the next Table, the distribution of both students' and lecturers' answers to the questions addressing *experimental value* are supplied.

Table 26: Comparison of responses to experiential value

QUESTIONS	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	17(68%)	8(32%)	9(47%)	10(53%)	.143
2	19(76%)	6(24%)	12(63%)	7(37%)	.276
3	21(84%)	4(16%)	14(74%)	5(26%)	.320

As regards the first question, two-thirds of the students mentioned that they have *learned* something because they *can perform the activities requested by the instructor or course designer option*. Interestingly, lecturers think differently, more than half of them asserted that students learn when they can apply what they have learned to their actual activities. It can be noted that the perceptions of both groups from their educational settings fell midway between "Instructivism" and "constructivism". This variation among participants' views could be traced back to their definitions of learning. Some of them may have adopted traditional definitions of learning, involving ideas such as banking and

transmission of knowledge, and some of them may have adopted more of a pragmatic approach to learning. Interestingly, there was no significant difference between participants' standpoints as regards this question.

As regards the second question, more than two-thirds of the students and lecturers stated that the first option (i.e. instructivist approach) can explain more their current educational settings than the "constructivism approach". Similarly, they pointed out that by more or less memorizing content, students are not expected to relate learning resources to their past or potential experiences. It can be claimed that instructivist rather than constructivist standpoints guided their understanding of these learning environments.

As regards the third question, more than 80 percent of the students and around 74 percent of the lecturers believed that the Instructivism option gives a good picture of the status quo of their learning environments. It should be mentioned that based on the Chi-square test, no significant differences in students and lecturers' perspectives regarding these questions were found.

Instructor Role

To explore the instructors' role in the Iranian virtual institutions, the following two statements were asked.

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	I follow a path of learning determined by the instructor or the course designer because that person usually knows what I need to learn.	I follow a path of learning determined by me because I usually know what I need to learn. "
Q 2	I am taught what I need to learn by an "expert/source of knowledge" in the field.	I am guided by an instructor who shows me how to learn what I need to learn.

In Table 27, the distribution of both students' and lecturers' answers to the statements addressing *instructor role* dimension are provided.

Table 27: Comparison of responses to Role of Instructor

QUESTIONS	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	18(72%)	7(28%)	14(74%)	5(26%)	.588
2	19(76%)	6(24%)	17(89%)	2(11%)	.229

As regards question one, the number of participants who chose the Instructivism option over the Constructivism option, in the first question, was 18 to 7 for students and 14 to 5 for lecturers.In other words, two-thirds of the students and lecturers stated that the path of learning in their learning environments is determined by the instructor or the course designer because *that person usually knows what students need to learn.*

As regards the second question, more than two-thirds of the students asserted that they are taught by an expert and source of knowledge. In the same vein, almost all the lecturers (89 percent) noted that in their educational settings, students are taught by an expert and source of knowledge rather than guided by a facilitator. It can be said that both groups' understanding of their learning environments can be explained by the instructivist standpoints which has a strong emphasis on *acquisition* of knowledge rather than *participation*. Based on the Chi-square test, there were no significant differences in students and lecturers' perspectives as regards these questions.

Value of Errors

To explore the *value of errors dimension*, the following two statements/questions were presented. The following questions addressed the *value of error* in Iranian virtual institutions.

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	) I learn until I make no errors on the test (in learning procedure).	I learn from my errors by experimenting with what I have learned
Q 2	The instructor or course designer is satisfied if I take (complete a course) a test without making mistakes.	The instructor or course designer is satisfied if I learn from my mistakes

In Table 28, the distribution of both students' and lecturers' answers is supplied to the *Value of Error* dimension.

Table 28: Comparison of responses to Value of Errors

QUESTIONS	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	12(48%)	13(52%)	7(37%)	12(63%)	.333
2	25(100%)	0(00%)	11(58%)	8(42%)	.000 (*)

* Correlation is significant at the 0.01 level.

As regards the first question, more than half the students and lecturers, addressing Constructivism standpoints, stated that students learn from their errors by experimenting with what they have learned. This significant variation between participants' perspectives could be due to their different interpretations of Learning, Error and Experiment or to them having stating their desire (what should be) instead of submitting the status quo.

This variation can also be explained in terms of participants' different interpretations of the given statements. Considering the large differences between the questions addressing this dimension, it could be argued that this question may not be productive/appropriate when exploring the Value of Errors dimension.

With regard to the second question, the number of participants who preferred the Instructivism standpoint to the Constructivism standpoint to describe their learning environments was 19 to 6 for students and 17 to 2 for lecturers. In other words, almost all the students and around 60 percent of the lecturers pointed out that the lecturers would be satisfied if students made no mistakes in their examinations. Based on the Chi-square test, significant differences were found between students and teachers' perspectives with respect to the second question.

Origin of Motivation

To explore the dominant o*rigin of motivation* dimension three statements/questions were presented. These questions addressed the *origin of motivation* in Iranian virtual institutions.

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	For me personally, I prefer e-learning courses in which I am told what I need to learn (to to pass the course or take a degree)	For me personally, I prefer e-learning courses in which I decide what I need to learn (genuinely interested in learning new knowledge or skills)
Q 2	I think most of the students take e-learning programs because they have no other option (in conventional programs)	I think most of the students take e-learning programs based on their interests which fit with their specific needs
Q 3	For me personally, I take e-learning courses when I am required to.	For me personally, I take e-learning courses when I want to.

The distribution of both students' and lecturers' answers is shown for the *origin of motivation* in table 29 along with three questions.

Table 29: Comparison of responses to Origin of Motivation

QUESTIONS	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	22(88%)	3(22%)	11(58%)	8(42%)	.027(*)
2	14(56%)	11(44%)	10(53%)	9(47%)	.533
3	22(88%)	3(22%)	17(89%)	2(11%)	.632

* Correlation is significant at the 0.05 level

As regards the first question, around 90 percent of the students and 60 percent of the lecturers mentioned that students prefer predetermined ways in which they can be directed students in their e-learning environments. Based on the data both groups believe that the *origin of their motivations* is in line with the Instructivist ideas.

What is interesting, thus, is that the lecturers' responses are significantly different from those given by the students. In other words, most of the students prefer to follow the teacher's instructions rather than explore other source of learning. This difference between students and lecturers can be explained by the kind of education program the students have been enrolled in. That is, traditionally, they have been taught in such a way that they follow a list of do's and don'ts and have to be explicitly told by their instructors what to do and how to perform learning activities.

As regards the second question, more than half the participants stated that students enroll in e-learning programs because they have no other options (as in conventional programs). This implies that if students had had other options in conventional universities, they might not have chosen e-learning programs. Correspondingly, it can be claimed that the motivation of the majority of the students for selecting an e-learning mode cannot be intrinsic. These results are in line with the gatekeepers' arguments that most of the students in their e-learning programs are keen to receive a diploma but not necessarily to acquire new knowledge or skills.

As regards the third question, almost all the students (88 percent) and lecturers (89 percent) pointed out that students participated in the e-learning program take e-learning courses *when they are required to.* As the sampling data indicate, it can be argued that the instructivist approach may exemplify their learning environments far better than the constructivist approach. Based on the

Chi-square test, there were significant differences between students' and lecturers' perspectives on question one, but there were no significant differences in the case of the other questions.

Accommodation of Individual Differences

In the cultural-pedagogical dimension *accommodation of individual differences*, two questions were asked to explore the dominant orientations in the virtual institutions. The following two questions or statements were used to examine this dimension:

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	The instructor or course designer uses a few learning methods and activities to teach me the course contents.	The instructor or course designer uses several instructional methods or activities to teach me the course contents (such as problem solving, case analysis, participation, etc.)[3].
Q 2	It seems that my interests and needs are usually not considered when designing and providing courses (learning resources).	It seems that my needs and preferences are usually considered when designing and providing courses (learning resources). "

The distribution of both students' and lecturers' answers to the given statements/questions addressing *accommodation of individual differences,* is shown in Table 30.

Table 30: Comparison of responses to Accommodation of Individual Differences

QUESTIONS	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	21(84%)	4(16%)	14(74%)	5(26%)	.320
2	20(80%)	5(20%)	13(68%)	4(32%)	.537

As regards the first question, almost all the students participating in this study as well as more than two-thirds of the lecturers stated that the courses and learning resources are usually presented by means of a few learning methods. This indicates that when delivering the courses at Iranian virtual institutions, the students' individual differences are usually not considered. In other words, the learning resources are delivered by means of very few learning and teaching scenarios.

[3] So that students can utilize what best suits their preferences.

With regard to the second question, the number of participants who preferred the instructivist option to the constructivist approach for describing their learning environments was 20 to 5 for students and 13 to 4 for lecturers[4]. It can be noted that both groups noted that that students' interests, needs and preferences are usually not considered when designing and providing courses (learning resources) in their virtual institutions. It should also be mentioned that based on the Chi-square test, there were no significant differences between students' and lecturers' perspectives as regards these questions.

Learner Control

To explore the dominant cultural-pedagogical dimensions in terms of *learner control* in the Iranian virtual institutions, the following two statements/questions were asked:

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	I am given a deadline or timed activities.	I can control the pace of learning.
Q 2	The course features[5] that will help me learn the materials are chosen by the instructor or course designer.	The course features that will help me learn the intended materials are chosen by me.

The distribution of both students' and lecturers' answers to the questions addressing the Learner Control dimension are given in the following Table.

Table 31: Comparison of mean responses to Learner Control

QUESTIONS	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	21(84%)	4(16%)	17(89%)	2(11%)	.475
2	23(92%)	2(8%)	18(95%)	1(5%)	.604

As regards the first question, a majority of both students and lecturers pointed out that students usually master the learning subjects sequentially (they are given a timed activity or deadline). In other words, the sampling data indicate that both groups significantly tended to prefer the Instructivism approach in order to explain their learning environments.

As regards second question, as indicated in Table 31, almost all the students and lecturers noted that students usually make no contribution when selecting

[4] Two of the teachers did not answer this question.

[5] Course features refer to the types of technologies included in course, such as chat, simulation, etc.

course features. The sampling data indicate that both groups strongly tended to prefer the Instructivism approach in order to exemplify their learning environments. Based on the Chi-square test, no significant differences between students' and lecturers' perspective on these questions were found.

User Activity

To explore the dominant cultural-pedagogical dimensions in terms of the User Activity dimension in the Iranian virtual institutions, the following two statements/questions were asked.

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	I do not have any involvement in producing and representing knowledge.	I am engaged in the process of creating, elaborating or representing knowledge.
Q 2	I usually have access to representations of the learning resources provided according to the predetermined path.	The learning resources of the course are usually presented to me, but I create my own uses of the learning resources within the course.

The distribution of both students' and lecturers' answers with regards to the *user activity dimension* is shown in Table 32.

Table 32: Comparison of mean responses to User Activity

QUESTIONS	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	18(72%)	7(28%)	14(78%)	4(22%)	.475
2	17(68%)	8(32%)	12(66%)	6[6](34%)	.591

As regards question one, more than two-thirds of the participants pointed out that *students usually have no involvement in producing and representing knowledge*. In other words, both groups noted that the *instructivist* approach might exemplify their e-learning environments far better than the *constructivist* approach option.

As regards the second question, around two-thirds of the students and lecturers indicated that the *instructivist* approach is much more representative of their learning environments than the *constructivist* approach.

[6] One of the lecturers did not answer this question.

Collaborative Learning

To exploring the dominant cultural-pedagogical dimensions in terms of *Collaborative Learning* in the Iranian virtual institutions, the following two statements/questions were asked.

	Instructivism (Instr.)	Constructivism (Constr.)
Q 1	I usually work individually on my learning activities or projects.	I usually (am encouraged to) work with a group on my learning activities or projects.
Q 2	There are limited or no facilities (technical) for setting up collaborative learning in our learning environments.	A wide range of different facilities and features are provided in order to set up collaborative learning in our learning environments.

The distribution of both students' and lecturers' answers to the questions addressing the *collaborative learning* dimension are given in Table 33.

Table 33: Comparison of responses to Collaborative Learning

QUESTIONS	STUDENTS		LECTURERS		Chi-square p-value
	Instr	Constr	Instr	Constr	
1	12(48%)	13(52%)	11(59%)	8(41%)	.365
2	19(72%)	6(28%)	12(63%)	7(37%)	.276

As regards the first question, interestingly, more than half the students and lecturers stated that in their learning environments, students work/are encouraged to work with a group of peers on their learning activities or projects. However, 48 percent of the students and 41 percent of the lecturers chose other options to exemplify their learning environments. This significant variation between participants' perspectives can be explained by considering the participants' field of study. Most of the students were attending technical programs such as Information Technology, which requires more teamwork.

*As regards the second question, a*s shown in Table 33, 72 percent of the students and 63 percent of the lecturers pointed out that "there are limited or no facilities (technical) for setting up collaborating learning in their learning environments". Furnishing tools and facilities such as discussion forums, chat, file sharing, shared whiteboards, weblogs, wikis, etc. for collaboration among students can support a social constructivism approach to e-learning. This implies that the figures for collaborative learning in the first question are not

planned by the educational system but, rather, are regarded as contributions/initiatives from individual lecturers and students. Based on the Chi-square test, there were no significant differences between students' and lecturers' perspectives on the questions raised in this dimension.

Comments

As mentioned in chapter seven, the participants were asked, in an open-ended question, to comment on the dominant cultural-pedagogical values in their virtual institutions. A number of lecturers and students rendered their remarks. Their remarks and comments can be summarized in three general categories:

- Some of the lecturers and students asserted that it is hard to give a specific account of whole of a program in terms of the dominant pedagogical orientations. Their argument was that teaching scenarios and methods can vary depending on different lecturers' approaches as well as on the subject.
- Some of the students criticized the e-learning environments in terms of facilities, interactions between lecturers and students, social support and so on by stating, "we could not consider this environment as a good learning place". In the same way, one of the student noted that "to me it (the e-learning environment) is just a temporary space without any meaning for delivering some learning activities or courses".
- Some of the students also pointed out that a number of their lecturers were not familiar with e-learning. As a result, they were trying to deliver their lectures in the same way as in their campus-based courses regardless of the fact that the circumstances in virtual environments are different.

Observations

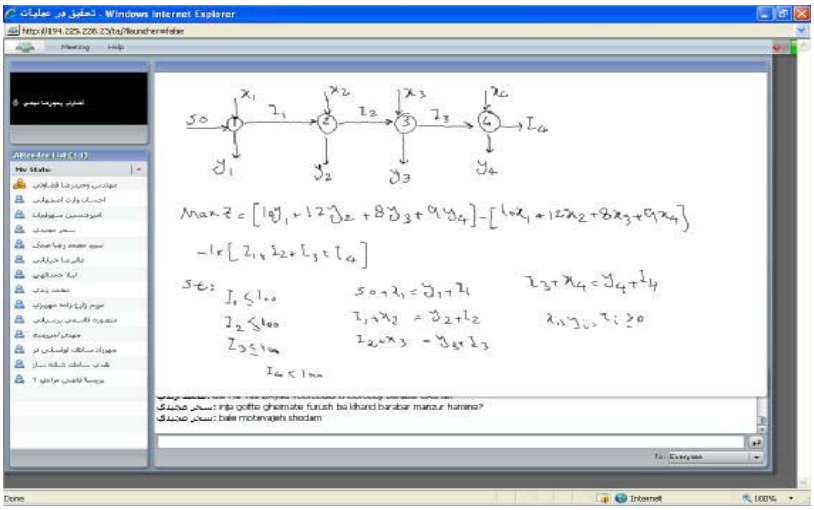
In order to deepen my understanding of the Iranian virtual institutions in terms of how courses are structured and delivered, the researcher took part as an observer in the virtual environments of these institutions. To do so, the researcher participated in an online course at the two virtual institutions. As was mentioned in Chapter seven, these observations were carried out in order to gain additional sources of knowledge for elaborating parts of the analysis in this study.

According to my observations, the objectives and goals of the courses in which I participated were predetermined. Students pursued a logical path to learn what they were expected to learn by the virtual institution. This means

that the learning resources and course materials are prepackaged and delivered on a regular basis.

In the e-learning courses, as in the case of conventional courses, there were synchronies sessions during the semester (once/twice a week depending on the course's higher education credits). Lecturers usually gave their lectures at these synchronies meetings (see Figure 17 for a sample of the virtual environment). One-way interaction between lecturers and students often occurred during these virtual meetings.

Figure 17: A sample of the virtual environment in IUST virtual institution



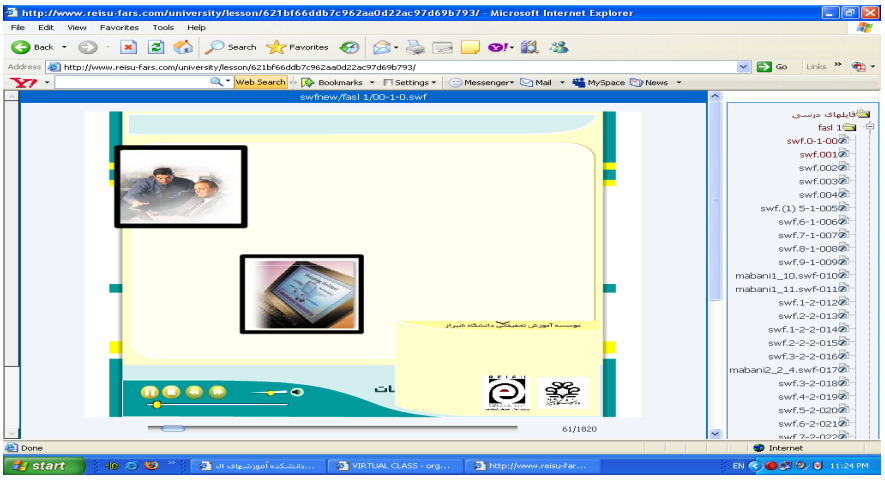
Similarly, students were not expected to make any contribution during the course. The frequent interruptions due to poor infrastructure may partly explain this one-way interaction. Most of the students' comments concerned with the frequent interruptions and inadequate interaction between students and lecturers, such as missing audio, slides, etc. during these virtual sessions. On some occasions, students were given opportunity to raise (write) their questions or comments in synchronies' sessions. However, there was no interaction between students.

Lecturers in the classroom environment were regarded as sources of knowledge and expertise from whom students should learn. In the same vein, the lecturers' authority were not challenged in any of these virtual sessions. It

can be noted that the students were usually asked to strictly follow the course and complete the course assignments according to instructions.

As mention is made, the interaction between students and lecturers was often interrupted due to poor ICT infrastructure. In some courses, the lectures were recorded and presented on the institution's platform, which meant that students could access these recorded learning resources asynchronously after the session. Student found this very helpful for keeping the track of the courses (see Figure 18 for a sample of recorded and presented courses in the institution's LMS).

Figure 18: A sample of learning resources for a course at Hadith virtual institution



As in conventional university procedures, the students at the virtual institutions were also asked to present a paper/complete a task, etc., as part of the midterm examination. At the end of the semester, however, students were also tested in the form of paper-based examinations. These examinations were held in virtual universities' off-campus locations or their local offices.

At the outset of the survey, in the interviews I conducted with a number of e-learning students, most of them expressed a strong desire to learn. However, most of them asserted that they would not attend an e-learning program if they had the opportunity to pursue their studies at a conventional university. Taken as the whole, it can be said that my observations broadly supported the results of the survey in most of the dimensions.

Concluding Remarks

With respect to the *pedagogical paradigm*, the data collected from different sources indicate that from *students'* and *lecturers'* standpoints, the dominant approach in the virtual institutions under scrutiny was more oriented towards an *Instructivism* approach than a *constructivism* one. Both groups indicated in the questionnaires that the learning materials and resources were provided in a linear way rather than providing opportunities for multi-pronged paths to learning. Accordingly, students usually had predetermined learning goals and objectives. Both groups also pointed out that the students are mostly evaluated on the basis of such stated objectives (i.e. as they are presented to the students).

With respect to *experiential value*, both groups, and particularly students, stated that their learning is a function of lecturers' expectations and is thus related to fulfilling such expectations and not to applying what they have learned to their real-life settings. This is in line with other cultural-pedagogical dimensions such Teacher Role and Motivation, in which students see lecturers as sources of knowledge who were able to identify their needs and thus supply them with relevant knowledge. On the other hand, it (learning is a function of lecturers' expectations) can relate to students' motivation to learn in virtual settings in terms of whether their aim was to get a diploma or to gain new knowledge or competences. Accordingly, they can get their diploma by pursuing learning activities assigned by lecturers/course designers.

Similarly, the participants indicated that students are not expected to relate learning resources to their past or potential experiences (applying new knowledge and skills to real-world activities in their learning environments). As students pointed out, in reality the learning environments place emphasis more or less on memorizing learning materials and they are not expected to relate learning resources to their past or potential experiences. There is a significant difference between the students' and lecturers' perceptions of this dimension. This variation can be due to students' and lecturers' different understanding and definitions of learning.

As to the *Instructor Role*, according to data collected students followed a path of learning determined by the instructor/course designer, as they believed that such a person (an "expert") usually knew what students needed to learn. Interestingly, lecturers strongly highlighted their role as an "expert" and a "source of knowledge" who should teach (transfer) knowledge to students, not

guide students as a "facilitator". Similarly, students wished to be taught by an "expert" in the field, rather than be guided toward learning activities by an instructor. Again, these responses indicate that lecturers and students were satisfied with predetermined learning paths.

With respect to the *value of errors,* the students believed that their learning environments were strongly oriented towards the Instructivism approach in which students learn until they make no errors in tests or learning activities. In an errorless learning paradigm, students learn until they make no mistakes, or the instructional method does not allow for errors.

However, the lecturers' reactions to the questions in this dimension were mixed. They pointed out that in their learning environments they use errors and mistakes made as part of the educational process to some extent (opportunities for us to "learn from our mistakes"). However, both groups indicated that lecturers or course designers were satisfied when students took a test without making any mistakes. There was a significant difference between the students' and lecturers' perceptions of this dimension as well as between lecturers' thoughts and actions. This variation could be due to their different perspectives on the learning or to their different interpretations of errors in the addressed questionnaires.

In terms of students' *origin of motivation*, both the sampling data indicate that the students mostly took part in e-learning programs when they had no other options. In other words, if they had had other options in other well known conventional universities, they most likely would not have enrolled in an e-learning program.

Similarly, students strongly indicated that they preferred e-learning courses where they are told what they need to learn. In other words, it is easier for them to follow a defined and fixed path for passing the course and earning a diploma than to face different challenges and explore new ways. On the other hand, the educational system impose its order to students that they should take e-learning courses when they were required to do so, not when they wanted to. This may indicate that the source of motivation in these virtual institutions is placed beyond the students will and interests.

In the case of survey items related to *accommodation of individual differences*, both groups, and particularly students, strongly indicated that few teaching methods and strategies are utilized in an e-learning course. Lecturers, however, pointed out that they employed several instructional methods or activities.

Likewise, the responses to the second question in this set indicated that both groups believe that students' interests and needs are usually not considered when designing and providing courses.

In terms of *learner control*, both groups indicated that students usually carry out learning activities sequentially (timed activities or deadlines). In other words, students have little control over the pace of learning themselves. In addition, both groups indicated that the course features that help students learn the materials are chosen by the instructor or course designer without any contributions by students.

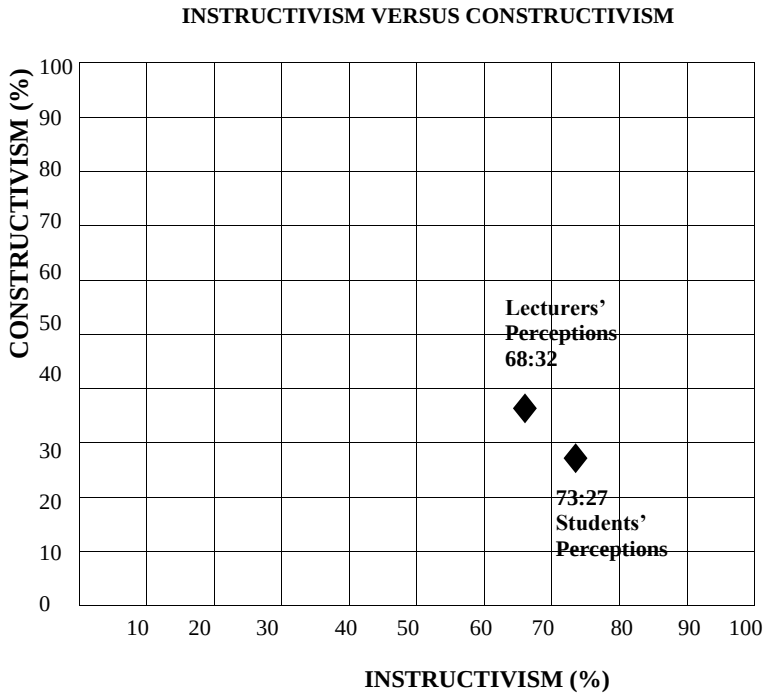
With respect to "user activity", the sampling data indicate that both groups of participants strongly indicated that students have very little or no involvement in producing and representing knowledge. Similarly, both groups pointed out that students are not given any opportunity to apply course content in different activities or create their own uses for the information within the course.

The first item of *collaborative learning* received mixed reactions from both groups. Almost half the students and more than 60 percents of the lecturers indicated that the students usually work individually on their learning activities or projects. However, students particularly in technical fields indicated they worked with a group of peers and classmates when it came to learning activities or projects despite the fact that there were little or no facilities for this.

In addition, both groups stated that there were limited (technical) facilities and tools for cooperative and collaborative learning in their e-learning environments. These tools and facilities could "support and encourage individuals to learn together while retaining individual control over their time, space, presence, activity, identity and relationship" (Anderson, 2005).

To provide an overview of students' and lecturers' perceptions of dominant cultural-pedagogical paradigms in Iranian virtual institution settings, a three-dimensional approach was taken instead of a twofold continuum model (see Figure 19). In this triangle model, students' and lecturers' perceptions of their e-learning environments are depicted on the basis of the cultural-pedagogical dimensions given. As Cronjé (2006) contends "the use of a right-angled model allows a learning event to be characterized as both highly Constructivism and highly objectivism without any inherent contradiction"(p. 394).

Figure 19: Dominant cultural-pedagogical paradigms from students and Lecturers' perspectives



Students' and lecturers' perceptions of their learning environment are plotted in Figure 19. As depicted in this figure, both groups indicated that their e-learning environments were oriented towards instructivist approaches than constructivism notions. The position of lecturers' and students' perceptions of their learning environments in this triangle model could accommodate with what Cronjé (2006) called the "quadrant of Injection".

Cronjé's (2006) description of his "quadrant of Injection" corresponds closely with the description of dominant cultural-pedagogical paradigms in the scrutinized virtual institutions. By introducing this concept "quadrant of Injection", he emphasizes the notion that pre-produced and pre-packed "knowledge, skills and/or attitudes are transferred into the learner in as an efficient, predetermined and predigested way as possible". Like medical injections, the intervention is validated and standardized (Cronjé, 2006, p. 396).

Given this, it can be concluded that the participants believed that the educational system in their virtual settings placed great emphasis (mostly

without being aware of doing so) on Instructivism principles when designing and holding e-learning courses. In such approach, as discussed in chapter six, it was felt that learning could more readily consist of simple and shallow recall without real insight.

CHAPTER 11

VALIDATION AND FEASIBILITY OF THE E-QUALITY FRAMEWORK

Addressing the last research question in terms of *how can the e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?*, the focus of this chapter is on mapping out the validity of the e-quality framework developed in the Iranian cultural setting as a developing country. In this phase of the current development research, accordingly, the validation of the e-quality framework in Iranian virtual institutions' cultural settings is tested and its feasibility discussed. The research findings are presented, analyzed and discussed in accordance with the strategy set out in chapter seven.

Introduction

The E-quality framework[1] is a conceptual structure for qualifying and enhancing quality in virtual institutions. The value of a quality framework, however, depends on the way it has been constructed and validated (in terms of usefulness) in a specific context. In the same vein, the legitimacy of a framework for assuring and enhancing quality rests on the legitimacy of its elements (Inglis, 2008). Accordingly the value of the framework depends on its usefulness in a specific context.

Since validity means "adequacy with respect to a purpose" (Barlas, 1996, p. 188), validation of the developed framework has to have informal, subjective and qualitative components. In other words, framework validation is a "gradual

[1] See chapters one and nine for further elaborations.

process of "confidence building", rather than a binary "accept/reject" division" (Barlas, 1996, p. 188).

Five different approaches to model validation are mostly underlined in the current literature and are focused on the implementation and systematic validations of models and frameworks. These are "usability documentation, expert review, controlled testing, component investigation, and field evaluation (Richey, 1997; Richey & Klein, 2007; Tracey, 2007).

Model validation can be undertaken either internally or externally. Internal validation is a confirmation of the components and processes of a model, as illustrated in chapter nine. In terms of internal validation, it should be noted that the framework was not validated by field research and thus, exploratory factor analysis was not applied. External validation, however, is a validation of the usability of the developed model/framework. As is often the case in development research, the internal and external model validation processes are part of a larger design and development research project (Richey & Klein, 2007). Accordingly, the validation undertaken in this study can be considered a primary step for validation of the e-quality framework.

Similarly, in order to validate the developed e-quality framework in the context of Iranian virtual institutions, the framework was validated in terms of usability by decision-makers in such virtual institutions. Usability is defined as "information on the extent to which a product, tool, or model can be effectively, efficiently, and satisfactorily used in the context for which it was intended" (Richey & Klein 2007 p. 160).

Considering the centralized and hierarchical structure in Iranian higher education, it is assumed that the decision makers could make a sound contribution (judgments) to the validation of the e-quality framework. Moreover, most of the decisions are made and taken by the decision-makers in developing countries, unlike the bottom-top procedure in the decision-making in the Western higher education settings.

To address this research question in terms of *how can the e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?,* and map out the validity of the e-quality framework, a number of structured interviews were conducted with decision-makers in the studied Iranian virtual institutions. These virtual institutions were Hadith Virtual institution, Tehran Medical virtual University, IUST virtual institution, AmirKabir Virtual

institution and Shiraz Virtual Institution. In order to validate the e-quality framework, the focus of the interviews conducted was on the following issues at Iranian virtual institutions:

- Overall evaluation of the developed e-quality framework;
- Examining the importance and weight of each of the benchmarks, sub-factors and factors based on the decision-makers' perceptions and expectations in a specific culture and cultural-pedagogical setting.

As mention is made in chapter seven, the interviews were used to elicit more accurate information on validation of the e-quality framework. Accordingly, in the introduction to the framework, the decision makers were asked to weight the importance of factors, sub-factors and benchmarks of the e-quality framework, respectively, on the basis of the dominating facts and wishes in the whole system, and not on the basis of their own wishes.

It is important to note that this phase (validation) of the development research is determined to a number of virtual institutions' decision-makers views. In order to reach a conclusion regarding the e-quality framework, thus, supplementary validation studies involving other role players in virtual institutions, particularly students and teachers, are needed. As I have noted, such supplementary validation studies are beyond the scope of this study.

In addition to these structured interviews, a focus group interview was carried out with practitioners of the virtual institutions in order to explore the feasibility of the e-quality framework in Iranian virtual institutions. Accordingly, an account of the validation of the e-quality framework, initially, is outlined after which the feasibility of the framework in Iranian virtual institutions is discussed.

Validation of the Developed Framework

The validation, as argued earlier, was carried out based on the virtual institutions' views on the e-quality framework presented in terms of the assigned weight for each benchmark, sub-factor and factor. This is followed by a variety of contributions from decision-makers, including suggested improvements and additions to the framework developed.

The decision-makers in these virtual institutions asserted that quality enhancement and assurance in their virtual intuitions currently is and will be a critical issue. They also pointed out that establishing and employing a

framework for enhancing and assuring quality can be regarded as a road map of the success of their institutions. In a similar way, one of the decision-makers pointed out that:

> Continued improvement of quality and its assurance is very critical for us, particularly as our institution as a non-governmental higher education body is totally dependent on tuition fees. Accordingly, all our educational system's quality, and thus our students' satisfaction with our services, is crucial for the success of our institution. Thus we are looking to set up a system for assuring and improving quality in our institution.

This interviewee also argues that setting up a system for continuing quality enhancement could help us to draw in a wide range of students from across the country. Along the same lines, another interviewee places great emphasis on improving quality in his virtual institution when he asserts:

> Quality assurance is vital for enabling the virtual institutions to be responsive and competitive when it comes to delivering quality outcomes. In other words, without considering quality and its ongoing enhancement, we have no way of ensuring that what we are doing is right. Currently, despite the fact that we have had no specific plan or framework for assuring or enhancing quality in our institution, we aim to improve the quality of our activities.

Similarly, a third interviewee emphasizes that:

> The developed framework - reflecting a comprehensive picture of virtual institutions - can be a sound tool for assessing and enhancing quality in our virtual institution. However, I think, it needs to be developed in terms of a handy and quantitative model to assess, assure and compare the virtual institutions.

In line with the above mentioned comments, the decision-makers also noted that improving quality is on their agenda and thus they acknowledged the e-quality framework introduced as an initiative for improving quality in their respective institutions. On the basis of these decision-makers' arguments, it could be claimed that they consider quality and its enhancement as a critical issue in the success of their institutions, although they asserted that they have a long way to go to establish an effective system for assuring and enhancing quality. The decision-makers' answers also indicated that currently they have no viable system or framework for assuring and enhancing quality in their virtual institutions.

Attributed Weights to Main Factors

In the interviews, the decision-makers were asked to assign a weight to each of the given benchmarks, sub-factors and factors according to the common expectations and perceptions in the governing of virtual institutions.

What follows is an account of the weights attributed to each of the main factors. The assigned weights for each benchmark by virtual institutions are then outlined. For an overview of the weights assigned to the e-quality framework, initially, the mean of the main factors are presented in the following Table.

Table 34: Weights assigned to main factors

FACTORS	VIRTUAL INSTITUTIONS					Mean
	HV[2]	TU	IU	AU	SU	
F1 Institutional Factor	10	8	6	8	9	8.2
F2 Technological Factor	9	7	6	7	8	7.4
F3 Instructional Design	8	10	9	8	8	8.6
F4 Pedagogical Factor	7	7	10	8	9	8.2
F5 Student Support	8	9	9	9	8	8.6
F6 Teacher Support	8	9	7	9	5	7.6
F7 Evaluation Factor	9	5	4	6	7	6.2

As shown in Table 34, the weights assigned to main factors range from "4" to "10" with lowest importance assigned to "Evaluation factor" and the highest weight assigned to "Institutional factor", "Instructional Design" and "Pedagogical Factor".

Almost all the factors in the framework were considered fairly important. Accordingly, *Instructional Design* and *Student Support* factors with a mean of 8.6, *Pedagogical* and *Institutional factors* with 8.2, *Teacher support* with 7.6 and *Technological Factors* with 7.4 were marked as the most important factors."*Evaluation Factor"* with a mean of 6.2 was assigned relatively less weight in comparison to the previous factors.

The fact that most of studied institutions are public, state-owned institutions with a specific orientation towards *Instruction* rather than *Research*

[2] HU: Hadith Virtual institution (Non-public); TU: Tehran Medical virtual Institution; IU:IUST virtual institution; AU: AmirKabir Virtual Institution; SU: Shiraz Virtual Institution

can explain why the "*Evaluation Factor"*, in comparison with other factors, was considered an unimportant factor in the virtual institutions. Interestingly, there is a significant variation in the weight given to this factor, ranging from 4 to 9.The highest grade was given by the representative of the only non-governmental institution in this study, which might indicate that cost effectiveness and stakeholders' satisfaction are very important to them. The other state-owned institutions, on the other hand, did not consider this factor to be very important.

Below is an outline of the weight assigned to each of the benchmarks and sub-factors under the seven main factors.

Institutional Factor

Table 35: Institutional factor

FACTORS	INSTITUTIONS					Mean
	HU	TU	IU	AU	SU	
F11: INSTITUTIONAL AFFAIRS	10	7	6	7	8	7.6
F111: The institutions should have a documented strategic plan covering the following aspects: Mission..,	8	4	5	6	7	6.0
F112: A documented institutional technology plan clearly describes the procedures for acquiring, deploying, supporting, maintaining and upgrading hardware and software for e-learning	5	7	6	6	5	5.8
F113: Institutional criteria should be defined for budgeting with a diversified source of funding and prioritizing the allocation of resources	5	2	4	5	5	4.2
F114: Strategies and goals are regularly analyzed to meet the increasing velocity of change in societal and market expectations	10	8	5	7	9	7.8
F115: The institution's rules, regulations, staff roles and responsibilities and its operations should be documented and made transparent	8	10	5	4	8	7.0
F116: The institution's human resource policies and practices (e.g. recruitment, retention, promotion, etc.) should be documented and linked to its strategic plan	5	10	4	5	8	6.4
F117: The institution should document on which premises the students should be participating in its educational activities	7	10	6	4	5	6.4
F12: ADMINISTRATIVE AFFAIRS	8	9	6	6	8	7.4
F121: Systematic activities should be designed and implemented to exploit the institution's diverse resources to acquire the best products	8	10	7	6	7	7.6

F122: A risk assessment (beyond financial and operational efficiencies) is regularly undertaken to update the risk profile of the institution and assess whether any different action is required to manage risks better	8	8	5	5	7	6.6
F123: Students should be formally involved, and participate, in decision-making of institutional strategies and associated operational issues	2	4	3	3	2	2.8
F124: Teachers should be formally involved, and participate, in decision-making of institutional strategies and associated operational issues	4	6	5	5	4	4.8
F125: Decision makers need to be confident that they can maintain their positions and assigned duties for a definite period of time and their positions would not be affected political vagaries.	8	10	7	8	7	8.0
F126: The administrative procedures including negotiations, decisions, financial issues, etc. should be transparent	5	8	4	7	5	5.8
F127: A systematic approach should be designed and implemented to provide an appropriate institutional climate	7	10	5	6	6	6.8
F13: RESEARCH	6	9	3	7	6	6.2
F131: Institutions' research strategies should be defined in ways that achieve the desired outcomes	5	10	3	6	5	5.8
F132: Educational activities should be based on and linked to research activities	7	9	3	4	5	5.6
F133: Research outcomes should be measured and developed on a regular basis	7	8	4	5	7	6.2
F134: Research activities should be interlinked with institutions' developmental process, (e.g. assessment, supervising thesis work, etc.)	7	8	4	4	5	5.6
F14: REPUTATION	10	6	4	5	5	6.0
F141: The institution's academic reputation should be measured and enhanced in the following terms: (Graduates'/alumni's evaluations; industry and employer views; crisis response capability; extent and ratio of positive/negative media broadcasting)	10	3	3	6	7	5.8
F142: Competitiveness of the institution in attracting students should be measured and improved	10	10	5	5	5	7.0
F143: Institutions should develop a formal strategy for community service (e.g. sharing facilities with local and other groups) as a means of enhancing their external impact	8	2	4	5	6	5.0

Almost all the sub-factors and benchmarks in this category received mixed reactions from the decision-makers. Some of them were considered to be very important, e.g. "Institutional affairs" and "Administrative affairs", as they were

seen to embrace a mix of the resources (hardware, software, and "humanware", etc.) that could have a significant impact on the success or otherwise of virtual institutions. However, some of the benchmarks of these sub-factors were not regarded as important (see Table 35) for insuring and improving quality in virtual institutions.

Similarly, the benchmark addressing the governing the virtual institutions, "Administrative affairs" (F 12), received a mixed reaction with some benchmarks being considered very important and a few being considered more or less unimportant. Although most of the specified benchmarks under this sub-factor were marked as very important, two of the benchmarks (F123 and F124) i.e. *teacher and students' participation in decision-making* and *in running the institutions,* were marked as unimportant when assuring and improving quality in their virtual institutions. This signifies the high *power distance*[3] and top-down approach in the Iranian virtual institution cultural-pedagogical context. In such circumstances, the decision-makers are often considered as the only ones who can make the right decisions and carry out those decisions as they know better than other people and thus do not need to take into account students' and even faculty members' views.

In the same vein, a documented strategic plan and a technology plan (F111 and F112) were considered to be an important factor when assuring and improving quality in virtual settings. This issue was reinforced in the interviews, as revealed in, for instance, the following comment by one of the decision-makers:

> Our institution has no documented strategic plan or technological plan, but we are going to prepare it in the near future.

Similarly, in an institution with no strategic plan, the whole the system/ organization relies on a specific *person*, not on a *plan (systematic procedures).*In such an institution, any unpredicted events or replacement of that person (i.e. decision-maker or gatekeeper) is usually associated with a shift in the whole procedure and sometimes in the goals of institutions solely on the basis of the that person's likes and dislikes. This conclusion is reinforced in the interviews, as one administrator puts it:

[3] See chapter five for more elaboration.

> Zanjan University was one of the leading institutions in employing and utilizing e-learning in Iran until 2005,but from 2005 on, given the job changes involving decision-makers in almost all the higher education settings (due to the presidential election results), the new administration at this university asserted that e-learning is not on their priorities anymore. In other words, the newly appointed decision-makers set aside all the previous plans and ignored the previous efforts and investments, quite simply, and pursued their own agenda!!

The issue of dependence on a person and centrality of a person instead of a plan, I would argue, highlights the power distance in Iranian higher education settings; a kind of top-down absolutism that comes from dominating political power. It also has to do with the *high uncertainty avoidance index* (UA) among decision-makers in higher education (who try to avoid unstructured, unclear, or unpredictable situations by maintaining strict codes of behavior).

Interestingly, a number of research studies (see Khan, 2005b; Zhao, 2003 ,etc) have indicated that the shortcomings and problems related to administrative system are one of the most common and decisive factors in the failure of institutions, particularly educational institutions in developing countries.

Similarly, the benchmarks dealing with *research* and *reputation* were not considered to be a very important factor. There is also a significant deviation in the weight assigned to these benchmarks. For instance, representatives from the Hadith Virtual institution, which is a new and non-governmental higher education setting, considered *reputation* a very critical element of their success, while representatives of other public institutions did not consider it to be an important factor in assuring and improving quality in their institutions.

Technological Factor

Technological infrastructure forms the backbone of any e-learning setting. Similarly, it is crucial for virtual institutions to decide on which infrastructures, systems, and resources can support this type of education in a proper way (adequate and accessible). Accordingly, it was emphasised in the literature that careful attention should be paid to choosing and establishing appropriate technologies that are readily available, reliable, and sustainable (Brockbank, 2003; Khan, 2005b; Laurillard, 2002; Marshall, 2006; Oliver, 2001; Pat Brogan, 2008; Zhao, 2003). Consequently, it is not surprising that most of the sub-factors relating to "Technological Factor" were marked as very important (see

Table 36) by interviewees when it came to assuring and improving quality in virtual institutions.

Table 36: Technological factor

FACTORS	INSTITUTIONS					Mean
	HU	TU	IU	AU	SU	
F21: DEVELOPMENT AND SUSTAINABILITY OF TECHNOLOGICAL INFRASTRUCTURE	10	6	6	5	8	7.0
F211: E–learning platforms should be regularly analyzed to seek out and adjust to upcoming challenges and changing expectations	8	6	5	6	7	6.4
F212: The capability of adding new functionality or features (*Extendibility)* to existing platform (LMS) should be grante*d*	10	5	6	7	9	7.4
F213: There should be a documented specification and plan for ensuring the reliability, integrity and validity of information collection, storage and retrieval	8	6	5	8	7	6.8
F214: Students' feedbacks should be collected and considered in terms of the ease of use, effectiveness, robustness and reliability of the e-learning infrastructure on a regular basis.	8	9	7	6	8	7.6
F215: Maintenance and durability of information created, delivered and collected, including content and data produced, should be permitted	7	6	7	7	8	7.0
F22: FUNCTIONALITY OF TECHNOLOGICAL INFRASTRUCTURE	8	9	6	7	9	7.8
F221: Standardized (common) set of tools should be established and operated including Tracking facilities[4], instant messaging, forums, etc.	10	9	6	6	8	7.8
F222: Functionality of technological platform should be regularly appraised	8	8	7	8	8	7.8
F223: The reliability of the e-learning system should be as failsafe as possible	10	8	5	6	9	7.6
F224: *Security* and P*rivacy* of information delivered, collected and stored in e-learning settings should be ensured	7	5	4	6	5	5.4
F225: There should be a satisfactory reaction time in the event of malfunction	9	7	5	6	6	6.6
F23: ACCESSIBILITY	7	10	6	7	7	7.4
F231: Learning materials should reasonably and adequately be accessible for students whenever they want	10	10	7	8	7	8.4

[4] Virtual attendance record

F232: Access to learning materials should be granted for learners with different disabilities	2	3	5	4	2	3.2
F233: The e-learning platform should have appropriate bandwidth demands	8	9	4	5	7	6.6
F24: REUSABILITY	7	3	5	4	5	5.6
F241: Institutional strategies, policies, contracts and standards should support and encourage the reuse of e-learning materials	7	4	4	5	4	6.0
F242: Special settings for reusability*(Interoperability)* within and across institutions should be established	7	3	5	4	5	5.6
F243:(Re)development of e-learning design and tools should be considered before new platforms or resources are created	7	3	5	5	4	5.4
F244: Teachers should be provided with training, guidelines and examples for creating and adapting reusable resources	5	2	7	6	5	5.4
F25: INTERFACE DESIGN	8	7	6	7	8	7.2
F251: The e-learning platform should provide students with user-friendly environment, self-evident and predictable pathways that help them carry out learning activities smoothly and effectively in the following terms:	9	9	6	7	8	7.8
Text, images, audio, video, animation, graphics, etc., should be used appropriately	10	8	7	7	9	8.2
Navigation should be standardized (i.e. fully connected network)	8	10	4	7	7	7.2
Information should be "chunked" effectively to allow for easy scanning	10	9	7	8	7	8.2
There should be well-programmed search options	5	4	4	6	5	4.8
F252: The E-learning platform should give students a high degree of control and speed in their personal management tasks such as email, address books, calendars and in organizing their file space without having to work through the web	7	4	4	5	5	5.0

However, *reusability* as a sub-factor under the technological factor was not considered an important factor for assuring and improving quality in virtual institutions. This can be related, I would argue, to the dominant perception of e-learning in which e-learning was and still is considered to be equivalent to the e-content developed and not to interactivity. According to this metaphor, producing digital content and transferring or delivering so-called e-contents to students is fundamental, thus the learning resources produced are considered to be *valuable treasures that cannot be shared.*

What is interesting, thus, is that the interviewees' standpoints significantly differed between non-governmental institutions on the one hand side and governmental institutions on the other hand. It seems that representatives of non-governmental institutions, such as Hadith virtual institution, are seeking to minimize their costs by sharing and re-using the learning resources and tools produced, while this is not the case for the public-run institutions.

As shown in Table 36, Benchmark F232 (Access to learning materials should be granted to learners with different disabilities) received low scores with respect to importance. The interviews helped to explain these sentiments. Administrators stated that these issues (basing specific equipment for students with different disabilities, etc.) were not and cannot be a priority as they have other important priorities on their agenda that should be handled first. Nevertheless, these issues are morally and ethically important to them. Accordingly, they cannot give any credit in these benchmarks in the present circumstances.

In a similar manner, they did not consider F252 (E-learning platform should give students a high degree of control and speed in their personal management tasks such as email, address books, calendars and in organizing their file space without having to work through the web with) to be very important.

"Interface design" received a mixed reaction from the respondents. On the one hand, they felt that a fast, simple (without any complexity in navigation) and reliable learning environment should be considered very important when assuring and enhancing the quality of e-learning environments; on the other hand, the respondents ranked providing "Searchable environment" (programmed search options) as an unimportant issue.

Instructional Design Factor

The success of the technology-supported learning mostly depends on how well the learning environments are designed and aligned with educational theories, learners' needs, underlying technological backbone, etc. Similarly, as argued in chapter five, the instructional design is influenced by both cultural and cultural-pedagogical forces and is tailored to learners' needs and interests.

There was a large consensus, as shown in Table 37, among participants that sub-factors and their specified benchmarks relating to instructional design are very important when assuring and improving quality in virtual institutions.

Table 37: Instructional design factor

FACTORS	INSTITUTIONS					Mean
	HU	TU	IU	AU	SU	
F31: CLARIFYING EXPECTATIONS	7	10	9	8	7	8.2
F311: Objectives and goals of instructional units should be clearly stated	8	9	9	8	9	8.6
F312: A clear and complete course overview and syllabus should be given	8	10	9	8	8	8.6
F313: The instructional format/methods and the expected level of participation (i.e. course workload expectations) should be explicitly stated	5	10	10	8	6	7.8
F314: Course outlines should provide information about the type of interaction and expected times to get feedback on different communication channels	9	10	8	9	8	8.8
F315: Learning objectives should be linked explicitly throughout learning and assessment activities (e.g. criteria for assessment and examination)	7	10	9	8	7	8.2
F32: CUSTOMIZATION	5	6	7	6	5	5.8
F321: In the design and use of e-learning settings, students' needs, skills, and knowledge should be addressed and supported to meet their individual needs or preferences	8	7	8	8	7	7.6
F322: Various didactic scenarios to support diverse learning styles and learner capabilities should be provided	4	6	7	6	5	5.6
F323: Full portfolio capability should be granted where students can take artifacts from each of the courses and keep them in their own personal space	5	3	7	5	5	5.0
F324: Students should have opportunities to manage and modify their learning environments in terms of content structures, layout, color, information, etc.	5	3	7	5	5	5.0
F33: SELECTING PROPER LEARNING SCENARIOS	7	7	9	7	6	7.2
F331: Learning scenarios should be appropriate for the intended purpose, type of content and students' needs	5	8	9	7	6	7.0
F332: Learning media and tools should be consciously selected according objective, content, and students' preferences along with the learning scenario selected	5	7	10	7	7	7.2
F333: Effective learning strategies (e.g. team problem-solving) that actively engage students in the learning process should be furnished in the design and delivery procedure	8	7	7	8	6	7.2
F34: ORGANIZING LEARNING MATERIALS	8	9	9	9	8	8.6

F341: Learning resources developed should be appropriate for the specified course	8	8	9	8	9	8.4
F342: Sequencing and/or hierarchical structuring of learning resources should be granted in a way that best supports learners needs (coherent, time)	7	8	10	9	7	8.2
F343: Learning resources/course content should be comparable in rigor, depth, and breadth to traditionally delivered courses	10	10	8	8	10	9.2
F35: Currency and accuracy of learning resources	8	10	8	8	8	8.4
F351: Learning resources and materials should be reviewed and updated on a regular basis	7	10	7	8	7	7.8
F352: The learning resources should be accurate and reliable	8	10	9	7	8	8.4
F353: Course ownership and copyright status when designing and (re)developing a course clearly should be defined	10	10	5	7	10	8.4

The decision-makers noted that educational methods needed to be tailored so that they are appropriate to both the subject matter as well as the target audience. They also stressed the need to design curricula, taking into account clear and explicit learning outcomes at the outset, and the need to have well thought-out assessment strategies.

It seems that participants distinguished between "e-learning" as a unique method that "should drive technical tools", and the underpinning "technology" that establishes the infrastructure for learning. This point is important when deciding whether a specific technology is appropriate for a particular purpose and specific audiences.

Sub-factor F32 on customization of the e-learning environment, however, received a mixed reaction from the respondents. Respondents stated that it was essential to consider students' needs and concerns when developing and conducting learning courses/programs (i.e. making appropriate use of media and its technology to enable students to learn at their own pace).

On the other hand, benchmarks relating to providing various didactic scenarios to support diverse learning styles and learner capabilities, portfolio capability, and capability to personalize the learning environment were marked as unimportant when assuring and enhancing quality in these institutions. In other words, the decision-makers noted that these benchmarks could not be among their priorities under the current circumstances.

Establishing and providing a wide range of facilities such as various didactic scenarios for supporting diverse learning styles were marked high by some of the administrators. However, preparing these facilities and, more importantly, encouraging practitioners (i.e. designers and lecturers) to utilize these facilities in their courses is very difficult. In the same vein, one of the decision-makers asserted that:

> In Iran, what we have is *e-instruction* rather than *e-learning*, thus first we should try to have sound e-instruction.

It could be noted that this issue is more of a cultural-pedagogical issue than technical one and is rooted in the dominant cultural-pedagogical paradigms.

Moreover, the decision-makers suggested that it is very important to make sure that learning resources and materials are reviewed and updated on a regular basis. In this sense, such learning resources needed to be not only up-to-date, but also updatable. Furthermore, the participants also highlighted the benchmarks relating to intellectual rights and copyright issues.

Interestingly, interviewees highlighted the importance of organizing learning resources. They also strongly emphasized that learning resources/courses content should be comparable in rigor, depth, and breadth to traditionally delivered courses. This implies that decision-makers expressed an expectation that e-learning courses/programs should be electronic versions of traditional university courses/programs. However, the benchmarks addressing customization were considered somewhat unimportant.

Pedagogical Factor

The teaching and learning processes, as has been argued, are the most critical factor in any educational settings, not technology as such. Accordingly, the majority of the sub-factors and benchmarks concerning the pedagogical factor (teaching and learning process) were considered to be very important (see Table 38).Similarly, it became evident that interactivity is the *essential condition* for assuring and enhancing quality in this type of learning.

The interviewees emphasized the importance of student's active engagement in the learning process as indicated in student-centeredness. Highlighting student-centeredness may reflect the application of Chickering and Ehrmann's seven principles (1996) in e-learning environments.

Table 38: Pedagogical factor

FACTORS	INSTITUTIONS					Mean
	HU	TU	IU	AU	SU	
F41: STUDENT-CENTEREDNESS	5	6	9	8	7	7.0
F411: Developed e-learning environments should facilitate and motivate students to play an active role in gaining new competencies and constructing their knowledge	6	7	10	8	7	7.6
F412: Learning activities should be designed to encourage analysis and skill development rather than recall and knowledge acquisition in the following terms	5	8	9	8	5	7.0
F413: Students should be engaged in authentic learning activities and tasks	5	4	10	9	5	6.6
F414: Assessment tasks and learning activities should be designed to build and develop student engagement	6	8	9	8	7	7.6
F42: Interaction and Communication	6	7	9	7	6	7.0
F421: Multiple communication channels should be defined to establish and facilitate students' interactions with teachers and other students	7	3	10	8	7	7.0
F422: Constructive feedback (reinforces learning and is authentic as well as correcting errors and supplying information in context) should be provided in a timely manner	5	7	8	8	5	6.6
F423: A variety of communication channels should be used to provide in-depth and contextual feedback	7	7	6	8	6	6.8
F424: Opportunities to engage in private interaction (e.g. virtual 'office hours') with teachers should be granted on request	8	10	8	9	9	8.8
F425: Lecturers and students should be known to each other.	7	9	9	9	7	8.2
F43: SOCIAL ASPECTS	7	6	6	5	6	6.0
F431: Students should be encouraged and given opportunities to participate in *on/offline* communities	7	6	5	6	5	5.8
F432: Productive and constructive exchanges of views (e.g. buddy systems) as well as a mutually respectful atmosphere should be fostered	6	6	5	6	6	5.8
F433: Collaboration among students to create products that cannot be produced individually (e.g. peer tutoring, peer feedback, and group learning) should be encouraged	6	5	4	5	5	5.0
F434: Various tasks and assignments that require students to collaborate meaningfully should be emphasized	6	6	5	5	6	5.6
F435: Utilizing and participating in interactive tools such as web2 (e.g. blogs, wikis, etc.) should be encouraged	5	5	4	4	5	4.6

F44: LEARNING ENVIRONMENTS	8	7	7	8	7	7.4
F441: All university space including offices, libraries, information computer laboratories, etc. should be mapped (linked) in virtual environments	8	6	7	8	7	7.2
F442: Learners should become inhabitants of the e-learning environment, feeling comfortable and having support for their interpretations of a place.	8	8	6	9	6	7.4
F443: E-learning environment should offer different types of opportunities for private and public interaction	10	7	8	8	7	8.0
F45: ASSESSMENT	6	9	9	8	7	7.8
F451: Assessment of students' *achievements* should span the whole lifecycle of the course/program	7	10	9	8	7	8.2
F452: Validity and reliability of assessments should be regularly monitored and amended in response to feedback	7	7	8	8	8	7.6
F453: A range of assessment formats should be used in courses	8	10	7	9	8	8.4
F454: Assessment of students should be designed to progressively build up their competence, including their critical thinking	5	8	7	7	6	6.6
F455: Students should be provided with details of the workload and specified timetables (deadlines) for key learning activities	5	10	9	8	7	7.8
F46: Learning Resources	7	8	7	7	7	7.2
F461: Full range of learning resources and services should be available to students via an institutional library, including web access to databases and other support resources	7	8	7	7	8	7.4
F462: Learning resources and information services should be easily accessible and contribute to courses	5	10	8	8	6	7.4
F463: Development of students' research and information literacy skills should be explicitly supported	7	7	6	7	7	6.8
F464: Facilities and opportunities for downloading and printing out of learning materials should be facilitated on request	5	9	7	8	6	7.0

As argued in chapter ten, the dominant approach in Iranian virtual institutions is Instructivism in which teachers are considered to be authoritarian experts. This implies that in practice there is not much room for student-centeredness in these types of learning environments. In other words, despite decision-makers' beliefs and privileges as regards utilizing a wide range of teaching and learning scenarios to engage students in the learning process, in practice most

of the faculty members are not interested in shifting their *banking method* (transfer of knowledge) to student-centered methods.

A comment by one of the decision-makers may help to explain this issue. He pointed out that at his institution:

> There is one lecturer who tried out a wide range of different student-centered scenarios in his MS course. For instance, the lecturer set up an offline forum and encouraged interaction among his students. By investing more time, he was available to contribute to the discussions and answer pointed questions at any time via e-mail or in the forum.

He added that:

> Interestingly, his course was pronounced the best course by students, despite the fact that the activities related to the course kept students busy three times more than the other courses.

Benchmarks with regard to social aspects including collaboration, providing constructive feedback, etc, were not endorsed widely by the decision-makers. Accordingly, benchmarks F431, F432, F433, F434 and F435 were not seen regarded as important. In other words, the sub-factors and benchmarks addressing interactivity (particularly among students), collaboration and students' engagement in learning activities and tasks were not marked as important for assuring and enhancing quality in virtual institutions.

Several comments may help to explain this. Virtual institutions' practitioners and administrators suggested that collaboration and interactivity could depend on different factors such as the content of the course, the level of instruction, the lecturers' positive attitudes and skills.

To address this problem at Hadith Virtual Institution in particular, the decision-makers set up an off-line forum (discussion boards) for each course and also for the entire student population. They even encouraged students to work on extracurricular activities such as cultural and religious activities. For instance, as part of such activities, I participated, although in Sweden, in an extra-curriculum cultural program, which was established in honor of "Students' Day" on and off campus simultaneously.

As demonstrated in Figure 20, more than 80 students attended this festival from across the country. Interestingly, they contributed actively in this cultural program by asking questions and making comments. But the main factor that could explain this (backgrounding of social aspects in virtual

institutions), I would argue, is the practitioners' mindset at the virtual institutions, which is in line with instructivist notions.

Figure 20: A Discussion forum in Hadith Virtual Institution

In addition to cultural-pedagogical characteristics, other cultural issues can impact on the effectiveness of e-learning courses/programs. Cultural factors can in some cases restrict or reshape the interaction among students. For instance, in Iran, as an Islamic country, the relationship between females and males is restricted. When it comes to virtual settings, some of the respondents argued that the female students should not chat with male students (at least in a private sphere).Even one of the administrators noted that:

> Some of the religious faculty members (clerics) avoid having mutual (audio) chats with their female students.

Evaluation and assessment were also considered to be a crucial issue when assuring and enhancing quality in virtual settings. The nature of the assessment (summative and formative) in an e-learning course has a profound effect on the way students learn. The assessment may focus on students' learning and motivate them to engage in depth with the subject matter of their course. It could also limit the learning process "by restricting students' learning objectives to the objectives being assessed and by encouraging students to learn to pass

rather than to understand" (Russell, Elton, Swinglehurst, & Greenhalgh, 2006, p. 465).In a similar way, one of the decision-makers pointed out that:

> According to the accepted patterns, all of the teachers, apart from what they are teaching, should conduct their final examination in written format.

Finally, the benchmarks for Learning Resources were ranked more important than benchmarks for e.g. Interactivity and Social aspects. This signifies a specific approach to the learning process that stresses preparing appropriate learning resources to deliver to customers or students.

Students' Support

Table 39: Students' support

FACTORS	INSTITUTIONS					Mean
	HU	TU	IU	AU	SU	
F51: ADMINISTRATIVE SUPPORT	8	9	8	10	8	8.6
F511: Instructions and guidelines describing e-learning technologies and pedagogies should be defined, including plagiarism, academic procedures, access to counseling and advisory services, etc	8	10	9	9	7	8.6
F512: Enquiries and questions directed at student service should be answered quickly (i.e.in a timeframe) and accurately	7	5	8	5	7	6.4
F513: A structured system should be in place to address student complaints using a variety of alternative communication channels consistent with the course as a whole	8	5	8	8	8	7.4
F514: Counseling service for students' academic and personal issues should be established	7	3	8	8	7	6.6
F515: A broad range of training activities should be available to empower students to maximize their mastery of learning environments	10	8	7	7	8	8.0
F52: TECHNICAL SUPPORT	8	7	7	8	8	7.6
F521: Clear, consistent instructions about the type and extent of student technical support should be defined	8	9	7	7	8	7.8
F522: Just-in-time, just-enough, and at-the point-of-need technical assistance should be available throughout the duration of the course/program	10	3	6	8	7	6.8
F523: A high-quality "helpdesk" with a trained site facilitator/coordinator should be supplied throughout the duration of the course/program for students who need assistance	8	3	7	6	5	5.8

Student support, as addressed in chapter nine, refers to a range of services for students (individually and in groups) that complement the course materials or learning resources.

Table 39 shows that the sub-factors and benchmarks relating to "Student Support" received mixed reactions from the respondents. Some of the benchmarks were highly ranked. For instance, the decision-makers highlighted the importance of *empowering students to maximize their mastery of learning environments*. This might signify why *students' computer literacy* was considered an important factor.

In addition, there may be a need to ascertain whether students have or can develop sufficient independent learning abilities and motivation to participate in e-learning environments. Similarly, the sufficiency of student skills and levels of computer literacy was emphasized in particular. A connection was also made to the suitability of students' learning styles and their ability to learn independently in a self-motivated fashion, as defined by the e-learning environment.

Furthermore, *students' readiness and mastery in e-learning environments* are highly rated by the decision-makers. As Holsapple and Lee-Post (2006) contend, this specific benchmark is one of the factors that have been ignored or at least marginalized in previous research literature.

However, some of the benchmarks such as *just* (i.e. accurate) *and on-time response to students' inquiries*, *technical assistance* and *providing a high-quality "helpdesk" for students* (F512, F 522, and F523) were not considered very important for ensuring and enhancing quality in their virtual institutions.

It should be noted that the off-campus students might have a greater need for just-in-time and on-time support, either technical or educational support, than the traditional student, particularly in the Iranian context, which is based on a strong oral culture (much more focused on sound and the spoken word than written forms of communication). This oral culture challenges the utilization of asynchronous tools such as forums in e-learning environments. As one of the decision-makers noted:

> A large number of the students have had serious problems interacting with e-learning environments and teachers. They prefer to talk and chat instead of writing their contributions.

This cultural obstacle can be reinforced by technological flaws such as problems relating to the Persian script in virtual environments. Such obstacles and problems can be related to Collis, Parisi and Ligorio's (1996) argument that cultural differences, teaching style differences, diverse educational values, language problems, and technical problems relating to platforms, operating systems and lack of standard interfaces are the main barriers to supplying an effective e-learning program, which technically can be solved with technological advances but culturally cannot be easily solved. This makes e-learning environments difficult to establish and maintain (organize), and in some cases makes students less motivated to engage in such learning activities.

With this in mind, and to overcome the technical problems in their learning environments, a handful of the most competent and motivated students themselves initiated a blog to share their learning experiences, to identify other students with common interests, participate in live chats and threaded discussion groups, to exchange books, etc. This was done, according to one of the students, without any institutional assistance or support.

Teachers' Support

Teachers are key role players in designing and conducting e-learning courses particularly in cultures with a higher power distance as in Iran. Similarly, furnishing appropriate support for teachers has been widely considered to be a determining factor in the success of e-learning environments. As shown in Table 40, the benchmarks and factors addressing "Teacher Support" were considered essential and as being adequately supported. Similarly, technological and administrative support as well as improving teachers' pedagogical knowledge and skills were recognized as key areas for ensuring the success of virtual institutions.

Ironically, none of the institutions studied in the case study had followed a systematic procedure for preparing and enabling teachers to embark on an e-learning program. As one of the decision-makers pointed out:

> Teachers are thrown into e-learning environments without any preparation. And some of them could not handle students' queries and solve emerging problems efficiently in a virtual environment.

Many of faculty members who moved from traditional system to e-learning do not have a sound understanding of the nature of this initiative, and some of them do not have positive attitudes towards e-learning.

Table 40: Teachers' support

FACTORS	INSTITUTIONS					Mean
	HU	TU	IU	AU	SU	
F6: TEACHERS' SUPPORT	8	9	7	9	5	7.6
F61: Technical assistance in course development	10	9	8	8	9	8.8
F611: Teaching staff should be provided with design and development support such as templates, examples, etc., particularly in the transition from a conventional system to an e-learning environment	10	8	6	9	8	8.2
F612: Course design, development and delivery should be guided and informed by formally developed e-learning procedures and standards	10	10	6	9	9	8.8
F613: Teachers should be provided with hands-on assistance in running e-learning courses	8	8	8	10	8	8.4
F62: ADMINISTRATIVE SUPPORT	8	10	8	9	9	8.8
F621: Issues related to workload, compensation, ownership of intellectual property, etc. should be clarified	5	10	7	9	6	7.4
F622: Incentives for the staff involved in the design and running of the courses, particularly for those who create resources that can be effectively reused, should be considered	7	10	8	9	7	8.2
F63: PEDAGOGICAL SUPPORT	8	9	8	9	7	8.2
F631: Pedagogical assistance should be provided to teachers when designing and (re)developing courses	10	10	8	10	8	9.2
F632: Teaching staff should have access to pedagogical support when running and conducting online courses	7	10	7	8	7	7.8
F64: IN-SERVICE TRAINING	6	8	7	6	8	7.0
F641: Appropriate professional development opportunities for teachers should be furnished on a regular basis in terms of Updating of teachers' technical knowledge and skills	7	8	7	7	7	7.2
F642: Improving their pedagogical knowledge and skills to enable them perform their educational roles properly	5	8	6	5	5	5.8

On the other hand, the changing nature of teaching and learning begs the question of whether teachers are properly prepared for future roles as coaches, tutors, mentors, content producers, facilitators, researchers, etc. Beyond the need for skills, because of the flexible nature of e-learning, it is also necessary to ensure the availability of teachers/lecturers. Similarly, "staff training" was

recognized as a key area for investment to ensure that teachers are properly familiarized with and trained in using the technology.

Information from the interviews strongly supports the notion that faculty members and their approach to learning and teaching as well as their attitudes towards ICT-based learning play a key role in the successful conduct of e-learning courses. One of the decision-makers pointed out that:

> It seems that the young lecturers in e-learning environments perform better than the old ones who, in some cases, are known as a big fish in their field.

Accordingly, the decision-makers considered the benchmarks for this factor addressed to be very important for their institutions' success. Similarly, one of the decision-makers noted that:

> Pedagogical assistance in designing e-learning courses must be part of the e-learning environment.

Evaluation Factor

The key components when evaluating a virtual institution are students, teachers and the institution itself. Taken together, these can be considered potential metrics that can furnish insights into a successful virtual institution. In other words, pursuing or over emphasizing on one component can misestimate the evaluation trends.

Table 41 reveals that the sub-factors and benchmarks relating to "Evaluation Factor" received mixed reactions from the respondents. Most of the sub-factors and benchmarks under this factor were backgrounded by the decision makers. Some of the benchmarks, however, were marked relatively important.

Table 41: Evaluation factor

FACTORS	INSTITUTIONS					Mean
	HU	TU	IU	AU	SU	
F71: COST EFFECTIVENESS	8	3	3	6	6	5.2
F711: Factors that affect the cost-effectiveness of the institution/program should be examined on a regular basis as follows	10	2	3	5	7	5.4
F712: Tuition fees should provide a fair return to the institution and, at the same time, best value to learners	8	9	2	4	6	5.8
F713: Institutions should search for ways to improve their services while reducing cost (e.g. forming appropriate partnerships)	8	2	4	5	7	5.2

F72.LEARNING EFFECTIVENESS	8	9	5	6	7	7.0
F721: Intended learning outcomes should be regularly reviewed to ensure appropriateness and utility and be used for ongoing enhancement of e-learning initiatives	8	9	6	5	8	7.2
F722: The high quality of learning outputs and outcomes should be regularly examined in terms of: Students' achieved outcomes; The proportion of employed, unemployed and graduates competence from an employer perspective	8	2	5	6	6	5.4
F723: Assessments and reviews of the effectiveness of learning activities should be regularly conducted in specific courses/programs	7	8	5	7	7	6.8
F73: STUDENT SATISFACTION	7	8	6	6	6	6.6
F731: Students' feedback and perceptions of their learning experiences should be gathered and taken into account on a regular basis in terms of: level of interaction with faculty and other students; timely and constructive feedback from teachers; learning outcomes, matching the course description; adequacy and appropriateness of technical and pedagogical support; satisfaction with services	7	7	6	7	6	6.6
F732: Students' feedback should be gathered and considered regularly in terms of the quality and effectiveness of their e-learning experience	8	7	5	6	7	6.6
F74: TEACHERS' SATISFACTION	7	8	6	7	8	7.2
F741: Teachers' standpoints and satisfaction with their educational experiences should be gathered and taken into account on a regular basis in terms of: administrative affairs; expected technical and pedagogical support; ownership of intellectual property; staff training and development	7	7	6	6	8	6.8
F742: Teachers' feedback should be gathered and considered regularly in terms of the quality and effectiveness of their e-learning experience	9	8	7	7	8	7.8

As argued earlier, most of these virtual institutions are rooted in conventional universities, which are state-run higher education settings. Consequently, it is understandable that the budgeting and cost effectiveness benchmarks were rated unimportant (budgeting is often done at the ministerial level and thus they do not have to concern themselves with it). Moreover, because of the high social demands for higher education, institutions are usually not concerned about learning effectiveness. As long as there is *hunger for a degree* in the Iranian context, the institutions' output effectiveness will not be challenged.

Students' satisfaction with their learning experiences in virtual environments is usually considered to be an important quality factor as their satisfaction often is linked to their performance. Several elements can be seen to influence student satisfaction in online environments. Three key constructs, however, have been identified as being central to e-learning students' satisfaction: the *instructor*, *technology*, and *interactivity* (Bolliger & Wasilik, 2009).

In the interviews I conducted with some of the virtual students[5], it was found that they were dissatisfied with the services provided, particularly the teaching and learning process in which they were participating. As one of them noted:

> We are at risk of becoming lost in hyperspace. Simply in numerous courses we have no idea what we should do and how we should complete our courses.

Students also highlighted their dissatisfaction with administrative affairs such as limited access to resources, technical difficulties and delays in feedback from teachers.

To address this problem, decision-makers at one of the virtual institutions established a consulting department to help students to learn in virtual settings. One of the decision-makers noted that:

> We know the students are not happy with this difficult situation, but we have no other option except to conduct one or two face-to face-sessions. After conducting one or two face-to-face sessions, the students were satisfied somehow, but we know that sustainable learning cannot be achieved in one or two face-to face-sessions.

It is clear, however, that these institutions recognize the importance of evaluation and assessment. One of the decision-makers said:

> We can't offer proper incentives to successful faculty members because we cannot measure it. Unsuitable rewards de-motivate productive teachers and affect the quality of virtual environments. This vicious circle reduces the value of any educational missions.

Ironically, thus, none of the institutions under scrutiny in this study had a system in place to evaluate and assess their activities, costs and learning effectiveness, or the students' and teachers' satisfaction.

[5] In addition to this research framework and the decision makers' interviews, the researcher conducted additional interviews with three of the IUST virtual institution students.

Assigned Weights to the E-Quality Framework by Virtual Institutions

Decision-makers at each of the virtual institutions, stressing the significant role of quality enhancement and assurance in the success of their institutions, assigned a weight to the benchmarks given in the e-quality framework. What follows is an overview of the weights given to the e-quality framework by each of the virtual institutions.

Table 42: Assigned weights to the e-quality framework

WEIGHTS GIVEN	FREQUENCY	PERCENT
0-4 Unimportant	10	7
5-6 Partially Important	52	34
7-8 Important	53	35
9-10 Very Important	37	24

As indicated in Table 42, 7 percent of the benchmarks in the framework were considered *unimportant*, 34 percent *partially important*, 35 percent *important* and 24 percent *very important*. Accordingly, it can be said that around 59 percent of the benchmarks in the e-quality framework were highly rated by the virtual institutions.

An Outline of the Validation of the E-Quality Framework by the Virtual Institutions

Initially, an outline of the weights given to the e-quality frameworks by some of the virtual institutions is supplied in the Table below, after which an account of each of the virtual institutions is provided separately.

Table 43: Average of the weights given to all the benchmarks in the e-quality framework by each virtual institution

FACTORS	INSTITUTIONS					Mean
	HU	TU	IU	AU	SU	
F1: INSTITUTIONAL FACTOR	7.2	7.2	4.4	5.3	5.9	6.1
F11: Institutional affair	6.9	7.3	5.0	5.3	6.7	6.2
F12: Administrative affairs	6.0	8.0	5.1	5.7	5.4	6.1
F13: Research	6.5	8.7	3.5	4.7	5.5	5.8
F14: Reputation	9.3	5.0	4.0	5.3	6.0	5.9
F2: TECHNOLOGICAL FACTORS	7.7	6.5	5.5	6.2	6.5	6.5

F21: Development and sustainability of technological infrastructure	8.2	6.4	6.0	6.8	7.8	7.0
F22: Functionality of technological infrastructure	8.7	7.7	5.5	6.5	7.5	7.2
F23: Accessibility	6.8	8.0	5.5	6	5.8	6.4
F24: Reusability	6.6	3.0	5.2	4.8	4.6	4.8
F25: Interface design	8.1	7.3	5.4	6.7	7.0	6.9
F3: INSTRUCTIONAL DESIGN FACTOR	7.1	8.2	8.2	7.5	7.2	7.6
F31: Clarifying expectations	7.3	9.8	9.0	8.2	7.5	8.37
F32: Customization	5.4	5.0	7.2	6.0	5.4	5.8
F33: Selecting proper learning scenarios	6.3	7.3	8.8	7.3	6.3	7.2
F34: Organizing learning materials	8.3	8.8	9.0	8.5	8.5	8.6
F35: Currency and accuracy of learning resources	8.3	10.0	7.3	7.5	8.3	8.3
F4: PEDAGOGICAL FACTOR	6.6	7.3	7.5	7.5	6.5	7.1
F41: Student-centeredness	5.4	6.6	9.4	8.2	6.2	7.2
F42: Interaction and communication	6.7	7.2	8.3	8.2	6.7	7.4
F43: Social aspects	6.2	5.7	4.8	5.2	5.5	5.5
F4.4: Learning environments	8.5	7.0	7.0	8.3	6.8	7.5
F45: Assessment	6.3	9.0	8.2	8.0	7.2	7.7
F4.6: Learning resources	6.2	8.4	7.0	7.4	6.8	7.2
F5: STUDENTS' SUPPORT	8.3	6.1	7.4	7.5	7.3	7.3
F51: Administrative support	8.0	6.7	8.0	7.8	7.5	7.6
F52: Technical support	8.5	5.5	6.8	7.3	7.0	7.0
F6: TEACHERS' SUPPORT	7.6	9.1	7.3	8.3	7.5	7.9
F61: Technical assistance in course development	9.5	8.8	7.0	9.0	8.5	8.6
F62: Administrative support	6.7	10.0	7.7	9.0	7.3	8.1
F63: Pedagogical support	8.3	9.7	7.7	9.0	7.3	8.4
F64: In- service training	6.0	8.0	6.7	6.0	6.7	6.7
F7: EVALUATION FACTOR	7.8	6.5	5.1	6.0	7.0	6.5
F71: Cost effectiveness	8.5	4.0	3.0	5.0	6.5	5.4
F72.Learning effectiveness	7.8	7.0	5.3	6.0	7.0	6.6
F73: Students' satisfaction	7.3	7.3	5.7	6.3	6.3	6.6
F74: Teachers' satisfaction	7.7	7.7	6.3	6.3	8.0	7.3
Mean For Each Virtual Institution	7.3	7.4	6.5	6.9	6.8	7.0

As indicated in Table 43, the benchmarks addressing Teacher's support with mean of 7.9, Instructional design with 7.6, Student's support with 7.3 and Pedagogical factor with 7.1 are highly rated by all of the decision-makers at the

scrutinized virtual institutions. However, the weights given to other factors and sub-factors vary significantly from unimportant to very important. For instance, the Evaluation factor was highly rated by the Hadith virtual institution, while this factor was backgrounded by other virtual institutions. The highest ratings of the developed e-quality framework were given by Tehran Medical University (TU) with a mean of 7.38 and Hadith virtual institution (HU) with a mean of 7.3, respectively, while IUST virtual institution (IUST) had a mean of 6.5, AmirKabir virtual institution (AU) with 6.85 and Shiraz virtual institution (SU) with 6.77 had the lowest means.

Interestingly, the first two virtual institutions (TU and HVI) are not technical oriented higher education institutions (HVI focuses on Islamic sciences and TU focuses on medical sciences), while the other virtual institutions are technology-based institutions as in the case of IUST and AKUT or technology-oriented like Shiraz virtual institution. Similarly, all of the decision-makers at the above-mentioned virtual institutions (IUST, AKTU and SU) have had technical backgrounds.

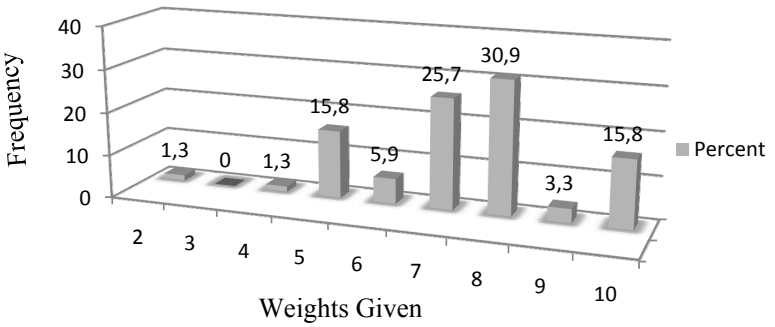
It can be claimed that the decision-makers of the technology-based institutions rated the e-quality framework lower than the humanities and medically oriented institutions. Similarly, the different backgrounds of the decision-makers (technical or non-technical) may also have impacted their understanding of their institutions.

All of the institutions investigated, with the exception of HVI, are publicly run institutions receiving public funds. This may also be the reason why some of the benchmarks, such as those related to *Evaluation Factors* or *Reputation*, were rated as unimportant at the public institutions.

With excluding some of the sub-factors - such as F24: Reusability with a mean of 4.8; F71: Cost effectiveness with a mean of 5.4; F13: Research and F32: Customization with a mean of 5.8; and finally F14: Reputation with a mean of 5.9 - that were considered unimportant for assuring and enhancing the quality of virtual institutions.

Hadith Virtual Institution

Figure 21: Frequency distribution of weights given to individual benchmarks by Hadith virtual institution



At Hadith virtual institution, as shown in Figure 21, more than 20 percent of the benchmarks are weighted as partially important, almost half the benchmarks are rated as important and one-fifth of them are ranked as very important. Less than 3 percent of the benchmarks (F123, F124 concerning students' and teachers' participation in decision making and F232 regarding students' disabilities) were considered unimportant.

The benchmarks F123 and F124 clearly highlight the high power distance (dependence in the form of autocratic or paternalistic superiors) at these virtual institutions. In such a top-down approach, the decision-makers are viewed as authoritarian rulers who should not be challenged. It is assumed that the gatekeepers usually know and understand everything better than other people, which implies that students or even teachers have no role in decision-making. In fact, this is supported by a system where the gatekeepers are asked to be responsible *only* to their superiors not to the faculty and other actors (students). Interestingly, the dean of the one of the virtual institutions noted that:

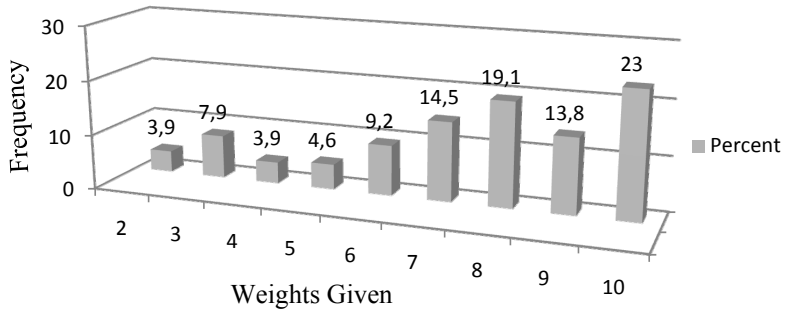
> I personally think differently: teachers and to some extent students should participate in decision-making. However, this notion is not endorsed by other high-level (on-campus universities decision-makers) and low-level administrators.

In contrast to other institutions, the benchmarks F713 and F711 regarding cost-effectiveness and budgeting were ranked as very important at the Hadith virtual institution due to the fact that these types of non-governmental

institutions enjoy no financial assistance from the state (most of their incomes is in the form of the students' tuitions fees).

Tehran Medical University Virtual Institution

Figure 22: Frequency distribution of weights given to individual benchmarks by Tehran Medical University



As shown in Figure 22, more than 15 percent of the benchmarks at Tehran Medical University were downplayed. While 10 percent of the benchmarks were ranked partially important, almost one-third important and more than one-third of the benchmarks in the e-quality framework were highly ranked.

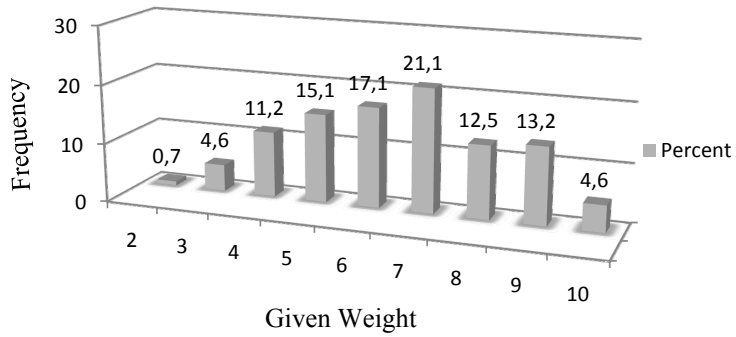
At this virtual institution, the benchmarks F113, F713 and F711 concerning cost effectiveness (budgeting), and reusability were considered to be backgrounded. One reason for this could be that expenditures in state-run institutions are covered by the state, thus these institutions have less concerns about financial issues. In the same vein, the dean of this institution noted that:

> Right now, the president of the university has a constructive approach towards e-learning, so we have almost no problem with financial issues.

Unlike other virtual institutions studied, benchmark "F514" (*providing counseling services to students for academic and personal issues*) was rated as unimportant in this virtual setting. The type and level of programs delivered at this institution, which are provided to physicians across the country, might explain this issue. In other words, students at this institution have for the most part had a successful academic life earlier, so they might not be in need of academic and personal counseling services.

IUST Virtual Institution

Figure 23: Frequency distribution of weights given to individual benchmarks by IUST virtual institution



As indicated in Figure 23, 17 percent of the benchmarks at IUST virtual institution were rated as unimportant, around one-third of the benchmarks as partially important, one third as important, and less than one-fifth were rated as very important. In other words, 51 percent of the benchmarks were highly rated (important and very important) at this technology-based institution. As illustrated in Figure 23, the weights assigned to the e-quality framework were more or less normally distributed.

Ironically, benchmark F712, "*Tuition rates should provide a fair return for the institution and the best value for learners at the same time"* was considered unimportant at this institution. Apart from the fact that this institution is a state-run higher education body, a comment by one of the decision-makers could explain this "the virtual institutions has been mostly developed to secure an easy source of income for on-campus institutions (universities)". Thus, there cannot be much room for considering *best value for students* in practice. In the same vein, the benchmarks related to cost-effectiveness were rated as unimportant.

Most of the Iranian higher education settings, including virtual institutions, are instruction-oriented and not research-oriented. Accordingly, it is not really surprising that benchmarks of research activities such as F132 were rated as unimportant at most of the institutions studied.

AKTU Virtual Institution

Figure 24: Frequency distribution of weights given to individual benchmarks by AKTU virtual institution

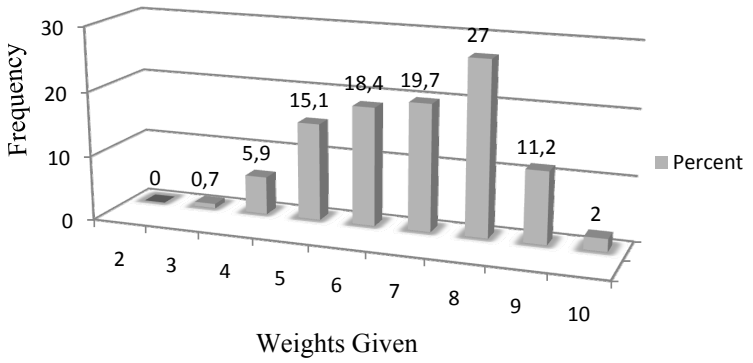


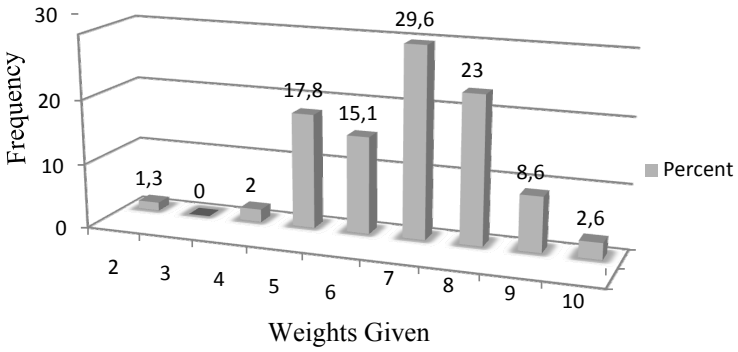
Figure 24 shows the weight given to the developed framework at AKTU virtual institution. Almost eight percent of the benchmarks were rated as unimportant, around one-third as partially important, more than a quarter as important and 23 percent as very important.

As in the case of the other institutions, the benchmark for students' participation in decision-making was given the lowest rating in this setting. Similarly, the benchmarks regarding interactivities and *Utilizing interactive tools like web2 (e.g. blogs, wikis, etc.) in e-learning environments such as* F435 were rated as unimportant. Interestingly, these benchmarks were rated as unimportant or partially important at the other institutions studied.

The benchmarks concerning lecturers' support were rated as very important at almost all of the institutions under scrutiny.

Shiraz Virtual Institution

Figure 25: Frequency distribution of weights given to individual benchmarks by Shiraz Virtual institution



As shown in Figure 25, three percent of the benchmarks were rated as unimportant, while one-third of them were rated as partially important, more than half of them as important and 13 percent as very important.

Similar to the other virtual institutions, the benchmarks concerning students' and teachers' participation in decision-making, reusability and budgeting were rated as unimportant.

Some of the benchmarks, such as F343 (comparability of e-learning courses with courses delivered in traditional form in terms of rigor, depth and breadth) were ranked high. In other words, it is strongly emphasized that the courses delivered in e-learning environments should be compatible with the traditional courses. In the same vein, the intellectual rights of the authors as well as providing user-friendly environments were also highly emphasized at this institution.

As illustrated in Figures 21-25, there is a significant variation among the virtual institutions scrutinized. Similarly, different distributions can be discerned in the weights assigned to the framework by each of the institutions. The distributions in some cases range from 2 to 10, and in some are between 4 and 8. In view of the variations between the different institutions, it can be concluded that the e-quality framework is generally validated by the virtual institutions, but not in the case of every single benchmark.

In such variations, some of the benchmarks are rated by virtual institutions as very important in the context of Iranian virtual institutions. On the other hand, some of the benchmarks are backgrounded in the given cultural context.

Cultural sensitivity is at the heart of this issue (highlighting or back grounding a benchmark), in another level. It might also mean that some of the benchmarks are backgrounded due to their being poorly articulated.

Findings from Open Questions

As noted in chapter seven, along with the e-quality framework presented, the decision makers are asked in open-ended questions to suggest improvements and additions to the e-quality framework developed. Following this request, the decision-makers made a variety of contributions for improvement of the e-quality framework. These contributions are summed up and reflected in six categories. It should be noted that these categories were brought together from all the institutions investigated.

Decision-makers contended that along with the benchmarks provided, it is important to take to account cultural and ethical attributes such as the dominant *vocal or oral* tradition among Iranians as well as some logistic issues such as problems in writing in Persian (the Persian alphabet is often disturbed on a given platform due to the technical problems). For instance, they noted that on the one hand, due to poor technological infrastructures it is hard to run the entire course synchronously (by voice). On the other hand, due to the difficulty and disarrangements of Persian script on different platforms (LMS, CMS), the interaction of written synchronies and asynchronies among virtual learning practitioners is restricted. Accordingly, these cultural and logistic issues must be taken to account when assuring and enhancing quality in their virtual institutions.

Participants noted that e-learning success is highly dependent on motivated and qualified lecturers with positive attitudes towards e-learning. Accepting that educational staff's motivational factors are fundamental, they recommended that institutional authorities should recognize staff commitment. Similarly, some genuine steps to acknowledge the degree of dedication of teaching staff need to be established. Therefore, introducing positive incentives for the application of an e-learning framework may be essential. To ensure motivation, it was also suggested that there needs to be a system of recognition and reward.

The transition from traditional face-to-face learning to one based on technology-enhanced environments poses serious challenges to both academic staff and students. Accordingly, the decision-makers emphasized the preparation and provision of appropriate training and support for the lecturers before and during a course in an e-learning environment. In most of the Iranian virtual institutions, there is a lack of qualified teachers. Accordingly, it should be noted that tutor training and professional development should be aligned with institutional aims and culture, and thus these benchmarks should be given more weight.

The decision-makers also considered the students' motivation to be a critical issue in the success of e-learning environments. There is a need for verification of whether students are sufficiently independent and motivated to able to undertake computer-based learning. Accordingly, where e-learning is deemed desirable, goals and target groups must be well-defined. This means that motivational factors, i.e. rewards for learners, need to be introduced and taken into consideration when ensuring and enhancing quality in virtual settings.

The interviewees also stressed the importance of international relationships and affairs such as conducting joint courses or programs together with well-known (world-class) universities, attracting students from abroad, holding seminars and conferences as well as taking part in conferences.

One of the participants also noted that establishing *Alumni networks* and utilizing their experiences might be worth considering in the e-quality framework.

The additions and improvements suggested must be given serious consideration when assuring and enhancing quality in virtual institutions in the Iranian context.

Synthesis and Comments

Addressing the last research question *(How can the e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?)*, the focus of this chapter is on mapping out the validity of the e-quality framework in the Iranian virtual institutions. To do this, the e-quality framework, incorporating

116 benchmarks in 7 main factors and 29 sub-factors, was validated in five Iranian virtual institutions on the basis of their decision-makers' reflections.

Based on the decision-makers' remarks, it can be claimed that generally speaking, the e-quality framework is validated, with the exception of some the benchmarks. In other words, the decision-makers confirmed the importance of many of the benchmarks in the e-quality framework, but a small number of benchmarks and sub-factors were backgrounded which (the backgrounded benchmarks) needs to be removed or underweighted. Some of the benchmarks such as *providing pedagogical assistance to teachers, comparability of the delivered course with the on-campus courses, administrative support*, etc., were highly rated on the one hand. On the other hand, a number of the benchmarks such as *students' participation in decision-making*, *accessibility of learning resources for students with different disabilities*, *budgeting with a diversified source of funding*, etc., were rated as unimportant in the context of the Iranian virtual institutions. The details of the weights given to the benchmarks, based on the importance of the listed benchmarks in Iranian virtual institutions, are provided in appendix B.

The highly rated benchmarks in the e-quality framework developed will be included in the prototype of the e-quality framework with significant credits when it comes to assuring and enhancing quality in Iranian virtual institutions. These benchmarks could have a significant impact on the success of virtual institutions in the Iranian context. Low-rated benchmarks in the framework should either be removed or included with insignificant credits. As the decision-makers noted, all the benchmarks could be important per se, however the low-rated benchmarks were not on the virtual institutions' agendas at present.

However, I would argue that including low-rated benchmarks without insignificant weights in the prototype of the e-quality framework could improve the different stakeholders' understanding of these benchmarks and thus could improve the quality of the virtual institutions in the near future.

The reflections voiced in the interviews will be described and applied to the e-quality framework in terms of reorganizing and improving (extending) the framework. The reorganization or reconstruction of the framework will be carried out by means of the weights assigned to the benchmarks. Improvement of the framework will also be achieved by considering various suggestions made by decision-makers such as *International relationships and cooperation*, *alumni*

networks, *specific interface design issues* (e.g. Persian script), *students' motivation* and *teachers' rewards*.

When discussing validation of the e-quality framework in Iranian virtual institutions, the following points can be foregrounded:

All the virtual institutions in Iran are to be found at conventional universities, most of which are publicly funded. Thus, it is understandable why the benchmark concerning budgeting and cost effectiveness was rated as unimportant. On the other hand, because of the high social demand for higher education, institutions are seldom concerned with the effectiveness of learning. I believe that because there is a *hunger for diplomas* in the Iranian context, the effectiveness of the institutions' output will not be challenged.

Most of the institutions studied are instruction-oriented rather than research-oriented higher education settings. This could explain why the benchmark concerning research was considered to be an unimportant factor in these institutions' cultural-pedagogical contexts.

As indicated in Chapter 10, the common perception of e-learning in Iranian virtual institutions was and still is somehow touches on developing e-content/digital content. Accordingly, e-learning is seen as being on equal footing with the transfer of conventional learning recourses to digital learning resources and thus not with the *interactivity* dimension. Using this metaphor, *producing digital content* and *transferring* (delivering) the e-content produced to students is seen as fundamental, and consequently the digital learning resources produced are regarded as *valuable treasures* that cannot be shared. Interestingly, the interviewees' standpoints deviated significantly regarding whether they were employed in a non-governmental or governmental institution. It seems that non-governmental institutions such as the Hadith virtual institution are trying to minimize their costs by sharing and reusing the learning resources and tools already produced, while this is not the case when it comes to public institutions.

Some of the participants noted that when establishing and providing a wide range of methods and facilities such as various didactic scenarios to support diverse learning styles, full portfolio capability and other benchmarks for customization, seemed to be very helpful in the learning procedure. However, preparing such methods and facilities and, more importantly, encouraging practitioners to make use of such tools in their courses is difficult

due to, among other things, the deep-rooted cultural-pedagogical values of these institutions. In the same vein, one of the decision-makers asserted that:

> In Iran, what we have is *e-instruction* rather than *e-learning*, thus first we should try to have sound e-instruction.

Student-centeredness is considered to be one of the crucial factors in the success of the virtual institutions. However, benchmarks concerning social aspects, collaboration, providing constructive feedback, etc. were not widely endorsed by decision-makers. In other words, the sub-factors and benchmarks that address interactivity (particularly among students), including collaboration and students' engagement in learning activities and tasks, were not considered to be important when assuring and enhancing quality in virtual institutions.

As addressed in chapter 10, the dominant approach in Iranian virtual institutions is oriented towards instructivist notions where teachers are regarded as authoritarian experts. In practice, apparently, there is not much room for so-called student-centeredness in these types of learning environments. In other words, despite the decision-makers' beliefs and privileges as regards employing a wide range of teaching and learning scenarios to engage students in the learning process, most of the faculty members seemed to be less interested in changing their *banking method* to student-centered methods.

Since they have a vocal tradition, most of the practitioners in virtual environments prefer to talk and chat instead of writing their contributions. This cultural obstacle is reinforced by technological flaws such as problems in typing in Persian in virtual environments. This issue supports Collis, Parisi and Ligorio's (1996) argument that cultural issues are the main barriers to implementing an effective e-learning program. They add that as technologies advance, technical problems may have been resolved gradually; however, cultural-pedagogical issues and variables are, if they are not properly addressed and considered, obstacles that must be overcome for the e-learning programs to be successful. This makes e-learning environments hard to tolerate and in some cases resulted in student beings less motivated to engage in such learning activities.

Feasibility of the Framework Developed

To expand on the findings from the interviews and to further explore the feasibility of the e-quality framework in terms of the blocking and facilitative factors when implementing the framework, a focus group interview was also conducted.

As regards the use of focus groups as a data collection method, McPherson (2007) argues that conversation, public discussion and informal conversation are normal processes by which ideas are negotiated in daily life, and therefore can be understood as a means by which we can access those relatively inaccessible communicative contexts in which meaning is socially constructed.

The focus group interview was carried out with a group of practitioners - around 20 people - at virtual institutions on the campus of the Hadith Virtual Institution (see chapter seven for further elaboration). The focus group 'focused' in particular on *exploring the feasibility of the e-quality framework developed*.

Demographically, the participants in this focus group were a homogenous group of males (mostly males) and females employed in virtual institutions as staff, lecturers and administrators (middle and low level). Using the thematic analysis, as pointed out in chapter seven, the discussions have been boiled down to the following three main categories:

Possible implications of the e-quality framework

Blocking factors, and

Facilitative factors

Each of these themes is exemplified and elaborated in the following.

Possible Implications of the Framework

The participants argued that the e-quality framework initially could be used as an evaluation system to determine minimum requirements for virtual institutions to be able to conduct a virtual program. This procedure evolved from a medical analogy where a physician examines a patient's vital signs to determine the patient's current state of health. As one of the participants noted:

> I think the best possible application for this framework is as a diagnostic function. The framework can determine minimum requirements and flaws in virtual intuitions, particularly when establishing or developing virtual institutions.

There was a wide consensus on this issue, that the framework could be easily used for drawing up an ideal type of e-learning environment as well as diagnosing minimum requirements and flaws in virtual settings. Accordingly, the "health" of virtual institutions can be measured by their frameworks. Such health calculations can diagnose the possible flaws and problems related to institutional structure, processes and practices, current performance, outcomes, and outcomes of an institution.

Some of the participants argued that the framework should be translated into measureable and tangible criteria so that the institutions could be assessed and ranked quantitatively. In other words, they stressed that the framework needs to be reconstructed with quantitative performance indicators in order to weight virtual institutions accurately. There was a discussion about this issue, and one of the practitioners contended that:

> The given framework is just a list of some of the benchmarks. This cannot work in this format at all. So it needs to be objectified and a specific formula should be developed to assure quality in virtual institutions.

Reorganizing the framework in a quantitative way could help institutions to enhance their quality by sharing the data produced in the initial diagnosis, selecting a benchmarking partner from other virtual institutions and sharing the knowledge generated by making improvements to the framework presented.

A number of participants also noted that the e-quality framework could provide a template enabling virtual institutions to identify what they should measure and how to measure it, in order to determine their strengths and weaknesses and plan for improvement. One of the participants argued that:

> The framework could also be employed as a touchstone for assuring quality among and within virtual institutions. It could reveal the weaknesses and strengths of virtual institutions.

This item could be in line with continuing improvement of the virtual institutions by revealing their shortcomings and offering plans for improvement in a regular basis.

It was pointed out that the e-quality framework presented could also be used for accreditation of virtual institutions by means of peer reviews or independent agencies nationally. However, one of the participants was opposed to this idea, stating that:

> I think, it is not wise to use this framework for accreditation of the virtual institutions at the moment. If we cannot accredit our conventional universities, how we can do accredit virtual institutions.

Another practitioner supported his notion by saying that:

> He is right, even the outputs of the conventional universities accreditations are in question in some way.

There was a heated discussion in the focus group about this issue in terms of the possibility of implementing the framework for accrediting the virtual institutions. After a long discussion, they came up with the idea that at this stage they should engage to self-evaluation rather than accreditation.

It was noted that the framework in developing countries such as Iran could be misused or even abused. They argued that considering the large social demands for higher education in developing countries, the e-quality framework could be abused as a tool for deceiving the possible stakeholders, -as had happened[6].

There was heated discussion about whether or how the framework could be misused. Some of the comments are shown in the following excerpt;

> A: In practice, yes, it might be happen in this context,
> B: It depends on the way it is handled by independent and official agencies or by dependent agencies,
> C: If it is used properly, it should not be a problem. It depends on how and by whom we are going to apply it. I think, if it is done officially, the risk can be reduced.
> B: This framework could be misused like other issues; I personally think that it can be done, provided that is done by the state and not by private agencies.

As pointed out in the above-mentioned excerpt, the fact that some of the participants accepted the risk of misuse and abuse indicated that this possibility and risk could apply to any issue. However, the risk can be reduced if the state is responsible for accreditation.

Blocking Factors

A number of the practitioners stated that there is practically no clear-cut policy for virtual institutions in general and for quality improvement/assurance in

[6] Case of the Hawaii University in Iran; as a branch of the Hawaii University more than 5,000 postgraduate diplomas were granted and sold over a period of 10 years. This branch used fake accreditation to establish itself in Iran using Hawaii University's name and brand.

particular. The participants noted a variety of cases where there is confusion regarding policies and regulations of virtual institutions:

> A: It seems to me that much work remains to be done on a legislative level as virtual institutions seeking authorization to operate continue to refer to conventional universities' criteria.
> B: That is the case; even I would claim that some of the decision-makers don't have a sound understanding of e-learning.
> C: Yap, the Ministry of Higher Education, introduced a regulation stating that the diplomas granted by virtual institutions at postgraduate level are not considered to be valid degrees, which indicates that there are contradictions in policies and strategies.

On the one hand, the higher education settings and virtual institutions have been encouraged to improve the quantity (more specifically, the number of students) and quality of their activities. Consequently, the number of virtual institutions has increased significantly. On the other hand, the decision-makers at the Ministry of Higher Education lay down different limitations and regulations for virtual institutions.

An issue acknowledged by some of the participants was that a large number of students in virtual institutions take part in virtual programs solely for reasons of social satisfaction (i.e. joining the bandwagon of degree seekers) and not to learn or improve their knowledge and abilities.

> A: It seems that earning a higher education diploma is an end in itself for most of the students, which may not be in line with the intended learning outcomes. In other words, achieving predetermined goals (in terms of enhancing students' capabilities, skills, knowledge and attitude) is a second priority.
> B: It is hard to imagine that most of the students attend a virtual institution just earn a diploma. At least that's not the case in our institutions.
> C: I believe that this hunger for a higher education diploma is an epidemic affecting all higher education settings and it shouldn't be limited to virtual institutions. So, it can impact on quality of learning in either conventional or virtual settings.

In the same vein, some of the practitioners were concerned with improving quality without taking students' active engagement into account. As was argued in chapter five, the students' active participation or co-producing is an essential ingredient in ensuring and improving quality in educational contexts.

Accordingly, students' active participation in learning process is a decisive issue when it comes to enhancing and assuring quality.

Another issue highlighted in this focus group was that there is no defined or specific room for quality assurance and improvement in the Iranian virtual institutions structure.

> A: Quality assurance and quality improvement have no defined place in our institution. So, nobody pursues and investigates quality, at least explicitly.
> B: There is an office for quality issues at universities, but it is just a name.
> A: It is hard to see any real commitment from upper levels - university and ministerial level - to quality and enhancing quality in virtual institutions.

Similarly, the researcher could not find any strategic planning or even strategies for implementing quality assurance or any policy for enhancing quality in these virtual institutions. This could imply that quality would not be at the top of their list of priorities. More importantly, in some cases, the policies of virtual settings are not aligned with their host campus (conventional universities).

The last point addressed in the focus group concerned *lack of proper leadership* in implementing a quality framework. They noted that there is little tangible evidence that leadership (specifically at the ministerial level) is leading and supporting quality in virtual institutions. As Venkatraman (2007) argues, *lack of proper leadership* in implementing a quality framework is a common barrier to both industry and education. Similarly, management at virtual institutions should be able to draw up a feasible corporate vision and be willing to initiate change and provide the resources needed for team efforts directed at achieving the institutions' vision.

Facilitative Factors

The decision-makers' positive attitudes towards and comments on quality assurance and quality improvement are an important step in facilitating the framework presented. While structural barriers, there may not be sufficient personnel and financial resources, the administrators' standpoints as regards quality can Promote quality in virtual institutions. It seems to me that the decision-makers' cooperation and participation in this study could indicate that most of them are concerned about quality enhancement and quality assurance in their learning environments.

Rapid expansion of the virtual institutions in the Iranian context and their competition in order to attract a wide range of students may involve assuring and enhancing quality in these institutions. On this theme, one of the participants asserted that:

> Virtual institutions in Iran have no option in the meantime but to enhance their quality and satisfy their stakeholders' (students') needs.

Synthesis and Comments

Based on the focus group interview, three main themes, including the possible implications of the framework, blocking factors and facilitative factors when implementing the framework, were identified.

The virtual institutions' practitioners pinpointed several possible applications for the framework in the Iranian context such as a prototype for self-evaluation in virtual institutions, a platform for assuring quality among virtual institutions, and a platform for determining the strengths and shortcoming of virtual institutions.

Addressing the blocking factors when implementing the e-quality framework, the practitioners highlighted above all three blocking factors: lack of a clear-cut policy for virtual institutions in general and for quality improvement/assurance in particular; an organizational structure in which there is no specified room for quality; and students' reasons for joining the bandwagon of degree seekers rather than actively participating in learning.

Moreover, the participants noted that the rapid expansion of virtual institutions and their decision-makers' positive attitude towards quality improvement could facilitate the feasibility of the e-quality framework in the Iranian context. However, the decision-makers may want the results, which an e-quality framework can bring about, but may not endorse it wholeheartedly. Thus, it can be said that an e-quality framework and its proper implementation should be embraced as a strategy at the top level and decision-makers should be visibly and explicitly committed to its philosophy.

These themes and concerns should be considered when applying the prototypical framework in terms of an e-quality framework for assuring and enhancing quality in Iranian virtual institutions.

Summary

In this chapter, a comprehensive and detailed presentation of research findings in terms of the validation and feasibility of the e-quality framework is presented. The research findings were divided into two complementary parts. The first part deals with the validation of the framework on the basis of the decision-makers' reflections on the e-quality framework. The second part addresses the feasibility and adoption of the framework in the context of the Iranian virtual institutions.

The e-quality framework was highly rated and validated by the decision-makers at the virtual institutions. Accordingly, the assigned mean values for a number of the benchmarks were over 8.1, indicating a high level of validity. Here, the most critical benchmarks were: technical and pedagogical assistance to teachers in designing and conducting courses, administrative support, student support, etc. More than half of the benchmarks in the framework were considered important (indicating reasonable to high criticality), one-third of the benchmarks yielded a validity of 5-6, i.e. partially important, and 7 percent of them were considered unimportant in the context of the virtual institutions.

Some of the sub-factors and benchmarks were not considered to be important in Iranian virtual institutions such as *students* and *faculty members* participating in decision making process, benchmarks related to the *research*, etc. E-quality framework validation is in the cultural-pedagogical contexts of the Iranian virtual institutions. Thus, as expected, the culture and cultural-pedagogical features are reflected in the weights assigned. Accordingly, as I have argued, a context-oriented e-quality framework is viewed as a necessity rather than an option for quality development and assurance of virtual institutions across cultural and cultural pedagogical contexts. Correspondingly, quality assurance and enhancements (in terms of aims, processes, procedures, etc.) are linked to a context's values and culture.

As I mentioned in earlier in this chapter, the benchmarks with low ratings either should be removed from the e-quality framework or be included with insignificant weights. However, I would suggest that including the low-ranked benchmarks with insignificant weight can enhance the quality of virtual institutions.

In the second part of this study of the feasibility and adoptability of the e-quality framework in the Iranian context, the comments and contributions of

the practitioners in the focus group interview were initially analyzed by means of thematic analysis and then presented in the form of three themes, including possible implications of the e-quality framework, blocking factors and facilitative factors when implementing the e-quality framework. The practitioners made significant contributions to how this e-quality framework can be implemented in Iranian virtual institutions. They also addressed a number of blocking factors such as the e-quality framework being just a list of benchmarks, and thus cannot be implemented in virtual institutions. The framework, thus, for proper implementation needs to be reconstructed quantitatively.

The reflections and comments on the e-quality framework were described and will be applied to the framework in terms of the reorganization and improvement (extension) of the framework developed. It could be said that the findings from both the structured interviews and the focus groups in this study give credence to the e-quality framework for assuring and enhancing quality of virtual institutions.

CHAPTER 12

DISCUSSION AND REFLECTION

This chapter reflects on the findings of current development research and on the exploratory journey of the researcher. It puts forward substantial discussions about the key concerns of this study, in terms of e-learning, quality, and culture, which until recently have seldom been dealt with specifically in the context of developing countries. Developing and validating an e-quality framework to enhance and assure quality in e-learning/virtual institutions in developing countries is the core quest of this study. Accordingly, the findings of the research are examined with reference to the main research questions and objectives of this study as set out in chapter one, and thus discussed in relation to the emerging e-learning and e-quality literature.

Introduction

Technology is not "just a *neutral* instrument", but like any other innovative artifacts, e-learning is built into a specific context and thus can be subject to both cultural and political influences. Accordingly, introducing ICT-based technologies (e.g. software, platform, learning resources, etc.) as cultural artifacts in the context of the developing countries' educational settings may challenge their cultural and cultural-pedagogical values and expectations. In the same vein, a number of scholars have argued that the most important shift from traditional education (face-to-face) to e-learning should involve the change in cultural-pedagogical orientations and dimensions such as the nature of the tasks, the teacher's role in terms of didactic or facilitative (Hase & Ellis, 2001; Reeves & Reeves, 1997; Wang & Reeves, 2006).

On the other hand, with the rapid spread of e-learning along with the growing demands on higher education and lifelong learning, great efforts (e.g. articles, books and conducted studies) are being made to enhance and assure quality in e-learning. This striving for "excellence" (Oliver, 2005) can be a decisive factor in determining the future of e-learning settings. Accordingly, a variety of different models, guidelines and best practices has been provided to assure and improve quality in e-learning (see chapter eight). However, as indicated in chapter eight, almost all these e-quality models and frameworks have been developed and are rooted in the cultural contexts of Western countries.

Quality - as much as education - is grounded and rooted in cultural settings[1]. Accordingly, defining - in terms what is the quality - and implementing quality is always related to a specific cultural context. Similarly, quality in e-learning can be dependent on cultural values and beliefs including assumptions about the nature of knowledge, what success should look like in an educational setting (expectations), how subject discipline should be taught, how students learn, and even the choice and use of technology. It is also stressed that objectivity in terms of "one fits all" and "quality control", which is informed by an industrialized and mechanistic approach to education, may have no relevance to quality in e-learning (cf. Kohn, et al., 2010).

Given this, the intellectual goal that drives this study is an attempt to reduce the gap between the given discourses including "quality discourse", "e-learning discourse" and "cultural-pedagogical discourse", which until recently have seldom converged, particularly in the context of the developing countries. Accordingly, the intersection of these discourses and knowledge domains points to the research problem that has been at the core of this study. By studying these three discourses, it is hoped that this research can offer a contextualized e-quality framework for ensuring and enhancing quality in virtual institutions in developing countries on which e-learning can be based.
Accordingly, this chapter focuses on the following issues in particular:

- It summarizes the research questions and the findings with regard to each question;
- It proposes a conceptual model for enhancing and assuring quality in virtual institutions on the basis of the studies conducted and literature reviews;

[1] See Chapter five for further elaborations.

- It provides a discussion on the reflections and lessons learnt with respect to methodology, other related research and its contribution to the scientific body of knowledge;
- It also outlines some recommendations with respect to policy, practice and further research;

A summary of the research findings, initially, is outlined with regard to the research questions that have guided this study. Next, the investigated domain of knowledge contributing to the development of a culture-sensitive e-quality framework is discussed. Finally, some thematic issues, limitations, implementations, and suggestions for future studies are discussed.

Summary of Research Findings

The aim of this study, as I have already mentioned, is to develop a culture-sensitive e-quality framework for assuring and improving quality in virtual institutions. The Iranian cultural context (five virtual institutions) was used as an empirical case of a developing country in order to validate the e-quality framework presented.

This development research was guided by the following research questions:

What constitutes quality of e-learning in higher education institutions?

How can culture and cultural-pedagogical issues be integrated in the e-quality framework?

What are the dominant cultural-pedagogical paradigms in Iranian virtual institutions?

How can an e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?

In chapter two, an account of the context of the study is outlined. Chapters three, four, five and six provide an in-depth literature review of the knowledge domains and the particular areas addressed by the research questions, including e-learning, quality, and culture (quality of e-learning from a cultural perspective). The methodological logic and practices of this research was presented in chapter seven. As was noted in this chapter, conducting development research involves employing a variety of research methods in order to answer the research questions presented.

The findings with regard to the first research question, in terms of what constitute quality in virtual institutions, are presented in chapters eight and nine. On the basis of this research question, an e-quality framework for enhancing and assuring quality in virtual institutions was developed.

Considering that the impact of cultural issues on e-learning and quality in e-learning is very seldom addressed in related literature, the theoretical and practical knowledge from other domains of knowledge (e.g. management, industry, etc.) is included in this study as a bridge to educational settings. Addressing the second research question in terms of integrating the cultural issues concerning e-quality, a bridge is constructed in chapters five, six and partly in this chapter by introducing a Culture Sensitive E-Quality Model.

The findings for the third research question are presented in chapter 10 in terms of exploring the dominant cultural-pedagogical paradigms in Iranian virtual institutions, and contributing culture and cultural-pedagogical dimensions for assuring and enhancing quality in Iranian higher education settings.

The findings for the last research question were presented in chapter 11 in terms of the validation of the e-quality framework, as well as the feasibility and adoptability of the e-quality framework.

It needs to be mentioned that the findings of these four research questions complement each other and furnish a sound basis for a contextualized e-quality framework for enhancing and assuring quality in virtual institutions, consisting of various benchmarks, sub-factors and factors. In the following, these research questions will be discussed separately.

What Constitutes Quality of E-Learning in Higher Education Institutions?

As was argued in chapters four and five, quality in e-learning is a multi-layered and multi-faceted construct that depends on the context in which it will be employed. To acquire a comprehensive understanding of "what constitutes quality of e-learning", an extensive literature review (cf. Fresen, 2005; Holsapple & Lee-Post, 2006; Husson, Moretti, & Pawlowski, 2006; Moore, 2005; The Institution for Higher Education Policy, 2000; Yeung, 2002, etc) was conducted. This resulted in a set of frequently cited benchmarks in the literature in terms of best practices, guidelines, principles, and critical success factors.

An e-quality framework[2] was developed (see chapter nine) in order to address this research question in terms of what constitutes quality in virtual institutions. This framework was developed following a comprehensive review of the related literature, and further refined and improved as a result of my colleagues' critical comments. The framework presented incorporates 116 benchmarks, which are categorized and sorted into 29 sub-factors and 7 main factors.

The e-quality framework outlines a variety of coherent measures (factors) at different levels: institutional, technological, instructional design, pedagogical, student support, teacher support and evaluation. It should be noted that the framework is constructed on three levels and includes "benchmarks" (concrete indicators for indicating specific attributes), "sub factors" and "factors" while the benchmarks characterize and exemplify the sub-factors and factors.

After examining the available e-quality models and frameworks, the present e-quality framework was developed by taking into account the pros and cons of the previous studies of e-quality. Accordingly, taking a holistic approach with an emphasis on the administrative and institutional aspects, accessibility and reliability, instructional design, students' active participation, the dynamic nature of the teaching and learning process, the non-negotiable nature of staff and student training, staff and student technical support, social aspects, and evaluation of the learning effectiveness at different levels when assuring and enhancing quality, I can claim that the framework presented has a number of advantages over the other e-quality models and frameworks discussed in chapter eight. Below, some of the advantages and features of the framework will be highlighted more specifically.

In most of the reviewed e-quality models, there is a tendency to focus on a single aspect, thus failing to capture the holistic nature of problems and their solutions in virtual institutions. Addressing this dilemma, the e-quality framework entails a systemic approach to enhance and assure quality in virtual institutions (i.e. dealing with inputs, processes, outputs and outcomes).

In the same vein, the e-quality framework imposes a *prospective* rather than retrospective approach to quality. Retrospective quality looks back at what has

[2] E-quality framework in this study is regarded as a quality enhancement framework, which virtual institutions can use to audit, assure and compare their capabilities (in terms of their inputs, process, outputs, and outcomes) in order to sustainably develop, deploy and support e-learning environments in a specific cultural context.

already been done and makes a summative judgment of external and predetermined standards. The main agenda in this type of quality approach is managerial rather than academic, with accountability as a high priority; procedures are often undertaken hierarchically (top-down), and are bureaucratic. Prospective quality is concerned with enhancing and assuring ongoing activities by providing just-in-time and just-in-place feedback (Doherty, 2003). In other words, prospective quality is not concerned with the quantifying aspects of the system, "but with reviewing how well the whole institution works in achieving its mission, and how it may be improved" (Biggs, 2001, p. 223). Accordingly, the e-quality framework is transformed from a static, after-the-fact state into a more iterative and dynamic state, one in which heading toward future promotes a culture of ongoing self-improvement instead of one focusing on past circumstantial compliance.

Any framework/model for assuring and enhancing the quality of learning in higher education established (even unconsciously) on a specific theoretical base, otherwise the aim of the model - what is good teaching/learning, how to improve student learning, and how and when should be undertaken - cannot be articulated (Biggs, 2001; Ellis, et al., 2007; Harvey & Knight, 1996). Despite this, the most of the reviewed quality work (e.g. e-quality models, etc.) has not been grounded in specific theoretical foundations, or at least the underlined theoretical foundations are not indicated explicitly[3]. It seems that some of the models developed are an assemblage of the benchmarks regardless of the theoretical stance they belong to. Taking into account this concern, the e-quality framework presented was developed on the basis of a specific pedagogical notion (i.e. socio-constructivism). Similarly, every benchmark and sub-factor is influenced by this pedagogical notion.

While each one of the cited e-quality models and studies in chapter eight has its own unique approach to quality in e-learning, the inherent complexity of quality in e-learning as a multifaceted construct has often been neglected in the cited e-quality models and studies (Fresen, 2005; Holsapple & Lee-Post, 2006; Husson, et al., 2006; Moore, 2005; The Institution for Higher Education Policy, 2000; Yeung, 2002). As result, some aspects of quality in e-learning have been highlighted and others backgrounded in these frameworks (Jung & Latchem,

[3] See chapter eight.

2007; Rovai, 2003). Reflecting a variety of perspectives along with considering every aspect of a virtual institution, however, the e-quality framework presented is a comprehensive model that deals with every aspect of this multifaceted construct.

It should be noted that the e-quality framework presented was developed in the intersection between different boundaries including time, resources, etc. Clearly, other works and contributions may add to and modify this framework as part of a development project.

How can culture and cultural-pedagogical issues be integrated in the e-quality framework?

This research question concerning *how* culture and cultural-pedagogical issues can be integrated when developing and implementing an e-quality framework is partly addressed in chapters five and six and partly discussed in this chapter when discussing "Culture-Sensitive E-Quality Model".

The cultural issues need to be built into, rather than add on to, the e-quality framework. To be built in and integrate the cultural and cultural-pedagogical issues, initially, this phenomenon (e.g. its importance, functions) should be explained and known to all of the actors in educational settings in general and to decision-makers, the developers and exporters of e-learning services and products in particular. In other words*, one can lead a horse to water, but can't make it drink*.

Based on such a premise, it is argued and exemplified in chapters five and six that quality in e-learning is a cultural artifact and that its definition and implementation is influenced and shaped by culture in general and cultural-pedagogical issues in particular. It is also emphasized that, despite the importance of cultural issues, little attention has been paid to the cultural and cultural-pedagogical issues when designing and establishing quality frameworks in educational settings. Correspondingly, ignoring the cultural premises and exceptions in developing countries, most of the e-quality models reviewed are rooted and provided in Western contexts and thus may not be transferable to the context of developing countries (cf. Billing, 2004; Billing & Thomas, 2000; Kells, 1999).

To build in and integrate the cultural and cultural-pedagogical issues when developing and implementing an e-quality framework, cultural understanding and avoidance of hegemonic premises and behaviors is essential. Accordingly,

prior to designing and implementing an e-quality framework, the cultural and cultural-pedagogical issues need to be examined and discerned. Consequently, a variety of different models[4] have been developed to audit and examine the culture and cultural-pedagogical issues in higher education settings. There is support for carrying out a cultural assessment before initiating any quality framework in order to identify potential barriers and to help in designing and implementing a quality model (Bardoel & Sohal, 1999; Davies, et al., 2007). Applying the same line of thought, Bardoel and Sohal (1999) suggest that an analysis of the institutions, using cultural auditing tools, can help with the design and implementation of a successful quality model.

Using the Culture-Sensitive E-Quality Model, as illustrated in Figure 26, a framework is structured to exemplify how the cultural and cultural-pedagogical issues can be built in and integrated when developing and implementing an e-quality framework. In such an approach to quality in e-learning, the focus is shifted from *control* to *change, assurance* to *enhancement* and standards *compliance* to *innovation* (Ehlers, 2009).

In problematizing culture and cultural-pedagogical issues, as is the case in the framework presented here, cultural and cultural-pedagogical issues are viewed as an "unanalyzed totality" (Dewey, 1925), and are intertwined irreducibly in every benchmark and factor, and thus cannot be "ghettoized" (Henderson, 1996, p. 95). In this process, the quality management systems, instruments, factors and benchmarks are not seen as separate entities of quality enhancement but, instead, are embedded in a specific context that is articulated holistically in an e-quality framework.

To address the embeddings of cultural issues in every benchmark and factor, I address it metaphorically as an umbrella that informs every benchmark and factor in an e-quality framework.

What are the dominant cultural-pedagogic paradigms in virtual institutions in Iran as a developing country?

To build in and integrate the cultural and cultural-pedagogical issues when developing and then implementing an e-quality framework, as argued in the second research question, ones needs primarily to examine and determine the dominant cultural and cultural-pedagogical orientations. Accordingly, I was

[4] See chapter six for further elaboration.

encouraged to attempt to scrutinize this question as well since there seemed to be a lack of studies of dominant cultural-pedagogical orientations in Iranian higher educational settings.

This research question concerning dominant cultural-pedagogical paradigms in virtual institutions in Iran as a developing country is addressed in Chapter 10 in two parts. The first part contains an overview of the findings collected by means of a survey (nine cultural-pedagogical dimensions) among students and lecturers in the Iranian virtual institutions, and the second part draws a picture of virtual institutions' actual trends and activities based on the researcher's observations in two virtual institutions. In order to better understand the Iranian higher educational context, an account of the rapid expansion of virtual institutions in Iran in the light of their contextual realities, progress and difficulties was given in Chapter two.

The dominant cultural-pedagogical paradigms in Iranian virtual institutions are scrutinized by means of an empirical study[5] of three virtual institutions. This exploratory study mostly draws on Edmundson's (2004) work, which was based on Reeves' (1994) and Henderson's (1996) models, where she examined the Western and Eastern cross-cultural dimensions in e-learning settings. In this model, nine cultural-pedagogical dimensions in two paradigms are described as polar extremes on a continuum from externally mediated reality (Instructivism/objectivism) to internally mediated reality (constructivism and social constructivism). It should be noted that I do not attach any importance to either of the pedagogical paradigms discussed.

Exploring the dominant cultural-pedagogic paradigms as social fact is a complex phenomenon (Durkheim, 1977). To have a big picture of this complex phenomenon, the requested data were collected from different sources and by means of a variety of research methods (surveys, interviews, and, partially, observation).

It can be concluded from the data that the educational system in Iranian virtual institutions placed great emphasis on Instructivism principles when designing and conducting their learning activities. In other words, the majority of the students and teachers in Iranian virtual institutions believed that the dominant paradigms in their e-learning environments are oriented towards instructivist notions rather than constructivist thoughts. The findings of this study are in

[5] See chapter seven for further elaboration.

line with other studies in the developing world (cf. Edmundson, 2003; Fidalgo-Neto, et al., 2009; Hofstede, 2001; McCarty, 2006; Zhang, 2007).

As pointed out in chapter 10, however, in some cases the participants indicated that they preferred and considered the constructivist notions despite the lack of common intentions and facilities for such approach. Similarly, there were some differences between teachers' and students' standpoints as well as among students and teachers who appreciated constructivism approaches to some extent. These differences can be foregrounded in some of the dimensions given. For instance, in dimensions such as Experiential Values, Collaborative Learning, and User Activity, students' and teachers' perceptions of their virtual campus varied from Instructivism to constructivism notions.

However, in some dimensions such as Origin of Motivation, teachers to a larger extent than students appreciated the constructivist notions. In this dimension, students strongly indicated that *they prefer to follow and following e-learning courses in which they are told what they need to learn*. But some of the teachers appreciated the constructivist thoughts as they provided opportunities for *students to perform their studies on the basis what they need*. In other words, they believed that although the educational system impose specific orders to students that they should pursue specific procedures and take specific e-learning courses, *what they required*, students also found that they had some options too.

Similarly, in some cases, some of the lecturers and students noted that "they are encouraged to follow the dominant cultural-pedagogical orientations in their learning environments" *although they might be thinking differently* due to written and unwritten regulations, traditions. For instance, in the "collaborative learning" cultural-pedagogical dimension, more than two-thirds of the students indicated that they preferred to work and were working with a group of peers and classmates on their learning activities or projects although there were few or no facilities for this.

Since the Western artifacts and procedures, which are adopted in Eastern countries such as Iran, could not be completely decontextualized from their cultural background (McCarty, 2006), it can be observed that the Iranians have inadvertently become bicultural to some extent. This may help to explain discrepancies between lecturers' and students' standpoints in Iranian virtual institutions, indicating receptivity to constructivism as well as Instructivism.

This exploratory study supports the findings in Hofstede's (2001; 2007) study of national level cross-cultural dimensions as well as findings from other studies such as Henderson (1996) and Edmundson (2004) in terms of cultural-pedagogical dimensions. However, the participants' comments on some of the dimensions were not in line with Hofstede's findings. For instance, Hofstede's studies have categorized the Iranians as collectivist rather than the individualist. However, the Iranian participants noted that they are also trying to be independent and everyone is looking after himself in virtual environments. This may indicate changes in some of the cultural values, at least among students.

Findings from observations of activities in the virtual environments of the Iranian virtual institutions showed similarities with results from the surveys. For instance, the objectives and goals of the courses observed in the specified virtual institutions were predetermined, i.e. students pursued a logical path to learn what they should learn as shaped by the virtual institution. Similarly, learning resources and course material were prepackaged and delivered on a regular basis.

Providing an overview of the dominant cultural-pedagogical orientations in Iranian virtual institutions, the findings in this study form a foundation for developing and then implementing a culture-sensitive e-quality framework.

How Can the E-Quality Framework Developed Be Validated and Adapted to the Cultural-Pedagogical Context of Virtual Institutions in Developing Countries Such as Iran?

To address the last research question in this development study in terms of validation of the e-quality framework developed, the framework was validated in five Iranian virtual institutions (almost all the main virtual institutions) on the basis of their decision-makers' comments. The findings of this research question are presented in Chapter 11 in two complementary parts. The first part deals with the validation of the e-quality framework on the basis of the comments made by the virtual institutions' decision-makers. The second part addresses the feasibility and adoption of the e-quality framework in the context of the Iranian virtual institutions.

The value of a framework, as pointed out in chapter 11, can depend on its usefulness in a specific context (Barlas, 1996; Inglis, 2008). Considering that the authorities' wishes and requirements in developing countries such as Iran are the foremost role player in defining and determining the usefulness of a

framework, the decision-makers at the Iranian virtual institutions were asked to validate the e-quality framework according to common expectations and perceptions in the governing of virtual institutions. Correspondingly, the highly rated benchmarks are assumed as having a high level of validity and, similarly, the benchmarks that are backgrounded are rated as less or unusable in the context of the Iranian virtual institutions (see Richey & Klein, 2007; Tracey, 2007).

Initially, the majority of the decision-makers who were interviewed acknowledged the importance of quality enhancement and assurance in their virtual institutions. They also expressed their desire to implement a framework if it is provided in an operational way.

As asserted in chapter 11, almost a quarter of the benchmarks in the e-quality framework presented were considered to be very important in the context of the Iranian virtual institutions. The most important sub-factors and benchmarks are *Technical and pedagogical assistance to teachers in designing and conducting courses; Administrative support,* and *Student support*. More than one-third of the benchmarks are considered important (standing for reasonable to high validity), and one-third of the benchmarks are weighted as partially important. Seven percent of benchmarks such as *Students' participation in decision-making, Accessibility of learning resources for students with different disabilities*, *Budgeting with a diversified source of funding* are considered unimportant in this context.

Since validity is defined in terms of usability in Iranian virtual institutions, the highly rated benchmarks in the e-quality framework will be included in the prototype of the e-quality framework with significant weights when assuring and enhancing quality in Iranian virtual institutions. These benchmarks could have a significant impact on the success or, for that matter, failure of virtual institutions. The underestimated benchmarks in the framework can either be removed from the e-quality framework or included with less significant weights.

I, however, strongly argue in favor of including the backgrounded benchmarks with insignificant weights, as every one of the furnished benchmarks, which indeed are grounded on extensive practical and theoretical knowledge, can be important per se when enhancing quality in virtual institutions (e.g. through awareness-raising, promoting attitudes and staff development). It should also be mentioned that some of the benchmarks may

be underestimated just because they are currently not on the virtual institutions' agenda.

To explore the adoptability and feasibility of the e-quality framework, along with structured interviews, a focus group discussion was held with practitioners from the virtual institutions. The practitioners' contributions in focus group discussions were initially analyzed through thematic analysis and then divided into three themes including: possible implication of the e-quality framework, blocking factors and facilitative factors when implementing the e-quality framework.

The virtual institutions' practitioners pinpointed several possible applications for the framework in the Iranian context including: as a prototype for self-evaluation in virtual institutions, as a platform for assuring quality among virtual institutions, and as platform for determining the strengths and shortcomings of virtual institutions.

The practitioners also highlighted the blocking factors when implementing the e-quality framework. They particularly emphasized the following three issues as blocking factors: 1) lack of clear-cut policies and strategies for virtual institutions in general and for quality improvement/assurance in particular; 2) organizational structure of the virtual institutions in which quality has no particular place; and 3) students' orientation for joining the bandwagon of degree seekers rather than active participation in learning and quality improvement. In other words, the practitioners stated that a small number of students in virtual institutions view education as an improvement of individual quality as well as enrichment of life experience. Moreover, the participants noted that the rapid expansion of virtual institutions along with their gatekeepers' positive attitude to quality improvement could facilitate the implementation of the e-quality framework in the Iranian context.

The feedback given together with various concerns will be considered when applying the prototypical framework in terms of an e-quality framework for assuring and enhancing quality in Iranian virtual institutions with respect to the re-organization and improvement (extension) of the framework presented by means of the weights assigned to benchmarks and suggested benchmarks.

According to this study's findings from both the structured interviews and focus groups, it can be said that the e-quality framework for assuring and enhancing quality of virtual institutions is validated in the context of the Iranian

virtual institutions. However, it should be noted that validation is a "gradual process of "confidence building", rather than a binary "accept/reject" division" (Barlas, 1996). It is important to note that this phase was one part of the larger design and development project that was limited to only a small group of decision-makers using an approach for model validation. Additional validation studies with decision-makers and other actors in virtual institution settings are necessary in order to reach conclusions regarding the framework presented.

The validity of the e-quality framework for enhancing and assuring quality is subject to continual review. Thus, the framework needs to be upgraded and updated regularly in terms of the benchmarks and their importance.

A Culture-Sensitive E-Quality Model

Achieving good/high quality is a "hotly debated and much-sought-after goal" (Ehlers, 2007, p. 97) across cultures. Similarly, choice, design and use of a quality model or framework, as argued in chapters five and six, are dependent on values, educational premises and expectations about the nature of knowledge, how our subject discipline should be taught, and how students learn.

Interestingly, the Bologna philosophy supports this perspective, when qualifying European higher education settings, by emphasizing cultural diversity and language differences. In the same vein, the literature draws up the link between quality and culture in a way that the quality frameworks/models need in order to be molded to the culture (Bardoel & Sohal, 1999). For instance, research on different institutions and programs in the UK, Australia and Hong Kong has revealed the associations between approaches and the perceived quality, which are only explicable in terms of the powerful effects of contexts of learning (Ramsden, 2003).

Considering cultural and cultural-pedagogical issues when assuring and enhancing quality can be regarded a major shift from a mechanistic to a holistic and cultural approach in higher education. As result, quality approaches have significantly shifted from standardizations and quality control (mass production paradigm taken from the age of industrialization) to Total Quality Management, and quality culture, which takes individual actors' (stakeholders') understanding into account through a process of negotiation. In such a shift, the focus is on "change more than on control, development rather than assurance, and

innovation more than compliance" (Ehlers, 2009, p. 343). This shift can be characterized by an emerging understanding that quality enhancement, in essence, requires the capacity to discern the dominant cultural patterns and then develop a culturally sensitive e-quality framework based on shared values, necessary competencies and new professionalism.

On the other hand, the quality of e-learning has been studied from different perspectives over the last two decades. A number of models and frameworks, as argued in chapter eight, addressing a variety of factors and benchmarks have been developed to assure and enhance quality in virtual institutions. However, culture and cultural-pedagogical issues in the reviewed models and frameworks were either not taken into account or considered to be in alignment with other factors. This indicates that there is a need to initiate a cultural approach to quality in e-learning so that every constituent of the e-quality framework is embedded in the given context.

Based on the above-mentioned concerns, the essence of this study is outlined in a conceptual model or meta-model, called a *culture-sensitive e-quality model*. This conceptual model derives from the analysis of the studies conducted in order to develop a culture-sensitive e-quality model for enhancing and assuring quality in virtual institutions.

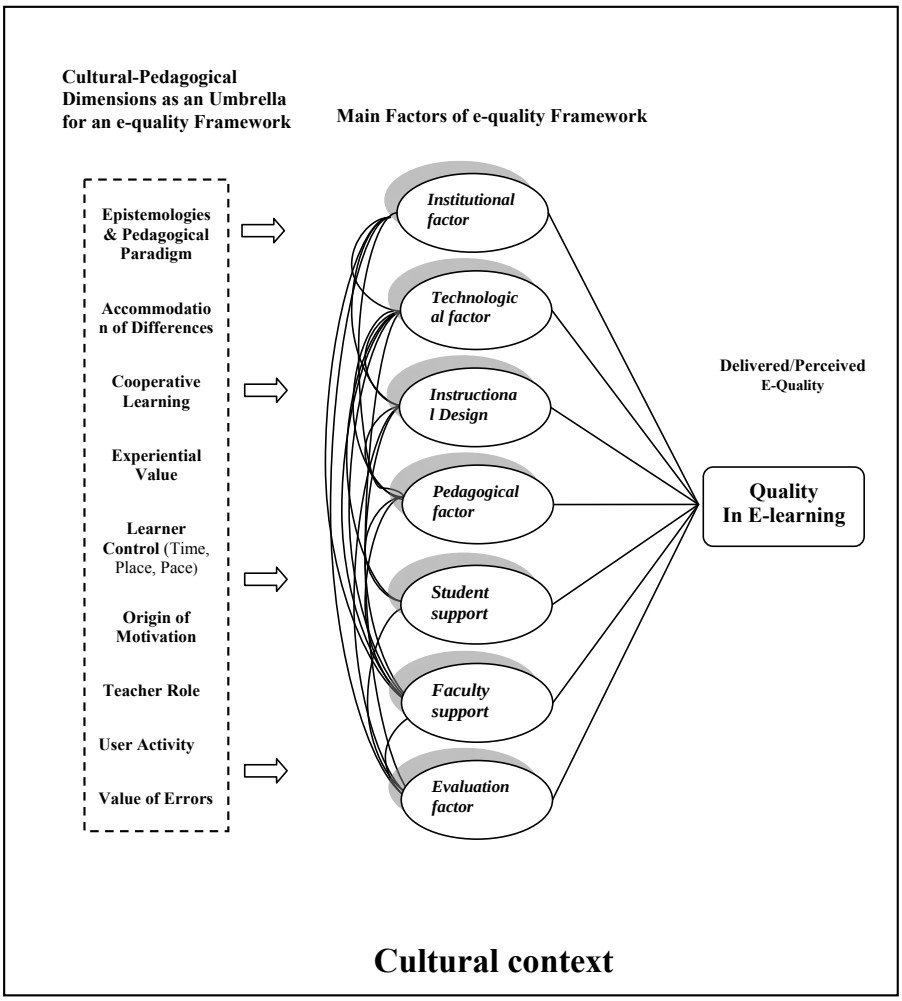
The structure of the culture-sensitive e-quality model, as illustrated in Figure 26, comprises both acknowledged e-quality frameworks and cultural-pedagogical dimensions in a wider cultural context.

Here, it is necessary to clarify the two instances of "culture" in the conceptual model. The culture on the level "Cultural Context" addresses broader cultural formations, namely regional, national, international and even international cultural attributes. Cultural-pedagogical issues as a component, on the other hand, refer to the culture as something internalized by individual institutions. These cultural-pedagogical dimensions are always embedded in the larger cultural context.

The model presented is heuristic and not deterministic, which indicates the relations between quality and culture in e-learning. However, it does not imply an inevitable or single causal sequence of events; rather, it should be seen as a chain of connections at different levels of generality. In other words, the cultural components are seen as a foundation for furnishing e-learning systems that *can modify the whole e-learning structure* (Kujala & Lillrank, 2004). These

foundations can have a direct and indirect co-influence on enhancing quality in e-learning by shaping goals and final expectations, selecting a teaching method and mood, and the ways in which students can be assessed.

Figure 26: Culture-sensitive e-quality model



In other words, the e-quality framework addresses a chain of factors, sub-factors and benchmarks nested within and beside one another. The cultural contexts as a shared meaning system can be formed and embedded in each one of these benchmarks. Accordingly, it can be claimed that the strength and

usability of an e-quality framework may depend on how deeply the framework is embedded in the cultural and cultural-pedagogical values in specific settings (Kujala & Lillrank, 2004).

Adding the culture and cultural-pedagogical issues to the e-quality framework integrated conceptual model can have three functions: first, the model indicating the interrelationships among the various levels of culture and cultural-pedagogical dimensions and the way they impact on e-quality factors offers an outline for considering culture as an integral part of an e-quality framework. In other words, cultural embeddedness applies to quality models in e-learning as much as to teaching and learning models. Reflecting on these cultural-pedagogical issues and taking them into account when developing and deploying e-quality framework can result in enhancing and assuring quality in local and intercultural virtual settings.

Second, directing attention to the very fact that the quality in e-learning is culturally conditioned, the model maps out a structure for how these cultural values (which is not always self-evident) can be considered when developing an e-quality framework. When developing a culture-sensitive e-quality framework, the framework and individual and institutional values are not seen as separate entities in a quality development process but are integrated irreducibly (Ehlers, 2009). However, bringing about change is not easy. Situating an e-quality model in a specific cultural context may pose problems if there are variations in cultural values, norms, etc. Moreover, in every cultural context, a group or a specific class's voice may be overshadowed when developing and implementing a framework. Such issues, thus, can challenge the credibility of the culture-sensitive e-quality framework. Third, it moves the discussion towards the cultural and cultural-pedagogical changes brought about by introducing e-learning and ICT-supported technologies in developing countries.

It needs to be noted that the e-quality model/framework can be adopted and molded to the given cultural contexts but not vice versa. This signifies that we cannot change the cultural values and premises at once or by force (cf. Edmundson, 2006a; Hofstede, 2001). Accordingly, culture in general and cultural-pedagogical issues in particular, as indicated in this model, should be embedded not only in the e-quality framework but in the whole sphere of e-learning (e.g. platform, learning resources, etc.).

The embedding of cultural issues needs to be reflected in every constituent of the e-quality framework, particularly when designing, adopting, and implementing a framework. Thus, it can be concluded that these cultural and cultural-pedagogical attributes should be recognized and taken into account when adopting, developing and implementing an e-quality model/framework, especially in the countries with different cultural values and premises (Billing, 2004; Henderson, 1996; Kells, 1999; Reeves & Reeves, 1997; Wang & Reeves, 2006).

Thematic Issues

What follows is an outline of thematic issues discussed in this development research study in terms of methodological, substantive and scientific aspects.

Initially, it needs to be stated that higher education is influenced more by the surrounding cultural context such as value, history and so on than other social institutions in developing countries. Bearing in mind that almost all the higher education (academic) institutions - based on the researcher's investigations – with the exception of a few Islamic higher education settings in Iran (mostly in Qom), Iraq (in Najaf) and Egypt (Al-azhar University in Cairo) in the world stem from the *medieval European tradition*.

In this tradition, higher learning is institutionalized in terms of officially authorized centers (tied to the nation state) with the power to grant Bachelor's, Master's, and Doctor's degrees (Scott, 2006). Haskins (1927) discusses other important features of these universities such as faculties, curricula, examinations, and commencement. In the medieval universities, as Scott (2006, p. 70) wrote a

> Master lectured on his subject by reading the textbook and explaining its contents. Each text included commentaries or glosses upon it… Lecturing was a slow process in order to allow the student to memorize or take notes on the main points.

It can be said that the medieval patterns in terms of structure and procedure (i.e. power to confer degrees, curricula, examinations and commencements as well as colleges) have remained intact in most of the higher education settings across the world (Scott, 2006). In the same vein, this tradition is inherited via

colonialism in most of the developing countries or they were encouraged (forced) to choose this tradition, as in the case of Iran.

Unlike the medieval European tradition, higher learning in the Islamic world, particularly in the Shiite[6] Seminaries (Hawza), has been institutionalized differently. Emphasizing choice, autonomy, access and, most importantly, personal (spiritual) development, these higher education centers have remained true to their origins. These origins can be articulated in terms of their independence from the state and political authorities, students' autonomy and freedom of choice to continue individual efforts to acquire knowledge, emphasizing personal spiritual growth in line with their academic attainments, and centering on one or a number of grand Ayatollahs[7]. Lahjomri (1985, p. 3417) addresses another facet of the Islamic centers in terms of the "material organization of education since the place of learning was open both to the students and also to the ordinary citizens who wished to deepen their knowledge of theology without being hindered by strict and paralyzing administrative procedures".

One of the prominent features of the Islamic tradition - for me - is its great emphasis on the scope of the education, that education is viewed as part of the students' everyday life (it is not separated and bound to the classroom and most of the students even live in the same institution).

Learning in such circumstances is often structured in different circles. Students are highly encouraged to form circles to discuss a subject. Discussions and other activities (academic as well as spiritual growth) in such circles are usually facilitated by a more experienced student, who is located at the center, with others (less experienced or new students – about three to six persons) in the surrounding circles. Such mentoring and apprenticing takes place at every level although the quality varies. It needs to be mentioned that all of the discussions and mentoring are usually guided (i.e. apprenticed with a master) by a master (cf. Boyle, 2004; Wagner, 1991; Zaman, 2007).

The Islamic tradition in higher learning seminars (Hawza) with highlighting learning based on the students' own pace, free of notions of uniformity and failure, can be said to be very much oriented towards socio-constructivism rather than Instructivism.

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[6] Shiite or Shia Islam (شیعه), is the second largest denomination of Islam, after Sunni Islam.

[7] A top religious scholar who can issue a fatwa (a religious opinion concerning Islamic law)

Given this, it can be argued that the frame of current higher education across the world is originated from the medieval European tradition. This frame is shaped and furnished in different cultural-pedagogical contexts. That is why the structure of higher education is almost same, although significant differences can be seen in the moods and procedures. For instance, considering high *Power Distance* in the Iranian context, the higher education structure adopted from medieval European tradition has been adapted to include dominant high power distance in the Iranian higher education settings. In other words, education reflects changes in society, but at the same time it can be an important vehicle for societal change. Accordingly, the cultural-pedagogical values as a dynamic (culture is viewed as a process rather than a static entity) component can be changed and adopted and trigger the major changes in societies.

The researcher used the Edmundson's (2004) questionnaire to explore the prominent cultural-pedagogical dimensions in Iranian virtual institutions. This questionnaire, not tacking other pedagogical paradigms as its basis, was shaped on the basis of the two pedagogical paradigms i.e. Instructivism and constructivism. In the case of specific dimensions, the characterization of pedagogical philosophy as ranging between instructivist and constructivist cannot capture the contemporary discourse in education. For instance, Sfard (1998) in a seminal paper made a distinction between two metaphors of learning, the *Acquisition Metaphor* and the *Participation Metaphor*, that build on a socio-culturally informed analysis. It can even be argued that there is a more fundamental distinction to be made between a pedagogical philosophy that builds on an epistemology that views learning as socially based (Vygotskian cultural historical theory) and an epistemology that builds on learning as rooted in the disposition of the individual (for example, Piagetian constructivism) (cf. Alexander, 2007; Martin, 2006). In another seminal paper, Koschmann (1996a, p. 70) argues along the same lines for a new paradigm of learning, taking a socio-cultural stance and distinguishing "Computer Supported Collaborative Learning" from a more individual constructivist model. Thus, when studying cultural-pedagogical issues in educational settings, these perspectives should be taken into account.

A large majority of the models developed for qualifying and assuring public services in general and higher education in particular have been developed and shaped on the basis of the Anglo-Saxon cultural premises.

Taking a mechanistic approach - sprang from the industrial world - to educational settings, some of these models seem to have less relevance to the aim of education in terms of acculturation of students. This mechanistic approach to e-quality is amplified when an e-quality model as a cultural artifact is exported to the Eastern world's cultural context. Considering that these countries are not only increasing their dependence to the West, being consumers of hardware (Edmundson, 2006b; Unwin, 2005), they also seem to be passive users of the platforms and frameworks developed with limited added value (Kohn, et al., 2010; Lam, 2006).

As pointed out in chapters five and six, any e-quality model/framework will possess characteristics that reflect the culture of its originators, from the very definition of quality, types of pedagogies they prefer to their cultural expectations and values. In other words, "the artifacts used within a cultural practice carry a substantial portion of that practice's heritage" (Lave & Wenger, 1991, p. 101). Similarly, cultural expectations and values in Eastern countries, which are the main importers of e-learning services and products, can be influenced and challenged by this global development.

When adopting and deploying these models and services in developing countries' contexts, however, the underlying premises and expectations (i.e. Western cultural values) are usually regarded as gospel truth or divine writ. On the other hand, cultural-pedagogical values in Eastern countries - which are furnished on specific cultural context - are different from Western ones. Thus, these cultural values and traditions should not be undermined by a hegemonic approach (to these countries' values and thinking). Correspondingly, the definition of quality in virtual institutions cannot be normatively predetermined and imposed but has to be constructed in negotiation and through different actors' (stakeholders') participation in specific contexts and for a specified time since culture is not a static entity.

In any endeavor to define, study and examine quality, the question necessarily arises: "quality for whom?" In other words, should delivered quality satisfy the requirements of the politicians, industries paying for the measures and universities' gatekeepers, or should it meets the learners' needs who are learning from it, or the needs of teachers. In the studies reviewed, however, the quality of e-learning is usually based on a single group of stakeholders' perspectives and measures. Since the different role players' (stakeholders')

perspectives vary due to their divergent demands and expectations, the quality models and frameworks need to incorporate the key actors' expectations. Given this, education, and especially higher education, is largely politicized particularly in developing countries such as Iran.

Consequently, any changes in political systems would impact immediately on the whole structure of higher educations' settings. For instance, universities' gatekeepers and even the faculty deans are often replaced on the basis of their loyalty to the dominant political trends and, in some cases, even procedures and rules can be changed based on the gatekeepers' wishes and interest.

In such contexts, quality is mostly defined by the authorities rather than by the other role players. Such a procedure can be exacerbated when the most of the institutions are funded and directed by the state. For instance, unlike developed countries, it is foremost the authorities' interpretations of quality in developing countries should be highlighted, or at least their considerations should be taken into account when assuring and enhancing quality in higher education.

As Collis and van der Wende (2002) concluded in their extensive international survey of five European countries, the US and Australia, "the strategic use of ICT for the diversity of higher education target groups will require explicit policies at both institutional and governmental levels". This issue needs more attention in the context of developing countries, which have highly centralized higher education systems. Accordingly, the quality of virtual institutions as a sub-part of the higher education system depends on their (quality) standing in higher education. Similarly, implementing and utilizing the e-quality framework for assuring and enhancing quality is subject to the top authorities' decisions and priorities.

It should be pointed out that developing and implementing a quality framework for e-learning simply cannot be carried out by copying conventional institutions' models and frameworks, even if they are in the same cultural contexts. This is because e-learning is not just a tool for transferring knowledge, it can also be regarded as another system for teaching and learning. However, there are a number of factors and best practices that have much in common with factors and best practices in any program delivered through other modes (i.e. as in the case in traditional curricula), in terms of planning, monitoring and managing their provision.

As Barnett (1994) argues, the quality debate in general and in higher education settings in developing countries in particular can be regarded as "power struggle", where each role player tries to fight for their voices to be heard and thus taken into account. Tomusk (2001) describes this power struggle in terms of different political interests that are pulling the quality assurance procedures. As argued above, however, the authorities' voice is the only voice in developing countries that is usually heard and taken to account. The authorities' voice, however, cannot be the only legitimate voice, and therefore other groups' voices need to be explored and heard (Tam, 2001).

Change per se is not important, but the direction of change is vital. Since ICT-based technologies are known to adjust themselves based on social and cultural values and expectations, this ongoing adaptation could be both educational and technological, as the integration of culture would situate learners in their "cultural frame of reference" (Lave and Wenger, 1991;Young, 2008). Changes can be happen at different levels, and involve changes in individuals, institutional activities and practices, as well as technological tools and the infrastructures of society. E-learning, as a practice, might work as a boundary practice and the models and tools that are used might work as boundary tools (Wenger, 1998), bridging cultural boundaries and promoting development.

The more challenging question here is to what extent a technological artifact should be localized. Similarly, to what extent should the e-quality framework be adopted and localized to be both useable in a specific context and somehow credible in other contexts? This may pose a problem, particularly if there are variations in cultural values and norms.

I would argue that it mostly depends on the aim, if it is concerned with *enhancement* or *assurance* as well as its scope, whether it will be employed at an institutional level, regional level or a national level. Moreover, in a culture-sensitive e-quality framework, the definitions, ends and factors are constructed in negotiation and through role players' participation in specific contexts and for a specified time due to the fact that culture is a dynamic entity. Accordingly, during the negotiations, different role players' values and expectations are taken into account in the e-quality framework.

Furthermore, as Billing (2004, p. 133) puts it, "several reported comparisons, show that a 'general model' of external Quality Assurance does

not completely apply in all countries, but they also show that most elements of it do apply in most countries". In other words, a number of benchmarks and factors addressing quality in e-learning are less contextualized, and then can be used in most countries' contexts with slight modifications. Accordingly, in any cultural context, there may be specific additions of benchmarks or omissions from the framework, but I believe that there may be more modifications or extensions of benchmarks and factors and less omissions.

A more useful conclusion, therefore, is that the 'e-quality framework' can provide a starting point from which to map deviations, and to which to relate them. This, indeed, seems to be supported by the work of Billing (2003), and that of the European Training Foundation (1998). Based upon such an approach, an external quality assurance framework can be transferable at the structural level such as in the extent of attaining aims. Provided that, as Billing (2004, p. 130) argues, "these are safeguarded, then there is considerable room for customization of the actual details to meet local conditions, and indeed it is important that this should be done".

Most of the developing countries, particularly in Middle East, share many cultural commonalities. The findings of several studies (cf. Delialioglu & Yildirim, 2007; Edmundson, 2004; Ford & Kotzé, 2005; Osman & Herring, 2007; Zhang, 2007) of Eastern countries support these commonalities and similarities in cultural values, expectations and traits among many Eastern countries. Taking these cultural commonalities[8] into account, it can be said that the e-quality framework presented can be adopted and implemented in the developing countries in general and in Middle East in particular with some (minor) modifications.

There is a trend in educational settings (in line with a marketing approach) that places a strong emphasis on isolating each part of an educational setting in terms of calculating the return on investment for each part or actor separately (cf. Phillips & Phillips, 2007). As argued above, education is highly contextualized and embedded, which means that isolating and examining each part of an educational system's *benefits* cannot be feasible. Even if it could be done, the results would be questionable. Similarly, the data and figures produced cannot be proved; at best, the figure could be an estimation.

[8] See chapter six for further elaboration.

Accordingly, I believe that when designing and deploying an e-quality framework in developing countries, separating accountability from enhancement, more emphasis should be placed on improvement than accountability.

Implementation

The possible implementation and implications of the findings in this study, especially the e-quality framework presented, are outlined in the following.

The e-quality framework presented provides a genuine structure for enhancing and assuring quality in e-learning in general and in virtual institutions in particular. The framework can be implemented and used in different ways, for example:

The e-quality framework can provide a *road map* for higher education institutions looking to enhance their e-learning environments. Prototyping this e-quality framework in virtual institutions can provide institutions with the capacity to enhance and assure the quality of virtual institutions by determining the scope and extent of these critical elements. So, if the e-quality framework turns out to be a useful conceptual framework for assuring and enhancing quality in a virtual institution, perhaps then it can be considered as a basis for transferring quality assurance structures and processes in another cultural context, as means of starting on the road to national higher education or even international recognition.

In the same vein, the framework can provide a basis for determining the minimum requirements for virtual institutions to be viable when providing a virtual program or course. Similarly, the "health" of an institution/program can be examined by utilizing the e-quality framework. Accordingly, the framework can enable virtual institutions to identify what they should measure and how to measure it in order to determine their strengths and weaknesses and plan for improvement. For instance, it can help institutions to enhance their quality by sharing and comparing the data produced in the initial diagnosis, selecting a benchmarking partner from other virtual institutions and sharing the knowledge generated by instituting improvements in the framework developed.

In addition, there is no specific framework/model, as far as researcher is aware, for assuring and enhancing quality in e-learning in developing countries

such as Iran. Thus, the framework can be taken as basis for developing a national framework for assuring and enhancing quality in virtual institutions. The accreditation of virtual institutions can be done by means of peer reviews or by independent agencies at the regional or national level. It should be mentioned that accreditation of an academic institution or a program typically can involve three major activities: self-evaluation by the institutions, a guided peer review (other virtual institutions), and accreditation by an accreditation agency.

Since it involves a large number of benchmarks and factors, the e-quality framework may not be easy to accomplish (completely at once). Therefore, a short version of the e-quality framework addressing critical benchmarking can facilitate its operation in virtual institutions. Further, in order to facilitate the implementation of the framework, all the benchmarks can be formulated in specific software or on specific platforms as a reference package for improving and assuring quality in virtual institutions.

Furthermore, the framework can be used in part to enhance and assure quality in e-learning at the micro level in terms of a program, course or even an e-learning environment. Accordingly, a short version of this framework addressing specific factors can be developed if required. The short version can either audit and assure a program and course or address a particular aspect of a virtual institution such as the technological aspect.

Apart from the stated applications of the e-quality framework, (simply) introducing an outline of this framework for the principal actors in virtual institutions, particularly students, teachers and decision-makers can enhance the quality of their settings by raising their awareness, changing their attitudes and broadening their expectations. Similarly, having a series of signposts or a framework that can guide institutional practitioners in different areas can have some merit.

By introducing this e-quality framework in a systematic way in the virtual institutions in developing countries, it is my hope that a "culture of evaluation" will be established among all of the actors who are working in these virtual institutions. A "culture of evaluation" means that by using the framework presented here together with the clear articulation of benchmarks and factors, the authorities, faculty members and other practitioners will become familiar

with and aware of what constitutes "high" and "poor" quality and thus the success of a virtual institution program.

Similarly, the e-quality framework may form a basis for an ongoing discussion within the e-learning community in general and in a developing country context in particular with a view to enhancing and assuring quality in virtual institutions. Accordingly, it is hoped that this framework will both contribute to and enrich the debate on quality in e-learning by providing a practical framework potentially capable of addressing some of the skepticism surrounding e-learning, particularly in developing countries.

Institutional culture is not uniform and there can be sub-cultures and *subgroups* within an institution that have partly or totally different cultural patterns from other sub cultures and groups. Similarly, as indicated in chapter 11, there were some differences and variations between the virtual institutions studied. Given these distinctions and variations in cultural-pedagogical premises and values, I think the institutions need to initially address the cultural-pedagogical values and then design a phase for *enculturalization*, particularly for the newcomers. As argued earlier, cultural values are not a static entity but are constantly evolving, which means that they need to be continually investigated.

A number of virtual students in the survey pointed out that e-learning is often considered and defined as digitalizing the content and transferring the digitized learning resources. In line with the needs expressed in the student questionnaire, I think the virtual institutions should place more emphasis on preparing and empowering lecturers in order to change their mindsets about e-learning and improve their ability to make better use of the e-learning environment and facilitate virtual courses more actively.

Limitations

In this investigation, some limitations were identified that may impact on the results and outcomes of this study. These limitations will be discussed in further detail.

The e-quality framework presented has some self-evident limitations. The current version of the framework is not and cannot be regarded as the final

product, it is work in-progress, which needs to be adapted and reformatted. While it has reached a level of acceptance at some virtual institutions' decision makers, further validation and testing is required with other role players (actors), particularly students and teachers, to ensure that it is as fully inclusive as possible.

When developing an e-quality framework, the researcher's interpretations of important benchmarks and factors in the reviewed literature can influence the built-in e-quality framework. Accordingly, there may be many other important benchmarks and factors that are not specifically addressed in this framework. This should not be taken to mean that other possible benchmarks, which are not included in the framework presented here, are insignificant when it comes to the effectiveness of e-learning.

The findings in this study, in terms of the exploring dominant cultural-pedagogical paradigms and validation of the framework, can be challenged due to the following limitations:

First, the studies were limited to those subjects (only decision makers of virtual institutions in the case of the validation of e-quality framework, and students and teachers in the case of the studying cultural-pedagogical dimensions) who voluntarily (without sampling) agreed to participate. Also, in one of the virtual institutions, the researcher was not allowed to administer the questionnaire to students. Thus, the results might have differed if the study had been conducted in different virtual institutions or nationally. Consequently, the authorities, teachers and students in this study cannot necessarily be representative of the entire virtual setting.

Further, the instruments used, including the e-quality framework and students' and teachers' questionnaires were translated into Persian and the data collected was translated from Persian into English. Translating in cross-cultural studies can face methodological pitfalls that threaten research validity (Brislin, Lonner, & Thorndike, 1973; Sperber, Devellis, & Boehlecke, 1994). As Sperber (2004, p. 124) puts it: "some of these problems are difficult to detect and may have a detrimental effect on the study". For instance, some points might not be translated correctly or fully expressed during these inter-lingual renditions. This could skew the results.

The validity and reliability of the questionnaire used in the fourth research question, in terms of *exploring cultural-pedagogical paradigms in Iranian virtual institutions*, was not measured, and thus relied upon the above-mentioned validity and reliability in Edmundson's study in 2004. Despite the fact that this instrument's validity and reliability was measured in two different contexts, I think there are some serious concerns about its validity and reliability. Accordingly, it needs to be validated in an Iranian context.

The relatively small number of participants (25 students, 17 teachers and 5 decision-makers at virtual institutions) limited both the statistical power of the analysis as well as the generalizability of the results.

Future Research

When investigating and answering the four research questions in this study, additional issues and questions emerged that can provide scope for further research.

After developing and validating the e-quality framework in Iranian virtual institutions, some assumptions may be abandoned, and others may be modified. Thus, more development research studies are needed to build up the foundation for a robust and at the same time contextualized framework to guide further development in this area.

Similarly, the framework needs to be tested empirically in other contexts. Accordingly, further studies could explore the distinct differences between other cultural contexts as they relate to the e-quality framework. Conducting such comparative studies between Eastern countries and between Eastern and Western countries could straighten out the validity and feasibility of the framework in different cultural contexts.

As noted, the e-quality framework presented is validated solely on the basis of the decision makers' comments at some of the Iranian virtual institutions. Consequently, it needs to be validated by other role players' contributions in educational settings - particularly by students and teachers - and by utilizing different instruments.

Lastly, the culture and culture-pedagogical issues in e-learning and in the quality of e-learning has not been well-researched in educational research and

in the literature, particularly in developing countries such as Iran. Given this, I think, more research on cultural and cultural-pedagogical issues at the national and regional levels could shed light on their roles, and importance in educational settings. In the same vein, further study is needed to explore whether other cultural dimensions such as uncertainty avoidance, orientation to time as well as cultural-pedagogical dimensions such as the culture of examination and centralization impacts in e-learning.

CHAPTER 13

EXTENDED SUMMARY

Introduction

Higher education institutions in general and virtual institutions in particular are experiencing pressure to become more competitive all over the world. Such striving for excellence can be associated with, and seen as, a consequence of globalization that is propelling the reshaping of higher education around the world. Further, emerging false virtual institutions as well as numerous failed e-learning projects along with the accountability movement in higher education have raised concerns about quality in e-learning. Such concerns, along with poor accessibility and a traditional mindset towards the new artifact, could threaten the very survival of virtual institutions in developing countries such as Iran.

Accordingly, there are worldwide calls for enhancing and assuring quality in e-learning in general and in developing countries in particular. Such calls for quality enhancement, accountability, added value, value for money, self-evaluation, and role players' satisfaction in educational settings cannot go unheeded.

In the same vein, quality, quality assurance (QA) and quality enhancement (QE) have become a prominent issue, not only for educational institutions and authorities to ensure the success and validity of programs delivered, but for students, teachers, parents, employers, etc. (Chua & Lam, 2007). Addressing these concerns, a large number of models, frameworks and guidelines have been developed for assuring and enhancing quality in e-learning (see Ehlers, 2008; Institution for Higher Education Policy, 2000; Khan, 2005b; Oliver, 2001; Watty, 2003).

However, the vast majority of models and frameworks developed for qualifying higher education in general and e-learning in particular have approached the notion of quality in e-learning mechanistically rather than holistically. Such a mechanistic approach in terms of "one fits all" and "quality control", informed by an industrialized and mechanistic approach to education, may have no relevance to quality in e-learning.

Moreover, quality in e-learning as a multifaceted construct can be judged and defined differently (Ehlers, 2004; Masoumi, 2006; Moore, 2005; Zhao, 2003). It can be claimed that a number of objective dimensions (less contextualized, such as technological measures and administrative and auxiliary services) and some contextualized and context-specific subjective dimensions (such as teaching scenarios and educational procedures) shape quality in e-learning. The subjective dimensions of quality in comparison with the objective measures are significantly influenced by the cultural context. Correspondingly, quality can be conceptualized and shaped differently based on the given definition, different stakeholders/role players' expectations and aims of the applications as well as forms and methods in the higher education settings (Ehlers & Pawlowski, 2006b; Fallows & Bhanot, 2005; Jung & Latchem, 2007). Accordingly, it can be said that quality in e-learning is a "relative concept" that depends on or is constrained by the circumstances of use (Harvey & Green, 1993; McMillan & Parker, 2005). Nonetheless, there are a large number of common benchmarks and criteria among the models of quality in e-learning. These commonalities among the models of quality in e-learning usually address the objective dimensions (less context dependence) of quality, which can be roughly defined and interpreted in similar ways.

Apart from the mechanistic approach of these e-quality models, the models presented are mostly rooted and furnished in Western, and more specifically Anglo-Saxon, cultural values and premises. This is especially important in the light of the fact that quality in e-learning can be regarded as a cultural artifact bound to the dominant values in the virtual institutions. In other words, quality can be dependent on cultural values and premises including assumptions about the nature of knowledge, what success should look like in an educational setting (expectations), how subject discipline should be taught, how students learn and even the choice and use of technology.
Correspondingly, it can be claimed that none of the e-quality models and frameworks developed is appropriate for and thus applicable to e-learning

procedures in the cultural settings of developing countries. In the same vein, the current state of the research (e-quality work in terms of models, frameworks, and guidelines), unfortunately, does not make it possible to make generalizations about e-quality models solely on the basis of systematic inquiry.

Given this, the intellectual goal that drives this study is an attempt to reduce the gap between the given discourses including "quality discourse", "e-learning discourse" and "cultural-pedagogical discourse", which until recently have seldom converged, particularly in the context of the developing countries. Accordingly, the intersection of these discourses and knowledge domains points to the research problem that has been at the core of this study. By studying these three discourses, it is hoped that this research can offer a contextualized e-quality framework for ensuring and enhancing quality in virtual institutions in developing countries on which e-learning can be based.

Research Aims and Questions

What constitutes quality in e-learning in higher education institutions?

How can culture and cultural-pedagogic issues be integrated in the e-quality framework?

How can an e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?

What are the dominant cultural-pedagogical paradigms in Iranian virtual institutions?

Method

Since this research was intended to contribute to enhancing and assuring the quality of e-learning, it was necessary to conduct an in-depth, holistic investigation of the quality of e-learning in a wider cultural and cultural-pedagogical context. Taking a development research[1] approach, a mixed method is pragmatically adopted. This approach allowed the researcher to investigate this complex phenomenon using a variety of evidence types and perspectives.

[1] Development research in educational settings is defined as "a socially constructed, contextualized process for producing educationally effective interventions with a high likelihood of being used in practice" (Bannan-Ritland, 2003, p. 21).

Having selected an appropriate research design for the above-mentioned research questions, an attempt was first made to develop an appropriate and comprehensive e-quality framework. This is done through reviewing the practical knowledge (developed models, frameworks, guidelines, benchmarks, etc.) as well as the current literature on the quality of e-learning and other related metaphors that are interchangeably used in this field, followed/modified by other researchers' critical comments. The e-quality framework developed furnishes a foundation for the rest of this development research.

In the second phase, investigating how culture can be integrated in developing and implementing quality frameworks in e-learning environments, the theoretical and practical knowledge from other domains of knowledge (e.g. management, industry, etc.) is brought in as a bridge to educational settings in general and to higher education in particular. To build in and integrate the cultural and cultural-pedagogical issues in developing and then implement e-quality framework, one needs in particular to examine and single out the dominant cultural and cultural-pedagogical orientations.

Iran is taken as an empirical case of a developing country to find out to what extent the *framework* developed is suitable and feasible in developing countries' cultural contexts. Accordingly, the dominant cultural-pedagogical paradigms in Iranian virtual institutions were empirically scrutinized, since there seemed to be a lack of studies of dominant cultural-pedagogical orientations in the Iranian higher education settings. This exploratory study mostly draws on Edmundson's (2004) work - based on the Reeves and Henderson model - which examines the cross-cultural dimensions of Western and Eastern e-learning settings. A survey method was adopted and developed and then administered on Iranian virtual institutions' students and lecturers. In this survey, clusters (a set of two or three) of questions representing different cultural-pedagogical values were applied.

Further, observations were made to gain full insight into the learning and teaching activities in the Iranian virtual institutions, along with the quantitative data (survey). The focus of these observations was on the students' and lecturers' activities in the given e-learning environments.

Finally, the e-quality framework developed was validated in the Iranian higher education settings. The e-quality framework developed is validated in two stages. Initially, to build confidence in the validity of the individual constructs

constituting the e-quality framework (C*onstruct Validity*), reference is made to the appropriate research literature.

More importantly, to address the validity of the e-quality framework in the context of developing countries, the framework was validated in terms of usability in the context of Iranian virtual institutions as an instance of developing countries. Usability is defined as "information on the extent to which a product, tool, or model can be effectively, efficiently, and satisfactorily used in the context for which it was intended" (Richey & Klein 2007 p. 160). Accordingly, to map out the validity of the e-quality framework, a number of structured interviews were conducted with decision-makers at five Iranian virtual institutions.

Moreover, to explore the feasibility of the e-quality framework, a focus group method with virtual institution practitioners was employed so that they could openly and honestly exchange their views in this regard. For further elaboration, a graphic presentation of the research methods utilized - for each research question - is provided in Table 44.

Table 44: Research questions with methodologies employed for data collection

STRATEGIES RESEARCH QUESTIONS	Literature survey	Survey	Interview	Focus Group	Observation
What constitutes quality of e-learning in higher education settings?	*		*		
How can culture and cultural-pedagogical issues be integrated in the e-quality framework?	*				
How can the e-quality framework be validated and adapted to the cultural-pedagogical context of virtual institutions in Iran?	*		*	*	
What are the dominant cultural-pedagogical paradigms in Iranian virtual institutions?	*	*			*

Results & Discussion

The aim of this study, as I have already mentioned, is to develop a culture-sensitive e-quality framework for enhancing and assuring quality in virtual institutions. The Iranian cultural context was used as an empirical case of a

developing country in order to validate and contextualize the e-quality framework presented.

To address the first research question in terms of *what constitutes quality in virtual institutions*, a comprehensive e-quality framework was developed. This e-quality framework outlines a variety of coherent measures (factors) at different levels. Adopting a holistic approach, the e-quality framework is structured in 116 benchmarks, which are divided into 29 sub-factors and seven main factors (see Table 45).

Table 45: The E-quality framework

1- TECHNOLOGICAL FACTOR	4- INSTRUCTIONAL DESIGN FACTOR
Development and sustainability of technological infrastructure	Clarifying expectations
Functionality of technological platforms;	Personalization
Accessibility	Selecting proper learning scenarios
Reusability	Organizing learning resources
Interface design	Currency & Accuracy of learning resources
2- PEDAGOGICAL FACTOR	5- STUDENT SUPPORT
Student-centeredness	Administrative support
communication and interactivity	Technical support
Social aspect	6- FACULTY SUPPORT
Learning environments	Technical assistance in course development
Assessment	Administrative support
Learning resources	Pedagogical support
3- INSTITUTIONAL FACTOR	7- EVALUATION FACTOR
Institutional affairs	Cost effectiveness
Administrative affairs	Learning effectiveness
Research	Student Satisfaction
Reputation	Teacher Satisfaction

The outlined e-quality framework can be seen as a response to the concerns about quality in e-learning in general and in developing countries in particular. It should be noted that the e-quality framework developed must be viewed as a whole in a systematic way. In other words, the quality in e-learning/a virtual institution can be determined by considering all the given benchmarks, and by their interrelationships.

Addressing the second research question concerning *how* culture and cultural-pedagogical issues can be integrated when developing and

implementing an e-quality framework, it is inferred that the cultural issues need to be built into, rather than add on to, the e-quality framework. Given this, the e-quality framework needs to be viewed as a cultural artifact, and thus be adopted in circumstances that will be implemented. My argument, accordingly, is that a systematic understanding of the quality models and frameworks in a cultural context can contribute to creating an effective and culture-sensitive e-quality framework for enhancing and assuring quality in e-learning environments in the contexts of the developing world.

Despite the importance of cultural issues, little attention has been paid to the cultural and cultural-pedagogical issues when designing and establishing quality frameworks in educational settings. Correspondingly, ignoring the cultural premises and exceptions in developing countries, most of the e-quality models reviewed are rooted and provided in Western contexts and thus may not be transferable to the context of developing countries (cf. Billing, 2004; Billing & Thomas, 2000; Kells, 1999). To be built in and integrated with the cultural and cultural-pedagogical issues, initially, this phenomenon (e.g. its importance, functions) should be explained and known to all of the role players in educational settings in general and to decision-makers, the developers and exporters of e-learning services and products in particular.

To build in and integrate the cultural and cultural-pedagogical issues when developing and then implementing an e-quality framework, ones need primarily to examine and determine the dominant cultural and cultural-pedagogical orientations. Accordingly, I decided to investigate the dominant cultural-pedagogical paradigms in Iranian virtual institutions as an instance of a developing country. I was further motivated to conduct the study by to the paucity of studies of dominant cultural-pedagogical orientations in Iranian higher educational settings.

It can be concluded from the data (conducted studies) that the educational system in the Iranian virtual institutions places great emphasis on Instructivism principles when these institutions design and conduct their learning activities. In other words, the majority of the students and teachers in Iranian virtual institutions believed that the dominant paradigms in their e-learning environments are oriented towards instructivist notions rather than constructivist thoughts. The findings in this study are in this respect in line with other studies in the developing world (cf. Edmundson, 2003; Fidalgo-Neto, et al., 2009; Hofstede, 2001; McCarty, 2006; Zhang, 2007).

However, in some cases the participants indicated that they preferred and take into account the constructivist notions despite the lack of logistics and facilities for such an approach. Similarly, there were some differences between teachers' and students' standpoints as well as between students and teachers who appreciated constructivism approaches. These differences can be foregrounded in some of the dimensions given. For instance, in dimensions such as Experiential Values, Collaborative Learning, and User Activity, students' and teachers' perceptions of their virtual campus varied from Instructivism to constructivism notions.

Since the Western artifacts and procedures, which are adopted in Eastern countries such as Iran, could not be completely decontextualized from their cultural background (McCarty, 2006), it can be observed that the Iranians have inadvertently become bicultural to some extent. This may help to explain discrepancies between lecturers' and students' standpoints in Iranian virtual institutions, indicating receptivity to constructivism as well as Instructivism.

The findings from observations of activities in the Iranian virtual institutions showed similarities with results from the surveys conducted among students and teachers. For instance, the objectives and goals of the courses observed in the virtual institutions studied were predetermined, i.e. students pursued a logical path to learn what they should learn as shaped by the virtual institution. Similarly, learning resources and course material were prepackaged and delivered on a regular basis.

Providing an overview of the dominant cultural-pedagogical orientations in Iranian virtual institutions, the findings of this study form a foundation for adopting and then implementing a culture-sensitive e-quality framework.

To address the last research question in this development study in terms of validation of the e-quality framework developed, the framework was validated in five Iranian virtual institutions (which fundamentally included almost all the main virtual institutions) on the basis of their decision-makers' views.

Initially, the majority of the decision-makers interviewed acknowledged the importance of quality enhancement and assurance in their virtual institutions. They also expressed their desire to implement a framework if it is provided in an operational manner.

Based on the findings from both the structured interviews and focus groups, it can be postulated that the e-quality framework is validated in the

context of the Iranian virtual institutions. However, it should be noted that validation is a "gradual process of "confidence building", rather than a binary "accept/reject" division" (Barlas, 1996).

More than one-third of the benchmarks are considered important by the decision makers (representing reasonable to high validity), and one third of the benchmarks are weighted as partially important. Seven percent of benchmarks such as *Students' participation in decision-making, Accessibility of learning resources for students with different disabilities*, *Budgeting with a diversified source of funding* are considered unimportant in this context.

Since validity is defined in terms of usability in Iranian virtual institutions, the highly rated benchmarks in the e-quality framework will be included in the prototype of the e-quality framework with significant weights when assuring and enhancing quality in Iranian virtual institutions. These benchmarks could have a significant impact on the success or, for that matter, failure of virtual institutions. The benchmarks considered unimportant in the framework can either be removed from the e-quality framework or included with less significant weights assigned to them.

I, however, strongly argue in favor of including the backgrounded benchmarks with insignificant weights, as every one of the furnished benchmarks, which indeed are grounded in extensive practical and theoretical knowledge, can be important per se when enhancing quality in virtual institutions (e.g. through awareness-raising, promoting attitudes and staff development).

It is important to note that the validation of the e-quality framework was one part of the larger design and development project, which was limited to only a small group of decision-makers using an approach for model validation. Additional validation studies with decision-makers and other actors in virtual institution settings are necessary in order to draw conclusions regarding the framework presented.

Finally, the essence of this study is outlined in a conceptual model or meta-model, namely a *culture-sensitive e-quality model* (see Figure 26). This *model* is structured to exemplify how the cultural and cultural-pedagogical issues can be built in and integrated when developing and implementing an e-quality framework. The model presented is heuristic and not deterministic, which indicates the relations between quality and culture in e-learning. However, it

does not imply an inevitable or single causal sequence of events; rather, it should be seen as a chain of connections at different levels of generality.

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APPENDIXES

Appendix A: Cultural-Pedagogic Questionnaires

Lecturers' Questionnaire

Instructivism ⟷ Cognitive -Constructivism	
Educational paradigm	
Students are following a well-defined, logical path to learn what they should to learn.	Students are assumed to explore different paths to learn what they need to learn.
Students are tested with questions based on the stated objectives and goals of the course.	Students are tested by applying what they have learned from the course in different situations.
Students are given predetermined learning goals.	Students learn as they go, depending on their own learning goals.
Experimental Values	
It could be said that Students have learned something when they can perform the activities requested by the instructor or course designer.	It could be said that Students have learned some things when they have applied what they have learned to their everyday activities.
More or less memorizing content, students are not expected to relate learning resources to their past or potential experiences.	Students are encouraged to apply 'knowledge' of learning to their activities at work and thus, are expected to learn from the actualization of those experiences.
Students learn from any kind of examples as long as they make sense.	Students learn from examples as long as they are related to their work or personal life.
Role of Instructor	
Students follow a path of learning determined by the instructor because the instructor usually knows what students need to learn.	Students follow a path of learning determined by them due to students usually know what they need to learn.
Students are thought by an *"expert/source of knowledge*" in the field on what they need to learn.	Students are guided by an instructor who facilitate and shows them *how* to learn what they need to learn.
Value of Errors	

Students learn until they make no errors on test (in learning procedure).	Students learn from their errors by experimenting with what they have learned.
The instructor or course designer satisfied if Students take (fulfill a course) a test without making mistakes.	The instructor or course designer satisfied if students learn from their mistakes.
Origin of Motivation	
It seems that, students take e-learning courses when they are required to (to to pass the course or take a degree).	It seems that, students take e-learning courses when they want to (are genuinely interested in learning new knowledge or skills).
It seems that students take e-learning programs because they have no other option(conventional programs)	It seems that students take e-learning programs based on their interests which accommodate with their specific needs.
Students mostly take their courses in which they are told what they need to learn.	Students mostly take (are allowed to take) their courses in which they prefer what they need to learn.
Accommodation of Individual Differences	
The instructor or course designer uses very few learning activities and methods which allow students learn just through predetermined methods.	The instructor or course designer presents uses a variety of learning activities and instructional methods (like problem solving, case analyzing, participation, etc.).So that students can utilize what most suits to their affective and preferences.
Students' interests and needs are usually not considered in designing and providing courses (learning resources).	Students' needs and preferences are usually considered in designing and providing courses (learning resources).
Learner Control	
Students are usually given a deadline or timed activities.	Students can control the pace of their learning.
The course features that will help students learn the materials are chosen by the instructor or course designer. (*course features: are the types of technologies included in course, like chat, simulations…)*	The course features that will help students learn the intended materials are chosen by students or with their contribution.
User Activity	
Students do not have any involvement in producing and representing of knowledge.	Students are engaged in the process of creating, elaborating, or representing of knowledge.
Students usually access to representations of provided learning resources according to the predetermined path.	The learning resources of the course are usually presented to students, but they create their own uses of the learning resources within the course.
Collaborative Learning	
Students usually work individually on their learning activities or projects.	Students usually (are encouraged) work with a group on their learning activities or projects.
There is limited or no facilities (technical) for setting up collaborating learning in their learning environments.	A wide range of different facilities and features are provided for setting up collaborating learning in their learning environments.

Students' Questionnaire

Instructivism (Objectivism) ⟷	Cognitive -Constructivism
Educational paradigm	
I follow a well-defined, logical path to learn what I learn.	I explore different paths to learn what I need to learn.
I am tested with questions that are based on the stated goals and objectives of the course.	I am tested by applying what I have learned from the course to different situations.
I am given predetermined learning goals.	I learn as I go, depending on my own learning goals.
Experimental Values	
I can tell I have learned something because I can perform the activities requested by the instructor or course designer.	I can tell I have learned something because I have applied what I have learned to my actual activities.
More or less memorizing content, I am not expected to relate learning resources to my past or potential experiences.	I am encouraged to apply 'knowledge' of learning to my activities at work and thus, am expected to learn from the actualization of these experiences.
I learn from any kind of examples as long as they make sense.	I learn from examples as long as they are related to my work or personal life.
Role of Instructor	
I follow a path of learning determined by the instructor or the course designer because that person usually knows what I need to learn.	I follow a path of learning determined by me because I usually know what I need to learn.
I am taught by an *"expert/ source of knowledge"* in the field on what I need to learn.	I am guided by an instructor who shows me *how* to learn what I need to learn.
Value of Errors	
I learn until I make no errors on the test (in learning procedure).	I learn from my errors by experimenting with what I have learned.
The instructor or course designer satisfied if I take (fulfill a course) a test without making mistakes.	The instructor or course designer is satisfied if I learn from my mistakes.
Origin of Motivation	
For me personally, I prefer e-learning courses in which I am told what I need to learn(to to pass the course or take a degree)	For me personally, I prefer e-learning courses in which I decide what I need to learn(genuinely interested in learning new knowledge or skills)
I think most of the students take e-learning programs because they have no other option(in conventional programs)	I think most of the students take e-learning programs based on their interests which accommodate with their specific needs
For me personally, I take e-learning courses when I am required to.	For me personally, I take e-learning courses when I want to. (genuinely interested in learning new knowledge or skills).
Accommodation of Individual Differences	

The instructor or course designer uses a few learning methods and activities to teach me the course contents.	The instructor or course designer uses several instructional methods or activities to teach me the course contents (like problem solving, case analyzing, participation, etc).
It seems that my interests and needs are usually not considered in designing and providing courses (learning resources).	It seems that my needs and preferences are usually considered in designing and providing courses (learning resources).
Learner Control	
I am given a deadline or timed activities.	I can control the pace of learning.
The course features that will help me learn the materials are chosen by the instructor or course designer. (*Course features: are the types of technologies included in course, like chat, simulations…)*	The course features that will help me learn the intended materials are chosen by me.
User Activity	
I do not have any involvement in producing and representing of knowledge.	I am engaged in the process of creating, elaborating, or representing of knowledge.
I usually access to representations of provided learning resources according to the predetermined path.	The learning resources of the course are usually presented to me, but I create my own uses of the learning resources within the course.
Collaborative Learning	
I usually work individually on my learning activities or projects.	I usually (are encouraged) work with a group on my learning activities or projects.
There is limited or no facilities (technical) for setting up collaborating learning in our learning environments.	A wide range of different facilities and features are provided for setting up collaborating learning in our learning environments.

Appendix B: Means of the Given Weights to the benchmarks based on their importance in Iranian virtual institutions

FURNISHED BENCHMARKS	MEAN
F631: Pedagogical assistance should be provided to teachers in designing and(re)developing courses	9.20
F343: Learning resources/courses content should be comparable in rigor, depth, and breadth to traditionally delivered courses	9.20
F62: Administrative support	8.80
F612: Course design, development and delivery should be guided and informed by formally developed e-learning procedures and standards	8.80
F61: Technical assistance in course development	8.80
F424: Opportunities to make private interaction(e.g. virtual 'office hours') with teachers should be granted when it is requested	8.80
F314: Course outlines should provide information about the type of interaction and expected times to get feedbacks on different communication channels	8.80
F511: Instructions and guidelines describing e-learning technologies and pedagogies should be defined including plagiarism, academic procedures, access to counseling and advisory services, etc	8.60
F51: Administrative support	8.60
F34: Organizing learning materials	8.60
F312: A clear and complete course overview and syllabus should be given	8.60
F311: Objectives and goals of instructional units should be clearly stated	8.60
F3: Instructional Design Factors	8.60
F613: Teachers should be provided with hand on assistances in running e-learning courses	8.40
F4.53: A range of assessment formats should be used in courses	8.40
F353: Course ownership and copyright status in design and(re)developing a course clearly should be defined	8.40
F352: The learning resources should be accurate and reliable	8.40
F35: Currency and Accuracy of learning resources	8.40
F341: Developed learning resources should be appropriate for the specified course	8.40
F231: Learning materials should reasonably and adequately be accessible for students whenever they want	8.40
F63: Pedagogical support	8.20
F622: Incentives for the staff involved in the design and running of the courses particularly for those who creates resources that can be effectively reused should be considered	8.20
F611: Teaching staff should be provided with design and development support such as templates, examples, etc particularly in transition from conventional system to e-learning environment	8.20
F4.51: Assessment of students? achievements should span the whole lifecycle of the course/program	8.20

F425: Lecturers and students should be known to each other.	8.20
F342: Sequencing and/or hierarchical structuring of learning resources should be granted in a way that best supports learners needs (coherent, time)	8.20
F315: Learning objectives should be linked explicitly throughout learning and assessment activities(e.g. criteria for assessment and examination)	8.20
F31: Clarifying expectations	8.20
F251c: Information should be "chunked" effectively to allow for easy scanning	8.20
F251bTextimagesaudiovideoanimationgraphicsetc	8.20
F515: Extensive range of training should be available to empower students to maximize their mastering on learning environments	8.00
F443: E-learning environment should offer different types of opportunities for private and public interaction	8.00
F125: Decision makers need to be confident that they can maintain their positions and assigned duties for a definite period of time and their positions would not be affected political vagaries.	8.00
F742: Teachers' feedbacks should be collected and considered regularly regarding the quality and effectiveness of their e-learning experience	7.80
F632: Teaching staff should access to pedagogical support in running and conducting online courses	7.80
F521: Clear, consistent instructions about type and extent of student technical support should be defined	7.80
F4.55: Students should be provided with details of the workload and specified timetables(deadlines) for key learning activities	7.80
F45: Assessment	7.80
F351: Learning resources and materials should be reviewed and updated on a regular bases	7.80
F313: The instructional format/methods and the expected level of participation(i.e. course workload expectations) explicitly should be stated	7.80
F251a: The e-learning platform should provide students with user friendly environment, self evident and predictable pathways that help them conduct learning activities smoothly and effectively in the following terms	7.80
F222: Functionality of technological platform should be regularly appraised	7.80
F221: Standardized(common) set of tools should be placed and operated including Tracking facilities[1], instant messaging, forums, etc.	7.80
F22: Functionality of technological infrastructure	7.80
F114: Strategies and goals are regularly analyzed to meet the increasing velocity of change in societal and market expectations	7.80
F52: Technical support	7.60
F4.52: Validity and reliability of assessments should be monitored and amended in response to collected feedbacks regularly	7.60
F414: Assessment tasks and Learning activities should be designed to build and develop student engagement	7.60
F411: Developed e-learning environments should facilitate and motivate students to play an active role in gaining new competencies and constructing their knowledge	7.60

F321: In design and use of e-learning settings students? needs, skills, and knowledge should be addressed and supported to meet their individual needs or preferences	7.60
F223: The reliability of the e-learning system should be as failsafe as possible	7.60
F214: Students' feedbacks should be collected and considered in terms of the ease of use, effectiveness, robustness and reliability of the e-learning infrastructure on a regular basis.	7.60
F121: Systematic activities should be designed and implemented to exploit diverse recourses of institution to gain best products	7.60
F11: Institutional affairs	7.60
F621: Issues of workload, compensation, ownership of intellectual property etc should be clarified	7.40
F513: A structured system should be in place to address student complaints using a variety of alternative communication channels consistent with the course as a whole	7.40
F462: Learning resources and information services should be easily accessible contributing to course	7.40
F4.61: Full range of learning resources and services should be available for students through an institutional library, including web access to databases and other support resources	7.40
F442: Learners should become inhabitants of the e-learning place, feeling comfortable and having support for their interpretations of a place	7.40
F44: Learning Environments	7.40
F23: Accessibility	7.40
F212: The capability of adding new functionality or features(Extendibility) to existing platform(LMS) should be granted	7.40
F12: Administrative affairs	7.40
F74: Teachers' satisfaction	7.20
F721: Intended learning outcomes should be regularly reviewed to ensure appropriateness, utility and used to ongoing enhancement of e-learning initiatives	7.20
F641: Appropriate professional development opportunities for teachers should be furnished on a regular basis in terms of Updating of teachers' technical knowledge and skills	7.20
F4.6: Learning Resources	7.20
F4.41: All university space including offices, libraries, Information computer laboratories, etc should be mapped(linked) in virtual environments	7.20
F333: Effective learning strategies(e.g. team problem-solving) that actively engage students in the learning process, should be furnished in design and delivering procedure	7.20
F332: Learning media and tools should be consciously selected according objective, content, and students? preference along with selected learning scenario	7.20
F33: Selecting proper learning scenarios	7.20
F251b: Navigation should be standardized(i.e. fully connected network)	7.20
F25: Interface design	7.20
F72.Learning effectiveness	7.00
F64: In- service training	7.00
F4.64: Facilities and possibilities of downloading and printing out of learning materials should be facilitated when it is requested	7.00

F421: Multiple communication channels should be defined for establishing and facilitating students? interactions with teachers and other students	7.00
F42: Interaction and Communication	7.00
F412: Learning activities should be designed to encourage analysis and skill development rather than recall and knowledge acquisition in following terms	7.00
F41: Student-centeredness	7.00
F331: Learning scenarios should be appropriate for the intended purpose, type of content and students needs	7.00
F215: Maintaining and durability of created, delivered and collected information including produced content and data should be granted	7.00
F21: Development and Sustainability of technological infrastructure	7.00
F142: Competitiveness of the institution in attracting students should be measured and improved	7.00
F115: The institution's rules, regulations, staff roles and responsibilities and its operations should be documented and made transparent	7.00
F741: Teachers? standpoints and satisfactions about their educational experiences should be collected and taken to account on a regular bases	6.80
F723: Assessment and review of effectiveness of learning activities should be regularly conducted in a specific courses/programs	6.80
F522: Just-in-time, just-enough, and at-the point- of-need technical assistance should be available throughout the duration of the course/program	6.80
F4.63: Development of students? Research and information literacy skills should be explicitly supported	6.80
F423: A variety of communication channels should be used to provide in-depth and contextual feedbacks	6.80
F213: There should be a documented specification and plan ensures the reliability, integrity and validity of information collection, storage and retrieval	6.80
F127: A systematic approach should be designed and implemented to provide appropriate institutional climate	6.80
F732: Students? feedbacks should be collected and considered regularly regarding the quality and effectiveness of their e-learning experience	6.60
F731: Students feedbacks and perceptions about their learning experiences	6.60
F73: Students? satisfaction	6.60
F514: Counseling service for academic and personal issues of students should be granted	6.60
F4.54: Assessment of students should be designed to progressively build their competence including their critical thinking	6.60
F422: Constructive feedbacks(reinforces learning, and is authentic, and which corrects errors and supplies information in context) should be provided in a timely manner	6.60
F413: Students should be engaged in authentic learning activities and tasks	6.60
F233: The e-learning platform should have an appropriate bandwidth demands	6.60
F225: There should be a satisfactory reaction time in case of malfunctions	6.60
F122: The risk assessment(beyond financial and operational efficiencies) is regularly undertaken to update the risk profile of the institution and assess whether any different	6.60

action is required to manage risks better	
F512: Enquiries and questions directed to student service should be answered quickly(i.e. on a timeframe) and accurately	6.40
F211: E-learning platforms should be regularly analyzed to seek out and adjust with upcoming challenges and changing expectations	6.40
F117: The institution should document on which premises the students should be participating in its educational activities	6.40
F116: The institution's human resource policies and practices (e.g. recruitment, retention, promotion, etc.) should be documented and linked to its strategic plan	6.40
F133: Research outcomes should be measured and developed on a regular bases	6.20
F13: Research	6.20
F43: Social aspects	6.00
F14: Reputation	6.00
F111: The institutions should have a documented strategic plan covering the following aspects: Mission...,	6.00
F712: Tuition rates should provide a fair return to the institution and best value to learners at the same time	5.80
F642: Improving their pedagogical knowledge and skills to carry out their educational roles properly	5.80
F523: High-quality helpdesk with trained site facilitator/coordinator should be supplied throughout the duration of the course/program, for students who need assistance in place	5.80
F432: Productive and constructive exchanges of views(e.g. buddy systems) as well as mutual respect atmosphere should be fostered	5.80
F431: Students should be encouraged and given opportunities to participate in on/offline communities	5.80
F32: Customization	5.80
F141: The institution's academic reputation should be measured and enhanced in the following terms:(Graduates/alumni evaluations; industry and employer views; crisis response capability; Extent and ratio of positive/negative media broadcasting)	5.80
F131: Institutions research strategies should be defined in ways that achieve the desired outcomes	5.80
F126: The administrative procedures including negotiations, decisions, financial issues, etc. should be transparent	5.80
F112: A documented institutional technology plan clearly describe the procedures for acquiring, deploying, supporting, maintaining and upgrading hardware and software for e-learning	5.80
F434: Various tasks and assignments that require students to collaborate meaningfully should be emphasized	5.60
F322: Various didactic scenarios to support diverse learning styles and learner capabilities should be provided	5.60
F134: Research activities should be interlinked with institution developmental process,(e.g. assessment, supervising thesis work, etc)	5.60
F132: Educational activities should be based on and linked to research activities	5.60

F722: High quality of learning outputs and outcomes should be regularly examined in terms of: Students achieved outcomes; The proportion of employed, unemployed and graduates competence from employer perspectives	5.40
F711: Affecting factors on cost-effectiveness of institution/program should be examined on regular bases as follows	5.40
F224: Security and Privacy of delivered, collected and stored information in e-learning settings should be granted	5.40
F713: Institutions should seek out the ways to improve its services while reducing cost(e.g. forming appropriate partnerships)	5.20
F71: Cost effectiveness	5.20
F433: Collaboration among students to create products that could not be produced individually(e.g. peer tutoring, peer feedback, and group learning) should be encouraged	5.0
F324: Students should have opportunity to manage and modify their learning environments in terms of content structures, layout, color, information, etc	5.00
F323: Full portfolio capability should be granted where students can take artifacts out of each of the courses and keep it in their own personal space	5.00
F252: E-learning platform should give students a high degree of control and speed in their personal management tasks such as email, address books, calendars and in organizing their file space without having to work through the web	5.00
F244: Teachers should be provided with training, guidelines and examples for creating and adapting reusable resources	5.00
F143: Institutions should develop a formal strategy of community service(e.g. sharing of facilities with local and other groups) as a means of enhancing their external impact	5.00
F251d: There should be well programmed search options	4.80
F243:(Re)development of e-learning design and tools should be considered before new platform or resources are created	4.80
F242: Special settings for reusability(Interoperability) within and across institutions should be settled	4.80
F241: Institutional strategies, policies, contracts and standards should support and encourage the reuse of e-learning materials	4.80
F24: Reusability	4.80
F124: Teachers should be formally involved and participated in decision making/taking of institutional strategies and associated operational issues	4.80
F435: Utilizing and participating in interactive tools like web2 (e.g. blogs, wikis, etc.) should be encouraged	4.60
F113: Institutional criteria should be defined for budgeting with a diversified source of funding and prioritizing the allocation of resources	4.20
F232: Access to learning materials should be granted for learners with different disabilities	3.20
F123: Students should be formally involved and participated in decision making/taking of institutional strategies and associated operational issues	2.80

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