ATHABASCA UNIVERSITY

DEVELOPMENT AND EVALUATION OF A PEDAGOGICAL MODEL FOR AN OPEN UNIVERSITY IN NEPAL BASED ON GEOGRAPHICAL, REGIONAL, AND LINGUISTIC FACTORS

BY

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF EDUCATION IN DISTANCE EDUCATION

THE CENTRE FOR DISTANCE EDUCATION

ATHABASCA, ALBERTA

OCTOBER 2013

Athabasca University
FACULTY OF GRADUATE STUDIES

Approval of Dissertation

The undersigned certify that they have read the dissertation entitled

"Development and Evaluation of Pedagogical Model for an Open University in Nepal Based on Geographical, Regional, and Linguistic Factors"

Submitted by
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In partial fulfillment of the requirements for the degree of
Doctor of Education

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Dedication

To the people of Nepal, and all developing countries, in hope of assisting in their quest for access to global knowledge in order to empower themselves and build sustainable futures for their families and their countries.

Acknowledgments

This unexpected journey into a new world and culture has been both enriching and challenging. To the people of Nepal who embraced me, my research, and my, often humorous, attempts to grapple with the terrain and understand the nuances of this amazing country, I thank you. It has been a true privilege to be invited into your homes, your families and your way of life.

To my supervisor, Dr. Mohamed Ally who never wavered in his faith and support of my struggle to somehow 'change the world'.

To my committee members, Dr. Marti Cleveland-Innes and Dr. Avgoustos Tsinakos for their keen interest in this research and their solid advice on how to move forward; as well as the members of Cohort Two, who were a constant reminder that there were others 'out there' on a similar journey.

My gratitude to Dr.Aaron Rose-Milavec, Vice-President at Catherine of Sienna Virtual College for offering his college Moodle platform as a venue for my online courses. His kindness and assistance is typical of the wonderful work he and his colleagues perform in South Asia.

I would also like to thank members of the Nepali Diaspora who often assisted me to further understand the complexities and nature of Nepal and her people.

Abstract

This thesis researched characteristics and success rates of Nepali participants in a series of online courses in order to develop a pedagogical model designed for an open university in Nepal, based on the geographical, regional and linguistic diversity of Nepali learners. The original contribution to knowledge is the examination of geographic, regional and linguistic backgrounds of Nepali learners and a determination as to whether these factors influence the online learning of Nepali students. It is expected that the resulting model may serve as a construct for open university initiatives in Nepal and in other developing countries. A mixed methods, descriptive, multiple case study approach using surveys, 4 short pilot courses, interviews and observations was used to provide data that would generate a pedagogical model. The results determined the design of the pedagogical model based on the needs of students in developing countries and in particular Nepali open university students. A study of Nepal's history and diversity, existing open university models worldwide, and educational theory formed the foundation of this study. Combining the aforementioned review, with the information gained through the surveys, short pilot courses, interviews, observations during extensive travel throughout Nepal, and using inductive analysis, the framework for a pedagogical model for an open university in Nepal emerged. Although limited to a small group of volunteers, the original contribution to scholarship was the creation of the first pedagogical model for an open university in Nepal.

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List of Nomenclature and Acronyms

asynchronous learning networks: Online communities that communicate through messages sent at different times during the day.

autonomous: To work or exist independently.

bandhas: 1-7 day strikes, organized by opponents to the government. There seems to be a bandhas culture in Nepal. It continuously slows down daily life and business.

collaboratories: An online work area where learners can meet to conduct research together.

computer simulations: A computer program that recreates a real situation for training purposes or games.

dynamic visualization tools: Specialized environments created to train specialists in possible real world situations. e.g. airline pilots practice in simulated extreme weather conditions.

eFolio: A portfolio maintained online.

eLearning: Learning using materials stored on electronic technology.

F2F: face-to-face, situations where people interact in person.

folksonomy: When people work together to tag or index material online so others can find the information.

geographical: Topographical areas of a country with differing terrain.

hand held devices: Devices easily carried by the user. E.g. tablets, cell phones.

hypertext/hypermedia: The linking of information on the Internet such as the World Wide Web. Also includes hyperlinks in documents/webpages that, when clicked, take the reader to another source.

ICT: Information and Communication Technology-tools to communicate at a distance.

isolation: refers to physical isolation

knowledge portals and networks: Specific gateways created by groups or organizations to allow members to access information necessary for work and collaboration.

KVL: Kobenhavns Universitet Learning Centre

learning community: A group of individuals with common interests who work together to construct knowledge and/or solve problems.

linguistic: The language background of an individual which also includes ethnicity.

loadshedding: Common in developing countries, this is an intentional electrical shutdown when electrical demand exceeds the infrastructure capability to supply sufficient power.

mLearning: Learning that takes place through mobile devices (tablets, cell phones).

networked databases: A kind of online database management system that allows various groups or individuals to view certain files. It collects data from numerous, defined sources.

online: Connected to the Internet.

online learning: Learning using a network that does not require a face to face component.

open access: The trend promoting free, online access to peer-reviewed research papers and journals, books, and learning materials.

open university: Provides higher education to individuals who wish to study through distance education. Students may study full-time or part-time.

pedagogical model: The framework used to design and develop learning materials.

personal learning networks: Online communities that work together to construct knowledge through mutual interests and expertise.

regional: Political areas of a country commonly referred to by locals.

synchronous learning: Learning within a group that meets at the same time using technology.

teleLearning: Learning through the use of telecommunication technology to talk with instructor or with a group in a conference call.

virtual classrooms: Classrooms created with online platforms.

Virtual Learning Environment (VLE): An online platform that contains all materials and tools necessary to achieve specific learning goals.

virtual reality: A visual experience online where a user can enter a simulated world (real or fantasy). The user can interact with the environment and feels physically present.

Chapter I: INTRODUCTION

The guiding question for this research study asked: *What is the most suitable pedagogical model for an open university in Nepal?* This study looked specifically at linguistic, geographical and regional differences to answer the following:

1. What is the relative effect of linguistic background on students' attitudes and perceptions towards open and distance learning?
2. What is the relative effect of geographic/regional background on students' attitudes and perceptions towards open and distance learning?

This research study delved into the assessment and development of a pedagogical model for an open university in Nepal. There was no previous research on this subject to review. Throughout the course of the data collection and analysis, much of the available literature on Nepali history, politics, culture, geography, and society were reviewed. This information assisted in a hermeneutic and growing understanding of Nepal.

Although initial readings were valuable they did not relate specifically to the research or the research questions. As a result, it was decided to perform a literature review to assist the researcher in building a firm foundation of knowledge concerning three fundamental areas: Nepal, education theory, and existing open university pedagogical models. These are discussed individually in Chapters I through III.

In order to determine the most suitable pedagogical model for an open university in Nepal, the country and context must first be described.

History and Cultural Background of Nepal

Following the return to democracy at the beginning of the 1990s, there has been increased pressure in Nepal to improve education in terms of accessibility, quality, and efficiency (Madsen & Carney, 2011). Nepal's present day education system was introduced by the West with an aim of bringing modernity to this particular part of South Asia (Carney & Rappleye, 2011). As a result of this western influence, delivered mainly through Non-Government Organizations (NGOs), new challenges have emerged. These have been occasioned by modernity and globalization (Madsen & Carney, 2011). Young Nepalis are facing an identity crisis, given that the education system has embraced western-oriented modernity and globalization concepts. The education system has failed to meet its requirements because of its reliance on foreign ideologies that have forced the education system to aim at reproducing the values of developed nations such as the United States, Western Europe and Scandinavian countries (Madsen & Carney, 2011). Nepal's primarily donor-funded education has been influenced to target a 'global society' at the expense of local needs.

Available literature powerfully demonstrates that the education system in Nepal requires reform. The nature of the present day education system is incapable of protecting the young people of Nepal from social exclusion within their country, or to shelter Nepal as a country from the exclusionary extreme created by globalization (Carney & Rappleye, 2011). A very small percentage of Nepalis receive higher education (Rennie & Mason, 2007). The West has continued to be influential in the country's education system through education donor funds channeled through civil societies which function as a form of institutionalization (Rappleye, 2011, p. 44), and globalization (Carney, 2008; Madsen

& Carney, 2011). Globalization, in third world countries, creates "new imaginative regimes" within its subjects (Carney, 2008). People believe that globalization will bring about liberation of socially, politically and economically oppressed citizens (Carney, 2008). However, globalization in impoverished nations opens "new forms of exploitation within markets and workplaces and by further distortion of gender relations basically through capitalism" (Carney, 2008, p. 64-65). The obvious implication of this observation is that an education system that embraces globalization at the expense of locality cannot develop into a successful model.

The Education System

The education system of Nepal has addressed the needs of the West, its funder, rather those of the country itself, making it irrelevant to its context (Carney, 2008; Madsen & Carney, 2011; Carney & Rappleye, 2011; Shields & Rappleye, 2008). As a result, the country's "experience of modernity *through* 'development'", which has manifested itself in the country's education system, is directly responsible for the country's civil war (Carney & Rappleye, 2011, p. 2). Carney & Rappleye (2011) put the word 'development' in quotation marks to indicate that the sort of development that Nepali education has sought to achieve has been irrelevant to its diverse population. The authors, additionally, italicize the word *through* to emphasize the perspective in which modernity has been defined. By demonstrating the irrelevance of this perspective in the Nepali context in pursuing modernity, Carney & Rappleye (2011) are advancing the implication that the pursuit of modernity in Nepal is erroneous or flawed. Therefore, since the education system follows the path of modernity, which is 'development', it

follows that the education system is flawed or erroneous. As Paulo Freire (2011) so aptly put it, "it is essential not to confuse modernization with development. . . A society which is merely modernized without developing will continue - even if it takes over some minimal powers of decision-to depend on the outside country" (p. 161-162).

The irrelevance of the education system to the nation's needs gave rise to civil war, *The People's War*, which turned its wrath on the education system itself (Shields & Rappleye, 2008). The education system generally, failed to address the needs of its people.

The education system has endeavored to accommodate western values which are alien to the local people and their country. As a consequence, the young people of Nepal have been lost in modernity and globalization (Madsen & Carney, 2011). This is an indication that an education system that imitates a foreign system increases the chances that it may fail. Madsen & Carney (2011) fault the country's education system for its failure to address the needs of the people of Nepal, and instead, addressing the needs of western nations. Particularly, the education system has neglected the cultural aspects of Nepal and instead given them a subordinated role. Madsen & Carney (2011) observe that education in many poor countries has failed because of its reliance on western-oriented aims and goals instead of focusing on the context of the impoverished country. The students of Nepal have been lost in illusions generated by the ideology of modernity and globalization at the expense of local culture. These observations underlie the importance of an education system that is based on Nepal's diversity and which embraces such diversity. One way of helping to create this type of education system is through a

pedagogical model that is informed by the country's diversity in terms of geography, region, and linguistic background, which is the primary concern of this research study.

Nepal's education system is deficient of funds that would enable it to provide basic education to the people (Shields, 2011). Additionally, the mountainous regions discourage construction of physical infrastructure but are favorable for development of communication technologies (Shields, 2011). Given that the country has huge numbers of NGOs, Shields (2011) observes that with the help of these NGOs, it may be possible to implement educational programs using Information Communication Technology (ICT). There are also possibilities for mobile learning or mLearning as the technology advances.

Diversity of Nepal

The population of Nepal is estimated to be 29,391,883 (CIA, 2011). It consists of diverse ethnic groups inhabiting different geographical areas, many of them isolated. This regional and linguistic diversity has helped to shape Nepal's education system. The linguistic situation in Nepal can be described as monolingual, bilingual, and multilingual. Bilingual speakers compose 30 percent of the country's population while monolingual speakers constitute 70 percent of Nepal's population (Yadava, 2010). The majority of monolingual speakers in Nepal speak Nepali. Those who are multilingual speak their mother tongue and other languages such as Hindi, English and Tibetan but they are not as widely spread as bilingual and monolingual speakers. The linguistic aspects of Nepal have been partially shaped by the country's geography. This makes it imperative to look at Nepal's geography to show how it has influenced the nation's language issues.

In Nepal, the distribution of languages is shaped by the country's physical terrain that divides the country into three distinct and key geographical areas. The geographical zones are the high Himalayan mountain range in the north, the sub-tropical lowland of the Terai plains in the south and the mid-hills covering the area between the aforementioned (Toba, Toba & Rai, 2005; Yadava & Bajracharya, 2007). Basically, the mid-hills have Magar, Gurung, Tamang, Sunuwars, Newars, Thakalis, and Chepang as the languages spoken. In the lowland of the Terai plains, communities speak Bengali, Maithili, and Bhojpuri in the east, Hindi and Urdu in the west and as well as Tharu, Danuwar, Dhangar and Satar. In the high Himalayan geographical area, communities speak Tibetan-speaking groups (Bista, 2011). Regardless of these geographical areas, Nepali, as the lingua franca, is spoken throughout Nepal.

The valleys and ridges in Nepal divide ethnic groups into small communities, and groups of populations are nucleated in particular geographical enclosures (Library of Congress, 2011). The communities, because of geography, are isolated from their counterparts. The nature of the population, therefore, takes longitudinal and latitudinal patterns. By way of example, a concentration of Tibeto-Nepali population's Bhote group inhabited the trans-Himalayan mountainous region in the far north near the Tibetan frontier. A concentration of the Bhote Sherpa people is found in the northeast region around Mt. Everest. Additionally, Gurung is concentrated in the west-central hills while Tamang and Rai inhabited the east central hills. All these areas are south of the areas inhabited by other Tibeto-Nepali people on the `east side of Kathmandu valley. The country's central hills are inhabited by the Magar group while the Limbu group occupy the areas farther south, on the east side of Nepal's Kathmandu Valley. In this valley and

in market centers, the Newar people are concentrated, while the Paharis inhabited all areas of Nepal (Library of Congress, 2011).

The biodiversity of Nepal is believed to be responsible for the country's linguistic diversity (Turin, 2007; Yadava, 2007). The Indo-Nepali migrants constitute the largest portion of the population. They have had a bearing in Nepali linguistic issues, although the influence is in the context of the Nepali environment.

Nepali is both the official and national language of Nepal and is spoken by 47.8% of the Nepali population as their native language (Toba et al, 2005; Turin, 2007; Yadava, 2007; CIA, 2011; Library of Congress, 2011; Centre for Constitutional Dialogue, 2009). Nepali is used in all educational institutions, businesses, media and government agencies. Other names of Nepali are Khas Kura, Ghorkhali or Parbate (Toba et al, 2005). Nepali enjoys uninterrupted dominance in Nepal's western part where it is spoken as a mother tongue. In the other parts of the country such as the southern plains of Terai, a variety of Nepali described as 'neutral' is spoken (Toba et al, 2005). Nepali shares some similarities with Hindi, having common Sanskrit roots.

All non-Nepali languages are called 'national languages' in Nepal. In other countries of the world, Nepal's 'national languages' corresponds to 'indigenous or minority languages' (Toba et al, 2005, p. 9; Yadava & Bajracharya, 2007). These languages are spoken by ethnic communities within the areas they inhabit; with Nepali being used by its speakers and others who have learned it (Toba et al, 2005). The national languages of Nepal are currently 92 as officially recognized by the government of Nepal (Turin, 2007; Yadava & Bajracharya, 2007; Ram, 2010). Since the official census, additional research has estimated the total to be 124 languages (Lewis, 2009). English is

officially deemed a 'foreign' language, but "in practice it is one of the most dominant languages in educational and economic domains" (Ram, 2010, p. 1).

These other languages of Nepal, according to the 2001 census report, are Maithili spoken by 12.1%, Bhojpuri spoken by 7.4 %, Magar spoken by 7.1%, Tharu spoken by 5.8% , Tamang by 5.6% of the country's population, Newar which is spoken by 5.4% of the population, and Awadhi spoken by 2.4% of the population . Other specified and unspecified languages form 12.5% of the languages spoken in Nepal (CIA, 2011). This list is not exhaustive because the exact number of languages spoken in Nepal, a multilingual nation, is not clearly known. Yadava (2007) noted that the list of languages has been fluctuating during censuses. Since the 1952/54 census report, the country has been listing its languages with some being termed as 'other', 'not stated' or 'unknown'. Between the `1952/54 and 1991 census reports, the number of languages reported decreased from 44 in the 1952/54 census report to 31 languages in 1991. However, the number of enumerated languages increased to 92 in the 2001 census report. This increase in the number of languages is attributed to the improved awareness of the country's ethnic minorities who have their own mother tongue. The favorable conditions for this increased awareness have been occasioned by the restoration of democracy in the country. Some of these mother tongues are Bramu, Ghale, Dura, Bhujel, Chhantyal, Kasunda, Kisan, Raute, Kaike, Munda, Lhomi, Sadhani, Angika, Dungmali, Khariya, and Yholmo. Additionally, the country has other foreign languages spoken by a considerable part of its population. These languages have been traced to Indian origins and include Nagamese, Kuki, Hariyanwi, Sindhi, Mizo, Magahi, Koche, Oriya, Assamese, Kumali, Chinese and Dzonkha (Yadava, 2007). English is the language of business and

government agencies in Nepal (Library of Congress, 2011). Other than the spoken language, Nepali also has a sign language (Yadava, 2007).

Given the diversity of the languages, the 2001 census report grouped the languages within four primary genetic affiliations (Yadava, 2007; Yadava, 2003; Yadava & Bajracharya, 2007). The genetic affiliations are Austro-Asiatic, Sino-Tibetan, Dravidian, and Indo-European. The Indo-European family of languages comprises of languages such as Nepali, Tharu, Bhote, Danuwar, and Darai. They are basically those languages that fall under the Indo-Aryan language group, which has the highest number of speakers. About 80% of the population speaks an Indo-European language. The Sino-Tibetan family has, as its largest group, the Tibeto-Burman group of languages. This group of languages has the highest number of identified languages although its speakers are less than those of Indo-European family (Yadava, 2007; Yadava & Bajracharya, 2007). According to the 2001 census report about 19% of the population speaks this group of languages. The Tibeto-Burman languages inhabit the country's central hilly regions (Toba, Toba & Rai, 2005). The third group, the Austro-Asiatic family, consists of Austic languages. They include Santhali (Satar and Santhal) that belong to the Munda group in the north and Southern Munda group's Khariya language. The Dravidian family consists of one language, Jhangar, as it is known east of the Kosi River and Dhangar, as it is known west of the Kosi River. The language has been found to be a variant of India's Jharkhand State Kurux language.

Yadava (2007) asserts that most of the country's indigenous languages are rich in oral traditions in the form of oral narratives, songs and oral poetry. However, the folkloric materials are facing extinction in the light of the increasing rates of literacy and

language shift. A small number (Tibetan, Lepcha, Newar and Limbu) of the country's indigenous languages are rich in traditional literature and have various forms of historical written scripts. Lepcha uses Rong script; Limbu uses Kiranti Srijanga script; Newar currently uses Devanagri script (Yadava, 2007).

The linguistic diversity of Nepal is related not only to its history and migration, but also to its biodiversity. There are four key links between nature and culture that are responsible for inclusion of cultural diversity within biodiversity. The links include beliefs and worldviews, knowledge bases and languages, livelihoods and practices, and norms and institutions (Pretty et al, 2009). Sherpa (2005) points out that biodiversity is directly related to cultural identity.

Nepal ranks high in terms of biodiversity and hence, cultural diversity, owing to its extensive forest areas (Sherpa, 2005; Hill & World Bank, 1999). The United Nations reports that Nepal is ranked 25th worldwide and 11th in Asia in terms of biodiversity (Sherpa, 2005). The biological diversity of Nepal is a factor contributing to more than 92 officially recognized languages. The linguistic diversity and ethnic groups of Nepal represent diverse cultural aspects. For instance, the government of Nepal officially recognizes 59 indigenous nationalities with distinct languages, customs, culture, religion, folklore, knowledge, and ancient territory. This, no doubt, makes Nepal a plural society (Bhattarai, 2004). Having ushered in democracy during the 1990s, the country advocates for the rights of every cultural group. According to Bhattarai (2004), minorities have a right to keep their cultural values alive. This is achieved through recognition of their cultural values in school curriculum, media, and other similar avenues. This is an indication that pedagogical models should take into account this cultural diversity. This

presents a difficult situation in that the state has to find a common means of cultural expression for all the citizens, while at the same time respecting the people's right to be distinct from others in line with their culture (Bhattarai, 2004). The cultural pluralism of Nepal expresses itself in the country's distinct religions, races, ethnicities, languages, castes, and indigenous people.

Statement of Problem

The educational system in Nepal is in a state of reform and advancement, in an attempt to meet the needs of its population. As a result of the political instability over the past twenty years, and the isolation of many communities, many nationals have not had the opportunity to further their education. The fact that the country is among the world's poorest nations compounds the problem (Bharati & Takao, 2009). There are evident inequalities in educational quality and access (Koirala-Azad, 2008; Shields & Rappleye, 2008). This national diversity and resultant inequalities have been attributed to the nation's history, education, and mountainous terrain (Shields & Rappleye, 2008).

Higher education in Nepal is only able to offer programs on-campus in Kathmandu and a few of the larger cities. There is no open university operating to offer flexible programs in outlining regions to potential students who are unable to attend classes on a campus in an urban setting or to potential students in urban areas unable to attend on-campus classes.

To place Nepal in a 21st Century global context, the United Nations Field Coordination Office reports that 72% of the far western region still report 'open

defecation' as a community issue. While in the eastern regions 46% of mountain residents and 37% of hill people do not have access to safe drinking water.

Significance of the Research

With the advancement of mobile technology, open universities have the potential to play a significant role in the development of reliable and realistic learning opportunities for the populations of Nepal and other developing countries. Studies have not been conducted to date that test the technical aspects of offering online education in Nepal nor the linguistic, regional or geographic challenges that might exist. This study and its resulting model stands as an initial discussion into open universities in developing countries that future research can build upon and improve. This study will encourage more interest, discussion and research into the enormous potential of eLearning in countries that could benefit exponentially from such research.

Summary

This chapter has briefly outlined the background and cultural diversity of Nepal in order to clarify the problem that is central to this research study. The research questions have been designed to assess the diverse needs of students based on linguistic background and geographic/regional origin.

A pedagogical model developed for Nepal needs to consider the country's diversity and should incorporate approaches that meet the needs of Nepali students. It is against this background that this review will focus on educational theory, pedagogical models and diversity in Nepal. It is necessary to identify basic aspects effective for

pedagogical models and then establish how such aspects, principles and components can be adapted to fit into a Nepali context. An education system that does not consider the contextual setting of the country is most likely to fail. Similarly, an ineffective model will not achieve the expected goals of open learning.

Therefore, the following Literature Review addresses educational theories and principles (Chapter II), open university pedagogical models (Chapter III) and a more in-depth description of Nepal (Chapter IV).

Chapter II: THEORY AND PRINCIPLES UNDERLYING ONLINE PEDAGOGY

Introduction

The main purpose of this research study was to develop a pedagogical model for an open university in Nepal. In this context, the necessity to specify the theories and principles underlying online pedagogy is obvious. This chapter will present a detailed review of educational theories applicable to online learning. The following theories and models will be discussed: connectionism, operant conditioning, Observational Learning Theory, "learning by doing", Experiential Learning Model, Salmon's Five-Stage Model, Subsumption Theory, Constructivist Theory, Social Development Theory and Zone of Proximal Development (ZPD), Laurillard's Conversational Model, and Theory of Multiple Intelligences. Overall, this section of the study will demonstrate that the instructional strategies based on the aforementioned educational theories will, in part, determine the success of Nepali student learning.

Connectionism

Connectionism is a learning theory based on behaviorism; it posits the idea that human cognitive development occurs as a reaction to the surrounding physical environment. Connectionism was founded by Edward Thorndike, an American psychologist of the 19^{th}-20^{th} centuries as a result of his work on animal behavior and the learning process, which led to the creation of the learning theory (Shultz, 2011). Since Thorndike's theory has become the foundation of modern educational psychology, the significance of connectionism should not be underestimated, even in today's education.

Connectionism is guided by the biological principle according to which human mental activity is characterized by interconnected (mainly, neural) networks of simple and uniform units (Steedman, 2006). In the field of educational psychology, connectionism should be treated as "the use of multiply connected identical neuron-like units with modifiable weights on connections, adjusted on the basis of locally available information by a learning algorithm" (Steedman, 2006, p. 15). In other words, Thorndike (1999) used the term "connectionism" to refer to the learning theory based on learners' formation of associations or connections between stimuli and responses. According to the psychologist, the learning process is accompanied by continuous creation of associations that allow learners to develop their cognitive skills by memorizing, reproducing, and acquiring the new learning material. These associations are made in the context of a certain situation represented by a thing, circumstance, or the whole state of mind (Thorndike, 1999). In his book, Thorndike (1999) presented two simple examples of a learner's associations between a stimulus and a response in the acquisition of particular skills:

> "In learning to swim the connections are not made with the color, temperature, taste and smell of the water, but only with the feelings of non-solidity, of suspension and of sinking. In learning to play a piece on the piano the connections are not made with the color of the instrument, the quality of the room's atmosphere and the size of the music book, but with the position of the notes on the scale, the form of the notes, the feelings of one's arms and fingers and the sounds produced" (p. 207).

As one may admit, during the acquisition of practical skills like playing the piano or swimming, the connections or associations between the stimulus and response may be made in the context of non-apparent situations making a learner focus on the progress of the action rather than its physical circumstances.

Besides the formation of associations between a stimulus and a response, it is reasonable to identify another principle of connectionism. Shultz (2011) underlined that within the framework of the psychologist's learning theory, "responses become habitual by being rewarded and thus having their associations to stimuli strengthened" (p. 28). Hence, rewarding of responses is the main task of an instructor interested in learners' apprehension of the learning material and successful performance especially in linear activities, such as reading, arithmetic, etc. (Seattler, 2004).

In addition, Thorndike (1999) paid attention not only to the learner's success (ensured by rewarded responses), but also to his or her failures; in other words, the theorist considered the trial-and-error method useful in the formation of appropriate associations between stimuli and responses. Seattler (2004) concluded that both principles of Connectionism Theory presented above allowed the psychologist to formulate three laws of learning that should be taken into consideration by instructors:

1. The law of exercise or repetition (suggesting that the retention of a stimulus-induced response depends on its frequency of its repetition)
2. The law of effect (based on the so-called "pleasure-pain principle implying that a response is weakened if followed by displeasure, and strengthened if followed by pleasure")
3. The law of readiness (providing the idea that in a given situation, certain conduction units are more predisposed to conduct than others) (p. 54).

As exemplified in Table 14, a Connectionist approach was found to be necessary and successful in motivating Nepali students to interact and contribute to the online

course. The instructor used positive statements and words of encourage in response to student comments and tasks submitted.

Operant Conditioning

Operant conditioning is another behaviorism-based learning theory that has become a popular point of discussion and a meaningful approach implemented even in today's education. The name of this learning theory was first introduced by the 20th-century American psychologist Burrhus Frederic Skinner in 1937 when he investigated animal and human behavior (Goldstein, 2008). Since he was a radical behaviorist, it is not surprising that the theory of operant conditioning focuses on learners' behaviors conditioned by the environment.

The psychologist applied the concept of operant conditioning to an educational area, and demonstrated that learning is a set of particular behaviors. Weegar and Pacis (2012) noted that the term "operant conditioning" usually means a type of learning in which the behavior of an individual is modified (in form, strength, or frequency) by its consequences. According to the psychologist, all human behaviors occur as a result of responses to stimuli of the external environment. This environment, in its turn, triggers a certain behavioral pattern the repetitive occurrence of which depends upon how an individual is affected by the behavior (Weegar & Pacis, 2012). For this reason, Skinner (1976) underlined that an educational instructor's task is to reinforce a reflex-response cycle making learners conditioned to respond. As he argued, "to give a student reasons why something is worth learning is to point to possibly reinforcing consequences" (Skinner, 1976, p. 143). Overall, in the field of education, operant conditioning should be

treated as a teacher's intentional modification of students' voluntary behavior realized in a specially organized learning environment.

Operant Conditioning is the theory based mostly on a positive approach to individual learning. Goldstein (2008) admitted that Skinner's theory is "focused on how behavior is strengthened by presentation of positive reinforcers, such as food or social approval, or withdrawal of negative reinforcers, such as a shock or social rejection" (p. 12). To be more specific, an individual's external learning environment should be organized in a way that allows predominantly positive stimuli to affect a learner's behavior. According to Skinner (1976), "a positive reinforcer strengthens any behavior that produces it" (p. 51). Hence, a learning environment and a teacher, in particular, should perform the role of positive reinforcing providers; in other words, an educational instructor needs to create situations in which a learner's desirable behavior (for example, acquisition of particular skills) naturally occurs. Naturally, this behavior should be rewarded, since rewarding ensures the repetitive occurrence of the same behavioral pattern of a learner. Monchinski (2008) added that, through Skinner's lens, one may view a student's excellent grade as positive reinforcement for passing exam scores. Overall, the application of operant conditioning in education seems to motivate learners to demonstrate the behaviors expected by their teachers.

Skinner's (1976) theory suggests that individuals may not only respond to stimuli, but also initiate responses by themselves. The psychologist believed that repetitive positive reinforcing has an ability to lead to learner's strengthening of a behavioral pattern that gradually becomes a habit. This habit may occur in the same situation in which once a positive reinforce is given. Correspondingly, a teacher may use positive

reinforcing for the formation of necessary learning habits in students. In addition, Operant Conditioning focuses on the close relationship between a stimulus and a response (Goldstein, 2008). Monchinski (2008) added that this perspective of Skinner's theory makes one assume that, owing to its implementation in a real-life classroom environment, students learn that today's choice influences future consequences. This way, Operant Conditioning views learning as a positive and regulatory individual behavior not solely determined by external positive reinforces.

Chapter VIII discusses the need for implementation of Operant Conditioning as the foundation to successful online learning for Nepali students.

Observational Learning Theory

The Observational Learning Theory is the theory demonstrating the transition from behaviorism, the oldest approach to a human learning process, and cognitivism extremely popular in the area of education since the middle of the previous century. Weiten, Dunn, and Hammer (2011) underlined that the Observational Learning Theory was first proposed by Albert Bandura. He was one of the first followers of behaviorism who pointed out that human beings not only respond to stimuli, but also behave like conscious, thinking, and feeling creatures (Weiten et al., 2011). The revolutionary feature of the psychologist's theory is evident, since it allows observation of the peculiarities of human behavior (mainly, learning) in a social context.

As Bandura's brainchild, the Observational Learning Theory (sometimes called Social Learning Theory) was formulated in the time when psychologists investigated the foundations of human learning. The theorist noticed that within society, both children and

adults have a tendency to imitate (either intentionally or unintentionally) behavioral patterns observed in others (Bandura, 1997). Correspondingly, observational learning results from observing the learning behavior of others (Shaffer, 2009). Bandura (1997) admitted that the brightest example of observational behavior is presented by young individuals who copy "contingent" parental behavior since infancy, and then proceed to imitate teacher's behavior; all copied behaviors influence individual conscious behavioral patterns in subsequent years (p. 92). Often people imitate those representing authority for them. Hence, according to the psychologist, behavior can be learnt through the observation of others, usually older or more experienced people; correspondingly, individuals learn how to do something, if they observe behavioral patterns of these people. Shaffer (2009) underlined that Bandura's theory leads one to assume that adults and children tend to imitate the behavior of individuals they respect or like (for example, parents, teachers, celebrities, older peers, etc.), since their role models appear to be more attractive than those provided by unpleasant people.

Positive reinforcement occupies an essential place in understanding of Bandura's learning theory. According to Bandura (1997), the presence of positive reinforcement plays a significant role in the formation of individual motivation for displaying certain behavior observed in others. Observers need to have a strong motivation to copy others' behavioral patterns; hence, positive reinforcement from an external environment is essential (Bandura, 1997). Filer (2008) admitted that according to Bandura's Observational Learning Theory, "positive reinforcement consolidates appropriate behaviors and attitudes" (p. 65). This way, praises, rewards, and positive evaluations

addressing an individual are vital components stimulating him or her to copy others' behavioral patterns (naturally, the positive ones).

In other words, one may admit that in the field of education, the Observational Learning Theory suggests that human learning is a complex process. First, as Jarvis Holford, and Griffin (2003) admitted, "social learning approaches the explanation of human behavior in terms of a continuous reciprocal interaction between cognitive, behavioral and environmental determinants" (p. 49). Second, the learning theory suggests that learning is a social and an ultimately lifelong process involving individual interactionism and functionism (Jarvis, 2003). Overall, the psychologist's theory implies that people do not only react to the external influences, but also learn how to make once observed behaviors self-regulated and self-directed.

Applying the Observational Learning Theory to education, one should remember that student learning depends not only on operant conditioning, but also on active information processing (Shaffer, 2009). As Weiten et al. (2011) mentioned, Bandura agrees that personality is mostly shaped by learning and that this learning is of active and conscious nature. As Bandura suggests, learning is neither passive nor mechanical process; instead, "individuals actively seek out and process information about their environment in order to maximize their favorable outcomes" (Weiten et al., 2011, p. 48). This way, an educational instructor needs to know that on the one hand, a student's learning can take place indirectly (through the observation of the peers), and on the other hand, he or she needs to be actively involved in a learning process collaborating with each other (for example, by participating in classroom discussion).

The online course discussed in Chapter VI included Observational Learning Theory design in that students were asked to complete a daily task and post the result. Students were able to see peer postings and were able to comment on the posts and learn from each other as they attempted to complete each task.

Learning by Doing

The idea of experiential learning currently forms the foundation of many educational establishments. According to Garrison, Neubert, & Reich (2012), John Dewey, an American philosopher, psychologist, and educational reformer of the 19-20th century, was one of the first theorists to put forward this concept. Dewey believed that learning occurs through individual experience; hence, he used the term "learning by doing" for identifying his learning theory (Martin, 2002, p. 477).

Dewey's learning theory assumes great importance in the field of education, since the philosophy embedded in "learning by doing" is the representation of a constructivist approach, which suggests that new knowledge is constructed on the basis of existing knowledge. According to the theorist, learning is a continuous process of an individual using previous experience for constructing his or her own "view of the world" (McPherson & Nunes, 2004, p. 40). Dewey (1997) believed that a human being's cognitive development is based on his or her individual experience treated as a source of human learning. According to McPherson & Nunes (2004), the theorist suggested that "learning takes place within the context of a whole experience in which the learner is completely engaged, and results from the combination of acting and reflecting on the consequences" (mainly, on the previous experience) (p. 40). Although this learning

theory is based on the idea that an individual learns through doing something, Dewey made a correction: "I do not believe people learn merely by doing. The important things are the ideas that a man puts into his doing. Unintelligent doing will result in his learning the wrong thing" (as cited in Martin, 2002, p. 477). Overall, the theorist suggested that a person's conscious learning and properly acquired skills are impossible without his or her previously gained experience.

The components shaping Dewey's learning theory include knowledge, judgment, impulse, and observation (Kolb, 1984). To be more specific, learning transforms all these components of the previous concrete experience into higher-order purposeful action (Dewey, 1997). As a result, a learner takes advantage of "reflective experience and reflective thinking" by integrating the previously gained knowledge, judgment, impulse, and observation into learning (McPherson & Nunes, 2004). This way, learning is accompanied by a complex intellectual operation which allows the making of a transition from previously gained experience to a new one.

It is essential to mention that Dewey's concept of "learning by doing" is of great importance in education. Dewey (1997) personally admitted that learning occurs within a social (mainly, interactive) context. By active participation and collaboration during the lessons, a student not only acquires new knowledge or skills, but also learns how to live (Dewey, 1997). In this context, "learning by doing" becomes a useful practice that prepares young people for adult life. Casil (2006) added that since Dewey underlined the importance of an individually gained experience, the implementation of the theorist's learning theory within educational establishments promotes a child-centered approach embodied in student-based learning. Hence, Dewey's theory also shifts the traditional

focus on teachers as the main educational providers, and implies that learning depends on learners themselves. Overall, the theory of experiential learning is significant, since it demonstrates that student learning is a complex, active process of both a social and individual nature that allows previous experience to assist in obtaining new knowledge or skills.

The online course encompassed Dewey's theory of 'Learning by Doing' in that each daily task required students to perform it by 'doing' it. The tasks were scaffolded so that each task built on the knowledge gained from previous tasks, becoming more difficult as the course progressed.

Experiential Learning Model

The idea of experiential learning has been known since the times of ancient Greece. Although Aristotle was probably the first thinker who paid attention to the fact that people tend to make meanings from direct experience, experiential learning was mostly popularized by theorists of modern times, David A. Kolb in particular (Stein, 2011). Hence, it is not surprising that the Experiential Learning Model of Kolb, a 20th-century American educational theorist, has acquired great popularity among educators.

It is essential to mention that Kolb's Experiential Learning Model is based on the experiential learning paradigm. Through the analysis of the research works written be famous psychologists-constructivists and theorists of experience-based learning (including Dewey, Lewin, and Piaget), Kolb (1984) admitted that individual experience plays a key role in the formation of new knowledge and skills. His analysis allowed him to claim that a person's ability to take advantage of his or her own experience should be

treated as human practical wisdom. The effort to find real-life implications for experiential learning led Kolb (1984) to the creation of his own learning theory focused on personal experience.

According to Kolb's Experiential Learning Model, four phases create a learning cycle or a circular learning pattern: "concrete experience", "observations and reflections", "formation of abstract concepts and generalizations", and "testing implications of concepts in new situations" (Pont, 2003, p. 61). Pont (2003) mentioned that this cycle begins again every time one has passed through the last phase. Kolb (1984) argued, "as a result of our hereditary equipment, our particular past life experience and the demands of our present environment, most people develop learning styles that emphasize some learning abilities over others" (p. 76). All phases of Kolb's learning cycle thus reflect four basic types of learners: diverger (active experimentation-concrete experience), converger (active experimentation-abstract conceptualization), accommodator (reflective observation-concrete experience), and assimilator (reflective observation-abstract conceptualization) (Pont, 2003). Overall, Kolb's model offers both a way to understand individual different learning styles, and an explanation of an experiential learning cycle that can be applied to all people.

The application of the Experiential Learning Model to an educational field allows a better understanding of student learning. As the representatives of the Truman Student Success Center (n.d.) revealed, Kolb's model seems to reflect the learning cycle consisting of experiencing, reflection, conceptualization, and planning. Each of these stages represents different learning processes. At the experiencing stage, students carry out an assigned task; at the same time, they do not usually reflect on this task. The

reflection process is accompanied by students' reviewing what has been done and experienced in the performed task; at this stage, students' verbalized and discussed values, beliefs, and attitudes occupy an essential place. Conceptualization suggests interpreting the noticed events and understanding the relationship among them; the effectiveness of this process is increased through a teacher's provision of a relevant explanatory theory to learners. At the planning stage, students' new understanding is gained, and corresponding predictions are made; in other words, during this process, students reveal what actions should be taken to improve the way in which the task is performed (Truman Student Success Center, n.d.).

Overall, from the perspective of the Experiential Learning Model, learning involves essential mental processes that cannot be omitted, since they all help students to acquire new knowledge and skills. Clifford and Thorpe (2007) noted that according to Kolb's theory, the process of learning is effective only when all four stages (experiencing, reflection, conceptualization, and planning) are included in a learning situation; correspondingly, if one of the stages is missed, learning becomes ineffective. For this reason, all educational instructors need to ensure that learners successfully achieve the goals of each stage; otherwise, new information and skills cannot be acquired.

For the purpose of this research, time did not allow for a longer online course to be offered to students. The two-week course could not include the four stages of Kolb's Model, but of significance to Nepali learners is Kolb's stage of conceptualization which will be discussed in Chapter VIII. In order for the knowledge gained through online learning to be successfully acquired and understood by students, application to relevant Nepali situations must be included in each course.

Salmon's Five-Stage Model

The age of all-round computerization and inclusion of the Internet into an educational sphere demands the implementation of innovative pedagogical approaches (Mason, 1998 Kirkwood, 2007; Kruger, 2010, etc.). The Five-Stage Model embodies the 21st-century approach to online teaching and learning. Gilly Salmon, a contemporary British professor, specialist in student learning, and online teaching practitioner, is considered the author of this model (Watts, 2010). Salmon's model represents an innovative learning theory, the application of which, in today's highly technological educational establishments, gains special popularity.

Being an active practitioner of her own innovative educational theory, Salmon (2003) believes that online learning (or eLearning) can be a successful process; the success is determined by several principles involved in her model. First, since Salmon (2003) is a supporter of experiential learning, her model is based on the principle of scaffolding; in other words, learners' own previous experience plays an essential role in teacher supported learning. In this context, experience helps to perform tasks properly, and move further in a developmental process. Second, she believes that online activities can be effective regardless of the fact that eLearning is performed 'at a distance', with the potential to put students and teachers in physical and psychological isolation. Regular online conversations and use of cameras make the teaching and learning processes maximally approximated to the traditional classroom interaction. Third, teachers perform the role of eModerators or eTutors who organize computer-mediated meetings or conferences in order to ensure that students gain necessary knowledge and skills (Salmon, 2003).

Salmon's Five-Stage Model represents the structured model of eLearning activities (the so-called “e-tivities”) aimed to provide better interaction and participation between students (Salmon, 2003, p. 61). Santy and Smith (2007) underlined that for Salmon, online learning is a five-step process that illuminates the roles of both students and teachers. Schneckenberg (2008) revealed that the model contains the following phases:

1. Access and motivation (eTutors need to set up systems, and make sure all learners have access to them; students need to learn the basic technical skills).
2. Online socialization (eModerators encourage interaction, and increase individual confidence; learners send and receive messages).
3. Information exchange (eTutors help to discover new knowledge, and facilitate task performance by providing relevant information; students search and exchange information for completing assigned tasks).
4. Knowledge construction (eModerators encourage evaluation of resources, and the creation of learner content; students actively interact with each other).
5. Development (eTutors encourage students to reflect on their learning experience; learners evaluate their own learning becoming more self-directed and independent).

Salmon's Five-Stage Model introduces a progressive method in teaching and learning processes within the framework of a traditional educational system. Schneckenberg (2008) underlined that the implementation of this model makes digital environments highly interactive and beneficial for learners, since the teacher’s main role

is to encourage and facilitate a learning group's performance of activities, while that of students is to gain new knowledge and skills by communicating with each other. The author added that Salmon's model helps to build a bridge between cultural, social, and learning environment that, in its turn, positively affects students (Schneckenberg, 2008). Santy and Smith (2007) revealed that the Five-Stage Model incorporates a unique approach to education, suggesting that both teachers and students take responsibility for the effectiveness of a learning process. Moreover, according to the authors, this model implies that in order to gain new knowledge and skills successfully, a student should be self-motivated, self-directed, sociable, and independent in thinking (Santy & Smith, 2007).

Salmon's Five-Stage Model emerged during the online courses in this study. Due to the length of the course, Stage Five (reflection) was not reached. This Model 'emerged' as it was not known on the outset of the study whether Nepali students would interact (with peers or with the instructor), or take responsibility for their learning. This preliminary study of Nepali online learners suggests that Salmon's Model could be implemented successfully with proper scaffolding of course material.

Subsumption Theory

Subsumption Theory is based on cognitivism, which suggests that human beings generate knowledge and meaning with the help of sequential development of their individual cognitive abilities. Like other cognitivists, David Paul Ausubel, who offered the learning theory of subsumption, believed that a human learning process is realized through the activation of internal cognitive structures that optimize the mental processes

(helping to recognize, understand, recall, analyze, reflect, evaluate, etc.) (Daniel, 2005). The learning theory of this 20th-century American psychologist is rooted in cognitivism.

It is reasonable to admit that the Subsumption Theory is initially based on Ausubel's cognitive theory of meaningful learning providing understanding to the idea of subsumption. The theory of meaningful learning is guided by the psychologist's assumption that the acquisition and retention of knowledge is the product of an integrative, interactional, and active process "between instructional material (subject matter) and relevant ideas in the learner's cognitive structure to which the new ideas are relatable in particular ways" (Ausubel, 2000, p. ix). In this context, one may see that Ausubel believed that a person's cognitive structures (on which prior knowledge is based) in the brain help him or her to acquire new information or skills. Ausubel's Theory of Subsumption thus provides the in-depth understanding of how new meanings are accreted (Ausubel, 2000).

The Subsumption Theory is based on the principle of meaningful learning making a student relate new knowledge to what he or she already knows. Mohan (2007) suggested that Ausubel's learning theory focuses on how individuals learn large amounts of information from verbal material. According to the psychologist, student learning is based on various processes occurring during the reception of new information. Analyzing Ausubel's theory, Mohan (2007) admitted, "a primary process in learning is subsumption in which new material is related to relevant ideas in the existing cognitive structure" (p. 22). Within the framework of the Subsumption Theory, individual cognitive structures should be treated as a residue of students' learning experiences.

The major contribution of Ausubel's theory lies in an effective instructional mechanism allowing meaningful learning. Hence, the so-called "advance organizers", an innovative instructional strategy, plays a key role in the understanding of Ausubel's learning theory of subsumption (Daniel, 2005, p. 1). Leonard (2002) argues that advance organizers act as a subsuming bridge between new material and previously gained knowledge. In other words, as Mohan (2007) mentioned, an advance organizer is an effective device preparing a student's cognitive structure (or relevant schema) for the new learning experience. Two types of advance organizers can be identified: comparative (those activating existing schemas) and expository (the ones providing new knowledge) (Daniel, 2005). In a classroom, an advance organizer is represented by a teacher through directing learners' attention to what is important in the new material, the underlying relationships, and providing a reminder about relevant knowledge acquired previously (Daniel, 2005).

Since Ausubel underlined the significance of advance organizers in meaningful learning, the Subsumption Theory echoes the traditional approach to learning in education. According to Leonard (2002), Ausubel's learning paradigm is instructor-centric rather than learner-centric, because the apprehension of new material is totally organized by a teacher. In addition, the subsumption process itself promotes the idea of reception learning, since new ideas are given to students by the instructor who already knows the conceptual structures existing in learners (Leonard, 2002). The Subsumption Theory thus suggests that learning is associated with a receptive and meaningful process rather than student discovery.

Nepali students come from an educational system based on rote-learning and teacher-centred environments. They have no previous experience with online learning or self-directed study. Although this study found that student interaction developed naturally, it also found students easily distracted by the interaction (see Table 17). Therefore courses, particularly in the early stages of study, should be instructor led and planned with relevant examples from a Nepali context to enhance meaningful learning.

Constructivist Theory

Rooted in cognitive psychology and biology, Constructivist Theory (or constructivism) is one of the earliest learning theories offering principles used in contemporary educational system. Lambert (2002) explained that this theory was developed by Dewey, the first theorist to observe that knowledge is constructed in people when information comes into contact with their existing knowledge developed by individual experiences (Lambert, 2002). Pritchard & Woollard (2010) underlined that within the theory of constructivism, constructs should be treated as different types of filters that individuals choose to place over their realities. Dewey's followers (including Montessori, Strzemiński, and Vygotsky) believed that each individual perceives the world differently from others, and constructs knowledge in his or her own way; in other words, each individual has his/her own constructs (Lambert, 2002).

The research evidence suggested that numerous constructivists made their contribution to the development of this learning theory. Lambert (2002) underlined that the valuable contribution of Piaget and Vygotsky for education and psychology should not be underestimated. Piaget (2001) was the first who offered the term "schema" or

"schemata" for identifying an innate structure or structures that help an individual to perceive the world; to be more specific, this term identifies a structured cluster of concepts used for representing objects, scenarios, or sequences of events or relations (p. 26). By investigating the developmental and learning peculiarities of children, Vygotsky (1986) concluded that human development always precedes learning, since a child first needs to meet a particular maturation level before learning can occur. The theorist was a founder of social constructivism based on the idea that a human being may construct knowledge only within a certain culture and particular society to which he or she belongs. Overall, Piaget (2001) and Vygotsky (1986) agreed that knowledge construction is an inevitable and vital process of human development.

Present-day constructivists take into account the achievements of their predecessors, and develop the Constructivist Theory further. For example, Jerome Bruner has made significant contributions to this learning theory by applying it in the context of educational psychology. Bruner has also extended the traditional focus of constructivism on individual learning by addressing collaborative and social dimensions of learning (Bruner, 1966). His investigation of children's learning process demonstrated that knowledge construction was facilitated if individuals collaborated and interacted with each other (Bruner, 1966).

Another contribution of the American psychologist is associated with the clarification of the mechanism of knowledge construction. Bruner (1966) argued that reality is a narrative construction in the individual's imagination. In other words, he believes that in the process of their cognitive development, all individuals actively participate in the narrative construction of reality. In addition, he argued that knowledge

construction is the art of internal discovery that is probably of the highest value in educational instruction (Bruner, 1966). As he stated, in the process of teaching, "there is some need for the children to pause and review in order to recognize the connections within what they have learned…The cultivation of such a sense of connectedness is surely the heart of the matter" (p. 96). Overall, the psychologist underlined that the mechanism of constructivism includes the previous knowledge experience and its combination with the discovery of new knowledge individually constructed through the perception of reality.

Constructivism is an effective learning theory popular among today's instructors. Ally (2008) pointed out that according to teachers, students need to construct their personal meanings of the world on the basis of their previously learned concepts. The author added that with the help of observation, processing, and interpretation, students personalize the acquired information, and create their personal knowledge. Anderson (2004) underlined the great significance of the constructivist instructional design based on students' individual discovery that develops their cognitive abilities. According to Peters (2002), constructivist learning ensures students' in-depth understanding of the world with all its complex phenomena. Overall, the power of constructivism for educational instruction lies in its inquiry-based approach that forces a student to construct knowledge from inside, on the basis of his or her unique personal experience.

Constructivist Theory is relevant to this study as it once again emphasizes that a course cannot simply be imported from a Western university and implemented in a developing country without re-designing the examples and tasks to ensure they are part of a student's schema and worldview.

Social Development Theory and Zone of Proximal Development

One of the learning theories that attached a social dimension to the traditional perception of student learning and instruction strategy is the Social Development Theory first offered by Lev Vygotsky in the early 20th century, and subsequently supported by his followers (Piaget, Davydov, Cole, Wertsch, and Bruner). Sigelman & Rider (2011) underlined that this popular Soviet psychologist was one of the first theorists who claimed that social interaction is crucial for cognitive development. Vygotsky should be treated as a social constructivist whose works (Vygotsky (1986), Vygotsky (1978), etc.) suggested that knowledge is first constructed within a social context that involves an individual in the collaborative process of sharing his or her point of view; according to him, this process leads to building understanding together that would not be possible alone. The psychologist's ideas about cognitive development and educational instruction assumed international recognition.

Vygotsky's Social Development Theory and its related concepts deserve special attention. Vygotsky (1978) underlined "the dominant role of social experience in human development" (p. 22). Since childhood, when an individual imitates others, until the end of life, when a person relies on his/her rich experience, society plays an extremely important role in the human cognitive processes and intellectual development. The theorist argued that the personalized social experiences of people reflect norms and culture peculiar for the society in which they live; hence, socialization means acculturation (Vygotsky, 1978). Munguatosha, Muyinda, & Lubega (2011) clarified that according to the theorist, a child's social and cultural development appears on the social (interpsychological) and individual (intrapsychological) levels – at first between people,

and then – inside the child. It is not surprising that Germain-Rutherford & Kerr (2008) suggest that Vygotsky's ideas imply a sociocultural approach to learning. The famous psychologist believed that instruction should be based on active student participation and the activities linked to the real world, since knowledge acquisition is a process both social and individual (Germain-Rutherford & Kerr, 2008).

In the educational context, Vygotsky's Social Development Theory is associated with the so-called Zone of Proximal Development (ZPD). The theorist himself offered the term "zo-ped" or ZPD that means "the place at which a child's empirically rich but disorganized spontaneous concepts "meet" the systematicity and logic of adult reasoning" (Vygotsky, 1986, p. xxxv). In other words, it is the distance between the actual developmental level and the level of potential development. The benefit of the real-life implementation of the ZPD concept in education is that a student's reasoning assumes the strength of scientific logic. Vygotsky (1986) underlined that "the final product of this child-adult cooperation is a solution, which, being internalized, becomes an integral part of the child's own reasoning" (p. xxxv). In addition, the theorist believed that the concept of ZPD supposes effective student's learning based on the principle that instruction proceeds ahead of development (Vygotsky, 1986).

The practical significance of Vygotsky's Social Development Theory and ZPD concept cannot be diminished in the context of education. Daniels (2005) argues that the psychologist's theory and concept are of great value for effective instruction and cognitive development of students. Munguatosha et al. (2011) underlined that the application of Social Development Theory in education fosters students' social interaction and collaboration with peers, consciousness, and cognitive skills. The

implementation of the ZPD notion within an educational setting develops students' independent problem-solving skills (Daniels, 2005). The ideas of Vygotsky suggest an effective learning paradigm that both reflects the principles of individual cognitive development and meets educational objectives.

Social Development Theory is of particular significance to this study, as it is imperative that Nepali students' culture, environment and background be taken into consideration with regard to course design (see Chapter VIII).

Laurillard's Conversational Model

Cognitivism suggests that learners themselves gain knowledge, and reveal meanings of the world, while a teacher only creates a suitable environment for this process. However, Laurillard's Conversational Model expanded the traditional cognitive perspective on learning by implying that both a student and a teacher are equally important in the cognitive process (McDowell, Sambell, & Montgomery, 2012). The Conversational Model of Diana Laurillard, a modern British learning theorist, deserves special attention, since it has gained popularity in current educational practice.

A conversation or a dialogue has always been a significant component of education for Laurillard (2002). She agrees with Freire that in pedagogy, "dialogue presents itself as an indispensable component of the process of both learning and knowing" (Freire, 2011, p. 17). Although the theorist admitted that learning is sometimes accompanied by a one-sided conversation (for example, between a student or a teacher and media sources), she believed that a genuine dialogue, mainly between an educational instructor and a learner, remains the most important type of conversation favoring learners' cognitive

development (Laurillard, 2002). Laurillard (2002) claims that an interactive conversation between a teacher and students helps to facilitate and promote the learning process. Although the theorist agrees that both sides are equally significant in the conversation process, the presentation of learning material should revolve around students who actively research and analyze information and resources together with a teacher (Laurillard, 2002).

Laurillard's Conversational Model (sometimes called as the Conversational Framework) has its own vital components. It is based on the idea of a meaningful two-sided dialogue. Heinze, Procter, & Scott (2007) noted that this learning theory "depicts the communication process that occurs between the teacher and student in the development of the student's knowledge" (p. 111). In other words, Laurillard's Conversational Model represents a two-way conversational process that can be characterized as peer learning. According to Boud, Cohen, & Sampson (2001), two levels of interaction can be identified in the model: the bottom and top levels. At the bottom level (supposing students' action), learners act to accomplish an educational task, and receive intrinsic (or automatic) feedback from an experiential environment provided by the teacher. At the top level (supposing theoretical conceptualization), learners offer corresponding descriptions or reflections upon their experience gained from task performance, and receive extrinsic feedback from a teacher in the form of critical comments, re-descriptions, etc. (Bound et al., 2001). Laurillard (2002) believed that the value of both feedbacks should not be underestimated, since both are vital for effective learning; as she claimed, "action without feedback is completely unproductive for the

learner" (p. 55). At the same time, the theorist suggested that discussion between students (under a teacher's control) is also important for the Conversational Model.

The practical value of Laurillard's Conversational Model for education is significant. Educational instructors interested in the implementation of this model should take into account that it is based on an iterative cycle involving a teacher and students in productive interaction. McDowell et al. (2012) mentioned that, according to this learning theory, teachers provide instruction, guidance, and peer feedback, while students have opportunities to display knowledge and skills they achieve. As a result, teaching and learning purposes are accomplished. One attribute of Laurillard's theory is that it makes presentation of new learning material (presented for example, in the form of a lecture) an absorbing, interactive, and highly productive process for students (McDowell et al., 2012).

The online course used in this study was based on the bottom level of Laurillard's Conversational Model. It worked well because Nepali students come from a teacher-centred educational environment and relied heavily on teacher instructions and positive feedback in order to experience 'success' in their learning.

Theory of Multiple Intelligences

Both cognitivists and constructivists have always paid special attention to individual mental processes engaged in individual intellectual development. A follower of cognitivism and constructivism, Howard Gardner, an American developmental psychologist, developed his own theory that reveals the mechanism of learning and processing information (Faculty Development and Instructional Design Center, n.d.).

Gardner's Theory of Multiple Intelligences focuses on human intellectual processes which can make the learning process more effective.

Intelligence is one of the indispensable elements of learning and cognitive development. Gardner's (2011) learning theory appeared in the time when he thoroughly investigated human psychology and cognition, and observed how people learn. The investigation and observation allowed him to identify several types of intelligence; today, the psychologist argues that the list can be eventually expanded. Overall, Gardner has theorized eight following types of intelligence:

- verbal-linguistic (well developed verbal skills and sensitivity to the meanings, rhythms, and sounds of words),
- musical-rhythmic (ability to appreciate and produce rhythm, timber, and pitch),
- visual-spatial (capacity to visualize accurately and abstractly, and to think in images and pictures),
- logical-mathematical (capacity to discern logical and numerical patterns, and ability to think conceptually and abstractly),
- bodily-kinesthetic (ability to handle objects skillfully and control body movements),
- naturalist (ability to categorize and recognize plants, animals, etc.),
- intrapersonal (capacity to be self-aware of inner values, beliefs, feelings, and thinking processes),

- interpersonal (capacity to respond and detect appropriately to others' moods, desires, and motivations) (Faculty Development and Instructional Design Center, n.d.).

Gardner believes that each individual has eight intelligences mentioned above; these help a person to gain new knowledge and skills. Analyzing the Theory of Multiple Intelligences, Nardi (2001) admitted that each person cannot be equally skillful in all intelligent categories; at the same time, the author noticed that people's extent of intellectual development fits their needs, values, and talents. Nardi (2001) added, "even after poor learning experience, once existing strengths are utilized, confidence increases and with a gentle but regular push, the mind expands into new areas heretofore undeveloped" (p. 50). For this reason, the Theory of Multiple Intelligences suggests that in case of both positive and negative learning experiences, a person's intelligences help him or her to gain new knowledge and skills.

Wong (2011) underlined that the Theory of Multiple Intelligences implies that some of the individual intelligences are more developed than others are; at the same time, people have a potential to activate and strengthen all eight intelligences. These facts should be taken into consideration by a teacher who designs individual tasks and classroom activities that aim to revise previous material and further develop students' intellect. Nardi (2001) believes that intellectual development should be motivated, so an educational instructor should ensure that all learning tasks and activities meet students' core values, needs, and talents. Overall, the Theory of Multiple Intelligences promotes the multifaceted development of students' intellect and personality.

Gardner's Theory was not considered for this study, but certainly offers opportunity for additional research with Nepali online students.

Application of the Educational Theories to Online Learning

For the development and assessment of a pedagogical model for an open university in Nepal, educational theories must be applied to online learning. Boettcher (2011) stated that online learning is as effective as learning face-to-face (F2F). Unlike standard classroom learning, online learning is computer mediated, so learners learn within cyberspace, and may do it everywhere there is access to a computer and the Internet. As Ally (2008) pointed out, "online learning allows participants to collapse time and space" (p. 16). The author added that for this type of learning, a teacher needs to design special learning materials in order to engage learners and promote learning (Ally, 2008). The main role of a teacher in online learning is to support learners, and encourage them to take an active part in learning (Ally, 2008). Cheng and Warren (2007) revealed that the main features of online learning are interactive course materials (usually expressed in online courses focused on development of learning skills), structured discussions (embodied in interactive and time-independent discussions), online pedagogy (making the teacher a facilitator of the learning process), collaborative activities (via a group Website engaging peers in collaboration), and online assessment (the procedures promoting knowledge management skills, IT and ICT literacy,). Online learning fits today's highly technological environment and students' lifestyle. It is not dependent on student location or proximity to a brick and mortar institution.

To apply educational theories to the context of eLearning environments is necessary, since the popularity of Web-mediated learning is growing in both developed and developing countries' educational establishments (Munguatosha et al., 2011). The educational theories discussed above reflect the traditional approaches to learning represented by behaviorism, cognitivism, and constructivism. Many authors (including Boskic, Dobson, Gaskell, Khan, & Miller, 2007; Ally, 2008; Anderson, 2004; McPherson & Nunes, 2004; Watts, 2010) have demonstrated that online learning is based on the principles offered by these approaches. One of the main trends in the 21st-century education is characterized by the so-called "eclectic approach" combining behavioral, cognitive, and constructivist elements (Germain-Rutherford & Kerr, 2008, p. 78). Hence, it is reasonable to demonstrate how the educational theories discussed in this chapter can be applied to eLearning from the perspective of behaviorist, cognitive, and constructive approaches to improve its effectiveness (see Chapter VIII).

Behaviorism-Based Educational Theories

Connectionism, Operant Conditioning, and the Observational Learning Theory represent behaviorism-based theories that can be applied to online education. The reality demonstrates that an increasing number of educational establishments around the world are engaged in global learning network, justifying the significant role of connectionism in today's education (Costa, 2010). Mayers & Freitas (2004) noted that, according to connectionism, "learning is the process of connecting the elementary mental or behavioral units, through sequences of activity" (p. 7). Hence, according to educators supporting eLearning, students need to master smaller units treated as a prerequisite for

more complex units. Connectionism suggests that the main eLearning purpose is the formation, strengthening, and adjustment of learners' associations through the initial reinforcement of particular connections through feedback (Steedman, 2006). This purpose can be achieved through the individualizing of online instruction, where learners respond actively to questions, and receive immediate feedback on their response (Mayers & Freitas, 2004).

According to operant conditioning, an educational instructor needs to ensure the positive modification of student's behavioral patterns through the special organization of a learning environment (Weegar & Pacis, 2012). Hence, the eLearning environment should be organized in a way that would favor the occurrence of learners' desirable behaviors. In this context, the proper design of educational Websites, absorbing online learning activities, and specially designed online assessment practices may be helpful (Cheng & Warren, 2007). Richmond & Cummings (2005) suggested that educators implementing eLearning should resort to positive reinforcement if they want to involve their students in productive learning of new material. Correspondingly, if students display undesirable behavioural patterns (for example, make repetitive mistakes in already apprehended material), negative reinforcement (such as low marks) should be implemented (Richmond & Cummings, 2005). Applying operant conditioning to eLearning, it is important to stress that all online activities should lead to the formation of positive behavioural patterns in students (Weegar & Pacis, 2012).

The application of Observational Learning Theory to eLearning is associated with certain challenges. This theory supposes that by observing others' behavioral patterns, people tend to copy them (Shaffer, 2009). It is clear that educators want their students to

copy only positive behaviors; however, the nature of eLearning environments makes behavioral observation and imitation extremely difficult. According to Potts, Sutton, & Weiner (2009), a distance and inability to watch others complicates learners' imitation of positive behaviors. However, a teacher may resort to practicing positive reinforcements and designing special tasks (that focus students' attention on their own learning behaviors or hypothetical situation with real people displaying different behavioral patterns); only in this case, Observational Learning Theory can be applied to online learning.

Behaviorism-based theories may help to ensure high quality in eLearning. Anderson & Dron (2011) revealed that their implementation in online learning may lead to new or positively modified students' behaviors, and easier apprehension of new learning material through linear and structured sets of tasks. Conole (2010) recognized the evident effectiveness of learning through students' individual association and teachers' positive reinforcements. A behaviourist approach to eLearning incorporates effective "content delivery and interactivity linked directly to assessment and feedback" (Conole, 2010, p. 3). Mayers & Freitas (2004) added that all behaviorist educational theories are mistakenly associated with teacher-centered learning; however, they promote immediate feedback on students' success and the careful analysis of learning outcomes, believed to be important in online education.

Cognitivism-Based Learning Theories

Since cognitive principles are partly embedded in Social Development Theory and ZPD, Salmon's Five-Stage Model, Subsumption Theory, Laurillard's Conversational Model, and the Theory of Multiple Intelligences, can be called constructivism-based

educational theories. Analyzing Social Development Theory in the context of eLearning, Zhan (2008) admitted that online interaction, social context of interface, and online learning activities that engage students in collaboration with their peers should be involved in students' online courses. In this case, learners will be involved into active cognitive development within a cyber-learning community. Waight & Stercart (2005) added that within the eLearning environment, individual and collective ZPD are presented. In individual ZPD, students who want to participate, but cannot independently create knowledge, need capable peers (or even a teacher) to offer help or supporting resources; this strategy allows these students to reach their potential. In collective ZPD, students may create knowledge collectively through active participation and collaboration; this strategy helps them to utilize mutual potentials in order to surmount the ZPD of the whole online learning community (Waight & Stercart, 2005).

Salmon's Five-Stage Model harmoniously fits the online learning environment, since this model was initially created for eLearners and eTutors (eModerators). In order to apply this model to real-life online courses, one should bear in mind its main underlying principles. First, as mentioned, this model promotes the usage of specific teacher's and learner's activities reflecting the five stages (Schneckenberg, 2008). Second, e-tivities should be implemented for ensuring effective online communication. The application of a Five-Stage Model leads to the creation of connected and networked eLearning.

Subsumption Theory may provide real-life application for online learning environment. According to Daniels (2005), online activities which focus on the perception of meaningful verbal information and retention of previous learning material

may activate students' internal cognitive structures, resulting in optimization of their mental processes. In other words, textual information provided through the online activities will serve as advance organizers ensuring activation of learners' cognitive skills.

The application of Laurillard's Conversational Model leads to effective results, since within the online environment, conversation may become more transparent and successful than it is in the case of F2F communication (Ouinsee, 2004). It is recommended to include the elements of an interpersonal dialogue in all online activities. Provision of students with online content and their engagement into reflective exercises lead to a better interaction that, in turn, helps learners to gain new information and skills (Ouinsee, 2004).

In applying the Theory of Multiple Intelligences to an eLearning context, one should follow some principles that underlie this educational theory. Kramer (2002) recommended that teachers should design online activities that will stimulate students' multifaceted intellectual development. Ideally, these activities should activate learners' eight intelligences (Faculty Development and Instructional Design Center, n.d.).

All educational theories discussed in this subsection attach a cognitive perspective to online learning. According to Mayers & Freitas (2004), this perspective determines the following eLearners' enhancements: more effective ways of understanding (achieved in a procedural and compiled manner), beneficial interaction, acquisition of self-reflection skills, improvement of linguistic and memory abilities, access to resources, and expertise. Conole (2010) added that a cognitive approach to online learning leads to multifaceted

cognitive development, improvement of problem-solving skills, and formation of more independent and self-motivated student personalities.

Constructivism-Based Educational Theories

"Learning by Doing", the Experiential Learning Model, and the Constructivist Theory refer to the constructivism-based learning theories. Yukselturk & Baturay (2011) mention that "online courses have the potential to create environments where students have the advantage of learning by doing in real-life contexts" (p. 357). Applying the "learning by doing" concept to eLearning, teachers need to remember that online activities should focus not only on specific readings and problem-solving tasks, but also on situated learning. This type of learning may stimulate students to create generalizations and universal applications to specific experiences with the help of their previously gained knowledge and skills (Conole, 2010).

An Experiential Learning Model can be effectively applied in the online learning environment. Since this educational theory allows students to move further in their development by blending their previous experiences with new experiences, online activities should include both known and unknown components related to one another (Mishra, 2007). In addition, Conole (2010) points out that the inclusion of the tasks based on individual extensive practices (in other words, the tasks focused on experiments, rather than on theory) may also be helpful.

Constructivist Theory also provides online learning with great opportunities. In order to apply this educational theory to eLearning, one should take into consideration that an inquiry-based approach should be used in designing online activities (Haugen,

Ask, & Bjørke, 2010). For example, online activities may suppose learners' active construction of new ideas by using their reflection on the past and current experiences and collaborating with other members of the online learning community (peers, or the instructor).

Overall, constructivism-based educational theories fit the eLearning environment, since they have a social nature (Eshet, Epstein, Hammer & Tal, 2003). Anderson & Dron (2011) note that "social-constructivist pedagogy acknowledges the social nature of knowledge and of its creation in the minds of individual learners" (p. 84). Teachers thus do not transmit knowledge to learners; rather, each learner constructs meanings of the world by integrating old experiences into a new one, while interacting with others. In addition, Ehlers (2006) believes, "the constructivist approach supports the development of competencies" (p. 160). To be more specific, learners' own activity and their social interaction allows the connecting of individual and collective experiences; this process helps learners to become more competent and independent in their thinking.

Chapter III: PEDAGOGICAL MODELS IN OPEN UNIVERSITIES

Introduction

In order to develop a pedagogical model for an open university in Nepal, it was necessary to review existing models worldwide to determine if some of the components of other open university models could be incorporated into the model proposed by this research study. Some of these models are referred to in Chapter VIII with reference to the pedagogical model that has resulted from this study.

The term 'pedagogical model' is commonly used to describe the framework or approach used in eLearning. Mayes & de Freitas (2004) argue that "there really are no models of eLearning *per se* – only enhancements of models of learning" (p. 4). For the purpose of this paper, pedagogical model refers to the theoretical framework or pedagogical approach used in the design of eLearning.

Media and technologies, learner support, equipment and practical work are the basic components of the pedagogical models of open universities (UNESCO, 2000; Lorentsen et al, 2001). The key principles of open learning are flexibility and emphasis on learning as opposed to teaching (Dabbagh, 2005; Khoja, Sana, Karim & Rehman, 2008; Geith, 2008; Lorentsen et al, 2001). The quality of the pedagogical model used determines the students' achievement of educational outcomes (Johnson & Aragon, 2003).

Advances in Technology

Literature in this field strongly demonstrates that following the unprecedented advance in technology, especially the Internet, pedagogical models in open universities have embraced ICT in their programs. (Van Es & Koper, 2006; Sife et al, 2007; Rutherford & Kerr, 2008; Kruger, 2010; Munguatosha et al, 2011; Siragusa, 2005; Lorentsen et al, 2001) ICTs capacity to provide knowledge portals and networks, asynchronous learning networks, teleLearning and virtual classrooms provides open universities with flexibility in location, timing, networked learning and staffing (Dabbagh, 2005; Sife et al, 2007; Geith, 2008; McLoughlin & Lee, 2008; Kruger, 2010).

In terms of flexibility, education is described as 'distributed learning' in the sense that "education is delivered anytime, anywhere, to multiple locations, using one or more technologies or none at all" (Dabbagh, 2005, p. 30). In this light, Geith (2008) sees the significance of the web as, among others, bringing about "freedom of time and place" (p. 223). This is because students complete their courses from wherever they are comfortable; through communication with tutors and fellow students by means of video conferences, emails, electronic forums and other online communication tools (Dabbagh, 2005; McLoughlin & Lee, 2008; Kruger, 2010; Johnson & Aragon, 2003; Sife et al, 2007; Benados, 2008). The result of technology integration has been online education which is synonymous with virtual learning, eLearning, and distributed learning (Kruger, 2010). However, some open universities, such as the Open University in Japan, tend to retain the print-based and broadcast distance education (Jones et al, 2009).

Literature in this field also demonstrates that pedagogical models in open universities have been developed in light of the technological level of the day (Abbad &

Nahlik, 2009; Anderson & Dron, 2010; Benados, 2008; Kirkwood & Price, 2005; Kirkwood, 2007; Kruger, 2010; Lorentsen et al, 2001; Munguatosha et al, 2011; Peters, 1998; Sife et al, 2007; Taylor, 2001; Van Es & Koper, 2006;). In this regard, technology appears to determine virtually all aspects of open education.

The latest technological advance is Web 2.0, which encourages active interactions among the participants, especially through social software tools such as synchronous and asynchronous platforms (Taylor, 2001; Munguatosha et al, 2011; Kruger, 2010). The social software tools, that have come with Web 2.0 and that have been useful in open education, are blogs, social bookmarking, eFolios, Skype, YouTube, Flickr, wikis, really simple syndication (RSS) feeds, tag-based folksonomies, social networking and peer-to-peer media-sharing (McLoughlin & Lee, 2008; Munguatosha et al, 2011; Kruger, 2010). These platforms offer open university faculty and students the opportunity to submit assignments online, assess assignments in a timely fashion, offer multi-media teaching aids, communicate synchronously and asynchronously, and share work and knowledge quickly.

Web 2.0 allows users to contribute content in the learning process, and as such, it allows customized and personalized opportunities for the participants in online education to network and collaborate (Munguatosha et al, 2011; Sife et al, 2007; Kruger, 2010; Benados, 2008; Abbad & Nahlik, 2009). As a result, eLearning students are increasingly becoming autonomous in the learning process, as they seek more connectivity and socio-experiential learning opportunities (McLoughlin & Lee, 2008; Kruger, 2010; Munguatosha et al, 2011). Students should also be encouraged to use the Internet for

other purposes so as to develop interest and confidence in its use, since these characteristics are essential in eLearning (Abbad & Nahlik, 2009).

Following these advances in technology, especially Web 2.0 and social software tools, learning in open universities is shifting. Centralized industrial learning models are being replaced with approaches concentrating their focus on collaborative and networked interactive models aimed at empowering individual learners (McLoughlin & Lee, 2008; Abbad & Nahlik, 2009; Munguatosha et al, 2011; Benados, 2008). In particular, technological advancement such as Web 2.0 have brought about Pedagogy 2.0, which, in McLoughlin & Lee's (2008) words, "integrates Web 2.0 tools that support knowledge sharing, peer-to-peer networking, and access to a global audience, socioconstructivist learning approaches to facilitate greater learner autonomy, agency, and personalization" (p. 1). In other words, tools provided by Web 2.0 have influenced the shape of pedagogical models in the recent past in a number of open universities worldwide. The tools have increased peer interaction during the learning process through exploration, experimentation, group discussions, research, context and situations that present learners with diverse learning strategies (Munguatosha et al, 2011; Lorentsen et al, 2001). This kind of interaction is associated with production of knowledge and an increase in cognitive gains (Tinocasa et al, 2010). These interactions, which bring about networked learning, have shaped pedagogical models in open universities.

Historical Models

Historical pedagogical models are as important a factor as technology in designing contemporary pedagogical models. With this understanding, Kirkwood & Price

(2005), Kirkwood (2007), Peters (1998) and Anderson & Dron (2010) observe that the historical pedagogical models of open learning are essential in designing pedagogical models for open universities because the present ones must borrow from the aspects of the past ones in areas such as methods and media. This observation, therefore, makes it imperative to consider pedagogical models from an historical perspective.

According to Anderson & Dron (2010), pedagogical models depend on the particular generation of higher education. Each stage of evolution determines "its epistemological roots, development models, and technologies utilized" (Anderson & Dron, 2010, p. 1). These observations are consistent with those of Dabbagh (2005) who notes that eLearning should "be rooted in epistemological frameworks to be effective for teaching and learning" (p. 26). This is an indication that a pedagogical model needs to be developed through a grounded design approach which reflects the features of that particular time. Each era determines the pedagogical models to be adopted, the kind of technology to be integrated and how it will be integrated, the learning activities that the tutor should employ, and the nature of assessment. The models developed in a particular time, then, are used to develop models for another time.

There are four generations of pedagogical models identified by Anderson & Dron (2010) and these models are defined by the technology they used to deliver the courses. These authors advise that designers of present day open education should consider these models in their pedagogical designs. The first generation was correspondence through postal mail; the second through television and radio broadcasts, and sometimes film; third through interactive technology via video, audio, and the Internet; and the fourth makes 'use of intelligent data bases' and Web 2.0 (Anderson & Dron, 2010, p. 2). Relying on

the perspective of generations of distance education, Anderson & Dron (2010) describe three kinds of pedagogy that defined the way open learning was viewed at different times. They are Cognitive-Behaviorist pedagogy, Social-Constructivist pedagogy and Connectivist pedagogy.

Cognitive-behaviorism was developed in the second half of the 20th century with its key focus being the change in individual behavior in the presence of stimuli. Instructional designs in this model were the Keller Plan (Keller & Sherman 1982), computer-assisted instructional design and instructional systems design (Anderson & Dron, 2010). These instructional activities in this model would follow linearly structured phases. The phases involved drawing the learner's attention to content, communicating objectives, connecting with previous information, presentation of information (stimuli), guiding the learner, eliciting performance, providing feedback, assessing performance, and enhancing transfer opportunities (Anderson & Dron, 2010, p. 3).

Pedagogical models of this era were grounded on the cognitive information processing view (Dabbagh, 2005). In this view, the student processes the information in similar ways to that of a computer processing information. Models based on these principles "utilize the input-output events of a computer system to explain how environmental stimuli become inputs in a learning cycle and behaviors (or responses) become outputs" (Dabbagh, 2005, p. 26).

Cognitive pedagogy was introduced after the mid-1950s. It attempted to account for cognitive aspects such as attitudes, motivation and mental barriers related to behavior. Another basis of cognitive pedagogy was the developing understanding of how the brain functions and operates (Anderson & Dron, 2010). Present day pedagogical models

embrace cognitive-behaviorist theory through aspects such as spaced learning, and application of brain science.

In the cognitive-behaviorist model, there is the presence of cognitive, social, and teaching aspects. Students construct and confirm new knowledge following a structured process in which a learner's interest is drawn to the content, directed to interact with the content, then the learner is tested, and finally content is reinforced through feedback (Anderson & Dron, 2010). The cognitive-behaviorist models were individualized, thereby enhancing individual freedom and flexibility in terms of pace and space. Learning activities such as reading books, interaction with computer-assisted learning programs, watching films, listening to radio or television broadcasts and correspondence through postal mail were done individually. These features are employed in many open learning universities such as the Arab Open University, Open Universities of the UK, the Netherlands, and Japan.

According to Anderson & Dron (2010), "social-constructivist pedagogy acknowledges the social nature of knowledge and of its creation in the minds of individual learners" (p. 5). The learner takes an active part in the creation of knowledge and its integration with what the learner already knows. Additionally, the models encourage student-centered instruction in which the teacher's role is guidance, and places particular emphasis on looking at issues from different points of view (Anderson & Dron, 2010). The knowledge should also be subjected to social discussion for validation and subsequent application to relevant contexts in the real world (Anderson & Dron, 2010). The key feature in these models is social interaction. This is achieved through social tools such as language. The development of technologies such as mobile communications is

enhancing the social interaction aspect of open learning (Anderson & Dron, 2010; Kruger, 2010). The teacher is a guide who should also choose and construct educational interventions (Anderson & Dron, 2010). The teacher "focuses on guiding and evaluating authentic tasks performed in realistic contexts" (Anderson & Dron, 2010, p. 7). In terms of cognitive presence, these pedagogical models rely on the learner's active engagement, interaction, role modeling, imitation and dialogic inquiry (Anderson & Dron, 2010).

Connectivist pedagogy is recent and has risen from the "information age of a networked era" (Anderson & Dron, 2010, p. 8). Connectivist models assume that there is a large amount of information that the learner needs to find through networks and apply in situations that need it (Anderson & Dron, 2010). Here, the learner does not have to remember or comprehend every bit of information. The concept is that the learner should be able to search and obtain the right information and utilize it in addressing problems that may exist in their world (Anderson & Dron, 2010). These models seem to take the role of processing of information and solving problems away from the human mind and leave it to the machines (Anderson & Dron, 2010). The model advocates for learning that "focuses on building and maintaining networked connections that are current and flexible enough to be applied in existing and emergent problems" (Anderson & Dron, 2010, p. 8). In this light, the models assume that learners have access to the networked connections that should be used in obtaining information.

Connectivist models are based on both production and consumption of educational knowledge and content. Production tools include learning objects, archives, discussion transcripts, and any documentation that a learner produces as evidence of their learning (Anderson & Dron, 2010). Learners enhance their cognitive presence through

reflection and subsequent distribution of their reflections through online tools such as social networks, blogs, and multimedia webcasts (Anderson & Dron, 2010). The models advance social presence through social networks consisting "of current and past learners and of those with knowledge relevant to learning goals" (Anderson & Dron, 2010, p. 8). Learners' activities are noted through their contributions using social software tools (Anderson & Dron, 2010).

Learners and teachers collaborate in generating or creating content for the study. The teacher illustrates new concepts using real world phenomena.

Since the teacher cannot know everything about technology that forms the basis of these pedagogies, students also play a role in teaching both the instructor and fellow students new technology skills, as well as introducing new platforms (Anderson & Dron, 2010, p. 9).

Pedagogical models have occurred in some general formats described below; other than those described by Anderson & Dron (2010).

The Constructivist Model holds that constructing new knowledge begins with the observation of events from the perspective of what one already knows (Khoja et al., 2008). Learning strategies that are employed in this model are library research, case studies, projects, discussions, group work and field work (Khoja et al., 2008). In this model, learning is perceived as a way of constructing knowledge with the teacher being a moderator to provide support while students are free to discover (Santacana, 2006; Khoja et al., 2008; Eshet et al., 2003; Chieu, 2007). This model relies on principles of construction which include meaningful learning, construction of shared meaning, the scaffolding of learning, previous learning and interaction (Santacana, 2006; Eshet et al.,

2003; Chieu, 2007). The model has incorporated technology so that "the pedagogical model adapts pedagogical assistance to the technological infrastructure available" (Santacana, 2006, p. 62). This is an indication that the resulting pedagogical assistance is in the form of specific interventions reflective of the applied technology. This pedagogical model has, at its heart, the need to provide visual materials whose aim is to generate the interactive process of knowledge construction (Santacana, 2006; Eshet et al., 2003).

The following three models were advanced by Mason (1998):

- Content + Support Model

This pedagogical model emphasizes separation of content and support (Mason, 1998). Open universities provide content to the students through printed materials. As for support, the model allows tutors to provide support to their students through emails and conferencing systems (Learning Technologies Unit [LTU], 2007; UNESCO, 2000). The content remains the same for a long time. The support does not necessarily come from tutors who author the printed materials. Interactive activities make part of the course and takes place through peer commenting, online assessment and collaborative activities (LTU, 2007; UNESCO, 2000). Although content can be accessed through the web, at least 80% of the content must be provided through the print media provided.

- Wrap around Model

In this model, the course is prepared each time it is being offered. The preparation includes study guides, learning activities and discussions. The prepared content is "wrapped around existing materials (i.e. textbooks or CDs)" (LTU, 2007, p. 3). The approach to learning appears to be more resource-based and as such students are free to

"search and interpret course contents" (LTU, 2007, p. 4). The students use both synchronous and asynchronous online tools. The model makes use of the Internet since about 50% of the course content is online material and interaction.

- Integrated Model

This is a purely online course model with online discussions, carrying out tasks, and joint assignments as its key features. The group activity determines the course content, which makes it dynamic. The content and the support are indistinguishable and there is a learning community in this model (LTU, 2007; UNESCO, 2000).

The Connectivist Model relies heavily on the tools provided by Web 2.0. In a connectivist model, emphasis is placed on creating personal learning networks similar to the manner in which people interact and socialize using Web 2.0 tools. These tools enable people to create knowledge through personalization and collaboration which thrive in the conditions presented by Web 2.0. Following these aspects, McLoughlin & Lee (2008) call this kind of connectivist pedagogical model Pedagogy 2.0. In a Pedagogy 2.0 model, the content is in the form of micro units. The primary aim of the content is to offer varied viewpoints of approaching issues. It also aims at making representations to learners as well as student generated resources. As a consequence, the content helps in the augmentation of the learner's thinking and cognitive aspects (McLoughlin & Lee, 2008). Additionally, the syllabi in Pedagogy 2.0 are dynamic as they encourage negotiation and inputs by learners. In the same light, there are small modules that adopt an interdisciplinary approach in addition to incorporating aspects of both formal and informal forms of learning. Communication in this pedagogical model uses multiple media. It is open and allows peer-to-peer contact. The process of learning advocates for

reflective and integrated thinking, performance and inquiry; while the resources used are both formal and informal but do encourage authentic learning tasks. The learning tasks should further create conducive conditions for learners to create content. To this end, they should be learner designed, driven and personalized. Finally, the pedagogical model advocates for scaffolds in the learning processing (McLoughlin & Lee, 2008).

According to UNESCO (2000), single-mode models of pedagogy are used in institutions that have part-time programs for students such as open universities. In these models, the curriculum, the teaching media, support for students and accreditation are designed in such a way that they serve distant students. The model demands that the faculty treats both on-campus and off-campus students fairly. In most cases, the pedagogical model does not have teaching-learning activities on the campus. Rather, there are centers where students can meet their tutors and other students. Many universities use this model. Examples of this practice include the Open University in the United Kingdom, Indira Gandhi National Open University, and Sukhothai Thammathirat Open University (UNESCO, 2000). Some of these are described in this review.

Dual-mode models have the university serving both full-time and part-time students. Full-time students are often on campus while part-time students are off-campus, at a distance (UNESCO, 2000).

Literature shows that all open universities employ different formats of single-mode models of pedagogy. Additionally most of the universities are embracing ICT and adopting variations of connectivist or constructivist pedagogical models.

Open University of the Netherlands

The pedagogical model for the Open University of the Netherlands is Supported Independent Open Learning. Their pedagogical model offers flexibility in terms of time, place, and pace. In this pedagogical model, there are no academic years, semesters or cohorts of students. As a result, students are free to terminate their studies anytime they wish and resume later at their convenience. The pedagogy is designed for small courses with a great emphasis on material provided to students. The materials are designed to encourage independence and active learning as the pedagogical model advocates. This open university exposes students to lifelong learning opportunities through open access resources but although there is use of audio, video, and multimedia resources, great emphasis is placed on print-based resources such as text books, course books and study guides (Jones et al, 2009).

Recently, video tapes and DVDs have replaced television in order to make viewing more flexible, with time and pace controlled by the viewer. The majority of the courses offered by the Open University of the Netherlands "are developed in a multidisciplinary team and delivered by means of a centrally organized infrastructure" (Jones et al, 2009, p. 4). The Open University of the Netherlands has its own production and distribution facilities. There are exercises, tests, and feedback that may be automated. Additionally, the use of mail, telephone, and online discussion enables students to contact their tutors for assistance.

The course material encourages active study by the students, and is characterized by writing papers, carrying out projects and small research studies. There are study centers that allow F2F contact between students and tutors who can offer advice and

support for students. Although F2F tutorials affect the model's advocacy for flexibility in terms of time, place and pace, it is preferred for socialization and motivational purposes. Assessments are also flexible in terms of time and place. Additionally, 50% of the courses have computer generated multiple choice exams that students make an appointment to do at their convenience (Jones et al, 2009).

The Open University of the Netherlands is rapidly embracing technology (Van Es & Koper, 2008). For instance, in 2003, it launched Educational Modeling Language (EML). This is a specification that was intended to provide "a pedagogical framework of different types of learning objects, expressing relationships between the typed learning objects and defining a structure for the content and behavior" of varying learning objects in the university (Van Es & Koper, 2008, p. 230).

Open University of Japan

The Open University in Japan (OUJ) uses a pedagogical model that encourages heavy reliance on television and radio broadcasts. Each semester consists of fifteen weeks. There are 45-minute lectures on a weekly basis for each of the two-credit courses and two 45-minute lectures for four-credit courses on a weekly basis. Radio lectures are also available and students can listen to them online. Each of the broadcasts has a transcript that is sent to students before the lecture is broadcast (Jones et al, 2009).

The pedagogical model further relies on the use of textbooks, correspondence through mail (although some tutors are switching to e-mail) and ten 135-minute classes for each course per semester, which are compulsory. This makes OUJ open only to people living in Japan. The model does not include tutor support, although individualized

tutorials are provided as the course ends. The open university admits students who are over 15 years of age and have graduated from high school. Those without these basic formal qualifications must take another course at the university before joining the undergraduate program. The OUJ has a regular academic calendar with two semesters and two graduation dates (Jones et al, 2009).

Arab Open University

The Arab Open University (AOU) aims to provide quality higher education to all potential students. Students range from home-makers to mature working students. The university has encouraged a flexible model in its provision of education which comprises a range of features that will be discussed below.

AOU operates with flexibility to be able to meet the needs of its diverse clients who have other commitments. Since they have other commitments, the pedagogy encourages flexibility but does offer a small number of compulsory regular F2F tutorials or classes in every course. For instance, a 3-credit course at AOU has 12 hours of F2F tutorials before successful completion as opposed to 48 hours in traditional universities. Additionally, repeat tutorials are scheduled at different times throughout each week. Other than the repetitive scheduling of the tutorials, the tutorials take place in different locations so that students can attend tutorials at a location that is convenient to them. The university ensures that students are aware of the dates and locations of the tutorials. When they do not attend, staff within the university undertakes to remind students and send them the tutorial materials (Hammad, Saria & Al-Ayyoub, 2010).

The AOU pedagogical model includes specific staff roles whose responsibilities contribute to the achievement of the AOUs goals. Hammad et al (2010) outline the basic staff requirements of the Arab Open University that have been considered in designing its pedagogical model. These positions are in addition to the two key staff positions in traditional universities which are based on administrative roles and instructor-student roles. Additional positions include staff tutors, course designers and course coordinators (Hammadet al, 2010). The staff tutor coordinates tutors responsible for a particular course to ensure that quality is maintained. Course designers write course materials and ensure course related content such as references; media and learning activities are included. A course coordinator oversees the course and works in close coordination with the staff tutor and the course team (Hammad et al, 2010).

The AOU is headquartered in Kuwait and has a number of branches spread across six Arab countries. Hammad et al (2010) suggest adoption of Regional Integrated Virtual Learning Environment (RIVLE). This pedagogical model will help in solving issues related to standardization and communication which are the main concerns of AOU following its spread to countries with different cultures and institutional structures (Hammad et al, 2010).

The proposed RIVLE as a pedagogical model for AOU integrates the curriculum with the use of electronic tools in pedagogy. In particular, RIVLE plans to employ computer mediated communication between the instructors and students. Additionally, assignments, tutoring, and tests are administered electronically through the use of audio, visual, and animated materials for tutoring purposes. The aforementioned “are interfaced with the student information system, access to world-wide digital libraries, and off-line

learning resources to make up the proposed RIVLE" (Hammad et al, 2010, p. 12). In particular, the RIVLE consists of content modules, computer mediated communication (CMC), Electronic Tutor Marked Assignments (eTMA), Electronic Testing (eTesting), Electronic Tutoring (eTutoring), Student Information System (SIS), Digital Libraries and Off-line Learning Resources, and Quality Assurance.

The module content is the first part of RIVLE. Here, every course should have a website dedicated to it alone and should be easily accessible to students from the main university website. The implication here is that the main university website should contain links to individual course websites that students should easily access. Each of the course websites should contain information on course description, objectives, contents, credit hours and equivalence, future presentations, and assessments for the general public. Other information for registered students should include course dates, guide, assessments, deadlines, particular content, sample assessments and deadline reminders. In addition, there should also be content for the tutor's view that should include, for example, a guide and tracking system. Furthermore, there should be information and room for designer updates (Hammad et al, 2010).

Computer mediated communication employs online tools such as online conferencing, e-mail, chatting or instant messaging, white boards, and video conferencing. The electronic tutor marked-assignment ensures that students get "a form of constructive feedback from the tutor" (Hammad et al, 2010, p. 12). The eTMA is closely monitored by the senior staff and consists of electronic submission, grading, feedback, monitoring and quality assurance, archiving for assistance purposes. Electronic testing "can take the form of evaluation measures such as portfolios, summary statistics

of learners' paths through instructional materials, diagnosis, and reflection and self-assessment" (Hammad et al, 2010, p. 13). The assessment tools in eTesting may be in the form of fully or partially generated grading and feedback. Security, feedback and tracking are of key concern in eTesting. Electronic tutoring is usually a live event with possible inclusion of voice and picture components and eTutoring serves as F2F tutoring.

The student information system (SIS) component includes information for new students, course registration information, and tutor course load and evaluation results for students, digital libraries and off-line learning resources useful to course designers, students and staff. Finally, quality assurance is necessary to ensure that the components of RIVLE are working toward the goals of the Open University.

University of Copenhagen

The Five-stage Model of Online Learning created by Gilly Salmon is used at the University of Copenhagen. This model builds on the previous experience of the participants in online learning and emphasizes interaction and participation (Monty, 2005). The model is based on the concept that eLearning is characterized by physical and psychological isolation since learners learn from different places. The five stages are:

- Access and Motivation

This stage involves "individual access and the induction of participants into online learning" because these are essential requirements for online learning (Monty, 2005, p. 4). In this stage, the eAtivities are best designed to explicitly motivate learners. They should enable the students to learn how to use the online tools (Monty, 2005). The

tutor should aim at helping learners overcome their nervousness and other related discomforts.

- Socialization

The participants in the online learning identify themselves to each other. The e-tivities can include participant interaction so students can get to know each other, and appreciate how knowing peers can help in their work. In this stage, practice in working together should be provided. The e-tivities are related to the discipline traditions to establish the context of the course (e.g. science may use very different approaches than humanities).

- Information exchange

This stage has mutual exchange of information as its key feature with each participant helping the others to achieve their goals. The e-tivities are task- and action-oriented. The tutor prioritizes content at this stage. Students "should be shown how to provide feedback to each other and explain and clarify" (Monty, 2005, p. 6). The instructor should help students learn how to provide feedback to their colleagues, with explanations and clarifications with an aim of developing a deep understanding of course content (Monty, 2005).

- Knowledge Construction

The interaction between course groups established in the previous stage is more collaborative within the knowledge construction stage. The members of the group construct knowledge as they aim at a common goal for the group. The students become responsible for their peer's work as well as that of their own. The student should be able

to use more illustrations and approach issues from many points of view. The e-tivities should be based on actual events in the real world (Monty, 2005).

- Development

The students must make a concerted effort in order to benefit from the program and "achieve their personal goals and reflect on the learning process" (Monty, 2005, p. 5). The e-tivities, therefore, should be focused on enabling the student to gain self-insight and be able to reflect on the course content. In addition, the students should be able to assess their experiences in the course and the knowledge they have built (Monty, 2005).

University of British Columbia

The Pedagogical Model for the University of British Columbia, Collaborative Online Learning used for the Master of Educational Technology was designed and taught in collaboration between the University of British Columbia, Canada and Tec de Monterrey, Mexico. The program, which consists of ten, three-credit courses, is entirely online and the students are of diverse backgrounds as they come from Canada, USA, Asia, Europe, Australia and the Middle East. Teams consisting of professionals such as instructional designers, authors, web programmers, media designers and librarians are tasked with the development of courses. The developed courses are updated annually with an aim of incorporating emerging technologies and learning ideas (Boskic, Dobson, Gaskell, Khan, & Miller, 2007).

The key approaches in this model are social constructivist epistemology, inquiry-based activities, situated and authentic learning and reflection (Boskic et al., 2007). There are five basic principles in the pedagogical model adopted in this program:

1. The model places emphasis on students' prior and new experiences. The learners are encouraged to express these experiences so as to enable them to challenge previous assumptions and mental models that they may hold concerning various aspects of life, and then construct others.

2. The construction of mental models is made through co-construction in which the student involves peers to socially negotiate them.

3. The enhancement of such mental models takes place when the student encounters contemporary research and expert viewpoints that he or she must understand (Boskic et al, 2007).

4. Personal reflection on the learning experiences and new understandings are encouraged because they lead to the amplification of the learning (Boskic et al, 2007).

5. Guidance and scaffolding are highly advocated in this model because of their power to modify mental models and construct new knowledge (Boskic et al, 2007).

Universida de Aberta

The Contract Pedagogical Model of eLearning was designed for post-graduate eLearning at Universidade Aberta, Portugal. The model places particular value on collaborative learning and self-directed learning. The aspect of self-direction demands that students be autonomously in charge of their learning in light of the tutor's suggestions (Morgado, Pereira & Quintas-Mendes, 2008). Collaborative learning, for its part, is based on "the constructivist and socio-constructivist paradigms" (Morgado et al, 2008, p. 65).

The model has four basic elements (Morgado et al, 2008). Initially, there is the learning contract aspect. This aspect has to do with familiarizing the learner with the course and as such, the role rests on the tutor to present the contract to their students. The students are familiarized with the course or the kind of contract online or through a virtual classroom as the course begins. The contract consists of a full and detailed description of the course. In short, the learning contract is an orientation guide and is the responsibility of the tutor. The second element of the pedagogical model is learning materials. The materials are in two forms: one of the forms consists of those materials of theoretical nature while, the other consists of practical materials. Theoretical learning materials are references, while the practical learning materials are basically the course guide, the online student guide, and the learning contracts. These play a key role in supporting learning as well as serving methodological and evaluative roles. The third element is assessment. Assessment instruments are developed by the tutor responsible for the module, who should be aware of the instruments to use as the module begins. The last element is course organization. Every course is structured in light of the trimesters in each university. The structuring and organization of the courses is in a set of three cycles that include online familiarization, learning activities and final summative assessment cycles. (Morgado et al, 2008).

The model is based on ten basic principles (Morgado et al, 2008).

- The context of the pedagogical model is eLearning and distance education.
- The model incorporates learner-centered instruction that encourages learners to take an active part in the knowledge society.
- It is an eLearning asynchronous model encouraging flexibility and openness.

- The model embraces basic aspects of contemporary Western eLearning pedagogy such as collaborative activities, discussions, redesigning of assessments, and interactive materials.
- The pedagogical model has interaction at its core. The interaction emphasized is among all the participants in the online course.
- The pedagogical model has interaction at its core; interaction among all the participants in the online course is emphasized.
- The students are viewed as virtual and should possess self-motivation, autonomy and self-direction qualities.
- The tutors are online tutors who should be continuously trained in that role.
- The model advocates for high quality teaching and learning experiences. To ensure that the quality is maintained.
- The last principle holds that the model has to be evaluated continuously and improvements effected in areas that need improvement, when needed.

Open University of Israel

The Open University of Israel employs a constructivist pedagogical model (Eshet, Hammer, Epstein & Tal, 2003). In the Open University of Israel, the model is "supported by thematic learning units and constructivist assignments" (Eshet et al, 2003, p. 2). The key element of the model is a design that combines online and offline studies, flexibility in online learning, F2F online learning aimed at reducing loneliness, and online resources (Eshet et al, 2003).

Open University of Catalonia

The Open University of Catalonia (Universitat Oberta de Caralunya-UOC) introduced a Virtual Learning Environment (VLE) model which has enabled it to attract students from over 45 countries.

The UOC pedagogical model can be visualized as a ring with three cores. The model is learner-centered and allows students to manage their own learning (Santacana, 2006). The middle core consists of the instructor, teaching materials, virtual library, virtual classmates, consultant lecturer, study plan, and the assessment in progress. In the UOC pedagogical model, the instructor does not dominate the learning process. The outer core of the model consists of territorial centers, associations, on-site meetings, social and cultural encounters and UOC graduates' and friends' club (Santacana, 2006, p. 67).

The UOC Pedagogical Model

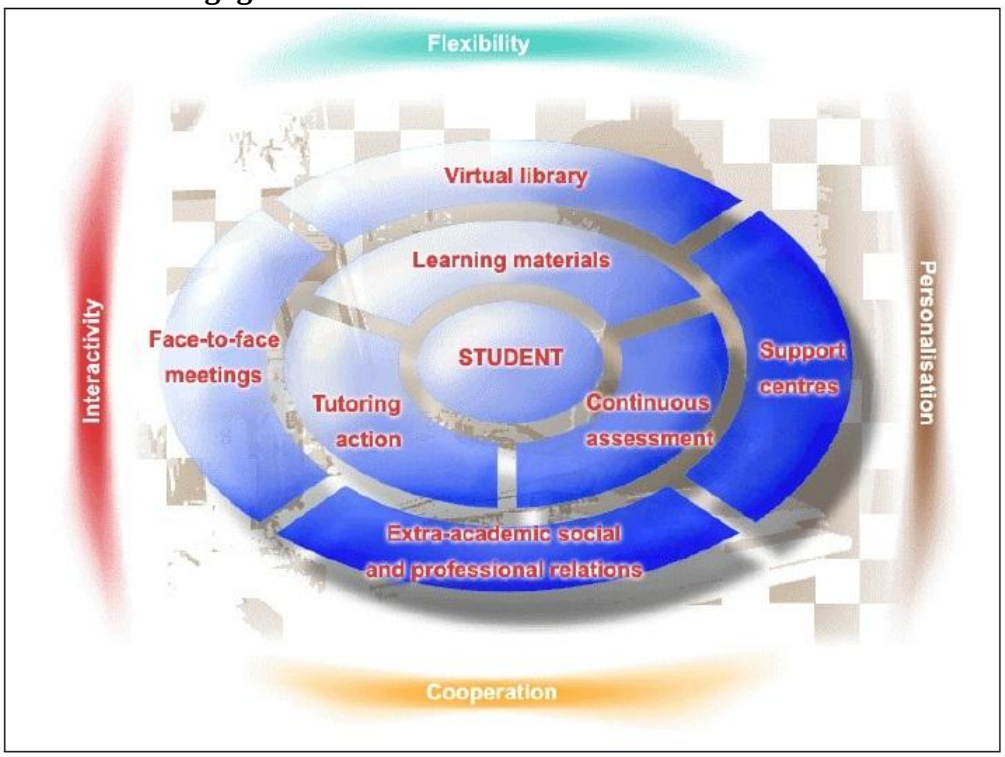

Figure 1. UOC Pedagogical Model: The three core design (Sangra, n.d.).

In the VLE, students access learning materials through the web from wherever they are, whenever they choose. The learning and teaching resources are varied, and include graphics, texts, audios, and videos. The students determine their rate of interaction with the instructor and other students; they are in charge of planning and developing their own education. In a constructivist pedagogical model, "teaching and learning converge in interactive processes that lead to the construction of shared meanings" (Santacana, 2006, p. 67). The sharing occurs between the instructor and the learners and also among the learners themselves. During the interactions, learners and the tutor construct knowledge and as they compare information they discover the relationship among ideas and concepts, synthesis and application of the discovered knowledge (Santacana, 2006).

The steps taken in this model take into account the previous knowledge of students. This helps the instructor in establishing what the student is capable of doing and learning without guidance and what they are capable of doing and learning with assistance (Santacana, 2006). Between these two capabilities lies the zone of proximal development (ZPD) developed by Lev Vygotsky. He defined this term as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (Vygotsky, 1978, p.86) The model ensures that the student's actual development level serves as the starting point in designing teaching approaches. The teaching approaches should assist students in going through the ZPD in an effective manner with a view of either broadening their ZPD or generating others to the highest potential possible (Santacana, 2006).

Hellenic Open University

In the pedagogical model for Hellenic Open University, educational materials include cassettes, books, videos, CD-ROM and software for education purposes that is supported through ICT use, with the university being in the process of creating an electronic bank for these educational materials (Koustourakis, Panagiotakopoulos & Vergidis, 2008). Students are sent modules, timetables and deliverables together with guidelines on how to consult additional sources (Koustourakis et al, 2008). They study alone, with the tutor providing support only. The pedagogy is designed for an academic year that is divided into 32 weeks (Koustourakis et al, 2008). The model expects teachers to be available to students for consultations, and teachers must provide feedback within 15 days from the time they received student's work during assessment. The university evaluates its teachers through student completed questionnaires containing questions on student expectations and teacher performance in the context of students' prior expectations (Koustourakis et al, 2008).

The Open University

The Open University which was established in the United Kingdom in 1969 has granted open access to courses leading to undergraduate degrees since its foundation, and sets no requirements as to formal qualifications. Students are normally over 18, but legislation forbidding age discrimination adopted in 2006 has stipulated equal access rights to students who are over 16. The majority of courses offered by the Open University in the UK can be taken by students in Great Britain and the EU, but a wide range of courses (though limited in comparison with that offered for EU citizens) is

available to students worldwide. The language of teaching is English. Also, the Open University in the UK has a postgraduate program awarding Master's and doctoral degrees and a number of professional doctorates such as the Ed.D. In terms of research activities, the university is listed among top 50 research universities in the UK (Jones et al., 2009, p. 2).

The pedagogical model supported by the Open University in the UK is based on three principles determining its educational paradigm:

1. *Distance or Open Learning*. This factor is a complex structure itself, comprising such elements as learning at your own pace and "in your own time", reading and completing set assignments and activities, and working with other students if there is a possibility (Jones et al., 2009, p. 2).

2. *Resources*. This aspect includes a wide range of educational means, such as printed course materials represented by set books and journals, multimedia resources such as audio and video recordings (for example, recordings of previously broadcast episodes of TV shows and programs), materials stored on CD/DVD, guidance books for home experiments, course websites (Jones et al., 2009, p. 2).

3. *Systematic support*. This support is exercised by a course tutor, a central library, an extensive regional network of 13 centers and technical support available to students. Also, students have an opportunity to participate in regional tutorials, as well as those held in day or summer schools and via the Internet (Jones, 2009, p. 2).

The activities of the Open University in the UK are rooted in the basic educational goal of the institution which was founded to address the issue of exclusion in higher education. The latter is manifest in the fact that there are social groups which are

underrepresented in tertiary education. In fact, the university is reliant on the principle of social equity. The modern mission statement of the university is "open to people, places, methods and ideas" (as cited in Solé & Hopkins, 2007, p. 354). The emphasis on inclusion which is still distinct in the educational goal of the university, presupposes that no attention is paid to prior qualifications, economic means, or physical abilities of applicants (Solé & Hopkins, 2007, p. 354).

The educational model of the Open University in the UK emphasizes course materials developed and prepared at the university. According to Solé and Hopkins (2007), "students […] may have contact with their peers in tutorials, informal study groups, or via the asynchronous online conferencing system used by the university" (p. 354). The general educational model within the university, which stresses the importance of self-study activities and relies greatly on tutor feedback on assignments, does not require any student-to-student interaction. In practice, peer learning remains a possible but not quite popular option. Only a fraction of the general number of students who enroll in the courses attend F2F tutorials. Moreover, the introduction of the online format has not changed the situation much, as only approximately 30% of students of the Open University opt for the online format. In fact, it has lower attendance and completion rates than the F2F tuition format (Solé & Hopkins, 2007, p. 355).

Concentrating on distance learning and inclusion, the Open University in the UK is also committed to innovation and enhancement of the process in order to increase efficiency of its tuition. Sharples et al. (2012), reporting pedagogical innovations in the study process at the Open University, indicated that the university envisaged several avenues for improvement to implement in the sphere of education. First, the Open

University stressed a "new pedagogy for e-books" (Sharples et al., 2012, p. 3). That is, an adaptive and dynamic e-book could possibly enhance the study process by way of enabling instructors to modify the existing texts, embedding simulations and visualizations, etc.

Publisher-led short courses are another key aspect of innovation in the pedagogical model of the Open University. They are essentially short courses offered by publishers either independently or in affiliation with authority educational publishing organizations. Extended learning activities in this format are combined with the publisher's opportunity to study the consumer and improve their products (Sharples et al., 2012, p. 3).

Assessment for learning is also stressed by the Open University, with special attention paid to computer software harnessed for continuous feedback and assessment to monitor the learners' progress through the materials, diagnose misconceptions and identify the fit time to intervene and offer corrections (Sharples et al., 2012, p. 4). Accreditation of learning is the next area whose influence might be beneficial. The institution recognizes the value and efficacy of non-formal learning. Simple ways to encourage students' participation in the study activities, for example badges assigned for the completion of some assignments, have been quite instrumental in help forums and gaming environments, which suggests they will be useful for the academic sphere (Sharples et al., 2012, p. 4).

The Open University also has a view of positive outcomes from massive open online courses (MOOCs), which is consistent with the idea of social inclusion in the academic sphere, as well as the rebirth of the academic publishing activities through open access publishing. Other innovative ideas are seamless learning, which presupposes that

the learning experience of a person takes place continuously across a combination of settings, including time, location, social surroundings and technology (Sharples et al., 2012, p. 4). Another approach that is likely to be effectively implemented at the Open University is rhizomatic learning, which works on the association of learning with a rhizome, or a plant stem sending out shoots and roots allowing it to "propagate itself through organic growth into the surrounding habitat" (Sharples et al., 2012, p. 5). More specifically, the model is based on the vision for the knowledge construction process that presupposes "the interconnectedness of ideas as well as boundless exploration across many fronts from different starting points" (Sharples et al., 2012, p. 5). Therefore, the pedagogical model of the Open University, based on a set of principles fostering inclusion in the academic process, is constantly refueled by innovation.

Athabasca University

Athabasca University, the Open University of Canada, is the leading open educational institution in North America and is recognized as one of the top establishments of its kind in the world. The university provides educational opportunities for a wide range of students, mostly from Canada and the United States. Similar to the Open University in the UK, the university is committed to the task of reducing exclusion in the sphere of education and strives to meet the needs of underrepresented student populations (Athabasca University, 2006, p. 2).

As for the design of courses, the majority of them are designed as individualized study courses. Students receive their learning resource packages containing all the course requirements, materials and assignments via mail or the Internet. They work

independently but can refer to their tutor for support and instruction. However, a number of courses at the university are offered in the form of grouped study courses. This format presupposes that a group of students receive instruction from a tutor simultaneously, which is quite similar to the conventional course design, but the teaching process can take place either online or in classrooms provided by collaborating organizations and institutions across Canada or abroad (Athabasca University, 2013, para. 3-4).

Presenting its concept of distance education Athabasca University stresses four main principles:

1. *Accessibility*. Quite logically, the university argues that obtaining professional training according to its educational pattern is possible for people engaged in a wide range of distracting activities and residing or working in very diverse locations (Athabasca University, 2013, para. 10).

2. *Flexibility*. Students can enroll at any time of the year without restrictions and learn in any environment they find convenient (Athabasca University, 2013, para. 11).

3. *Affordability*. Since the educational format presupposes that students do not have to attend any classes in person, their expenses are kept at a sufficiently low level given the absence of accommodation and travel costs Athabasca University, 2013, para. 12).

4. *Adaptability*. Athabasca University offers a variety of degree courses, including first and higher degrees, as well as courses leading to a certificate or those that can be transferred to a degree program at other higher educational institutions (Athabasca University, 2013, para. 13).

According to Abrioux (2004), the success of Athabasca University, which is confirmed by high ratings and an ever-increasing number of enrollees, was conditioned by a combination of factors. What Abrioux considered the most important achievement is the transition towards the Internet-based delivery of programs and courses (Abrioux, 2004, p. ix). The pedagogical model that was at the heart of the university's success presupposes reliance on the electronic communication and information exchange avenues and was developed in the early 1990s. The strategy, according to Abrioux (2004), "assigned primary importance to embracing the electronic environment" (p. x), which was carried out in several dimensions. This was achieved through the extensive use of the computer-based communication media in order to enhance the process of material distribution. Students and staff were given an opportunity to carry out learning and teaching activities via e-mail and computer-conferencing, including assignment distribution and receiving feedback on it. The learning process was also enhanced through providing students with access to electronic databases as well as the library, registry and other conventional student support services. Formative and summative evaluation also took the electronic form (Abrioux, 2004, p. x).

The pedagogical model of Athabasca University is based on the idea of mobile and electronic learning (Hutchinson, Tin & Cao, 2008, p. 207). The university has developed a learning environment that is meant to maximize the benefits of this format. For example, the Digital Reading Room (DDR) gives students an opportunity to access the library materials selected by the faculty as required readings and set books. The DDR is essentially an interactive reading room working in the online regime which offers digital files for students to complete their assignments. According to Hutchinson, Tin, and Cao

(2008), "it can accommodate a range of formats, including online journal articles, electronic books, audio or video clips, web sites, and learning objects" (p. 208).

Mobile access is another strategy that is a distinctive feature of the educational approach at Athabasca University. It is used for work with the resources which are suitable for mLearning. The efforts of the university staff have resulted in the creation of a comprehensive m-library containing mobile learning objects in the device-ready format (for example, MP3 versions of e-books, videos, or journal articles), the existing university resources adapted for mLearning, as well as a web-site with a comprehensive list of available items and application tools (Hutchinson, Tin & Cao, 2008, p. 208). What is unusual in this practice is that Athabasca University has advanced in eLearning technology a step further than other institutions of this kind, as it utilizes mobile phones for the delivery of interactive course materials (Hutchinson, Tin & Cao, 2008, p. 210). Overall, distance learning at Athabasca University is innovative in its reliance on technology, which has made conventional methods of learning, including F2F tuition, unnecessary for students to complete their educational requirements.

Indira Gandhi National Open University

The last two decades have been characterized with a major growth of distance and open learning in the globe. This open learning has gone through five generation, which is movement from print-based correspondence model to present day intelligent flexible learning model, which is steered by interactive multimedia mediated by computer communication. This has been elevated by innovation of the Open Universities that have given global audiences educational opportunities, which did not exist.

Indira Gandhi National Open University (IGNOU) is the largest open university worldwide with over 4 million students. Open learning in this institution is facilitated by the use of electronic media and computer networks. These include television, CD-ROMs, radio, cable TV, the Internet, audio/video cassettes, interactive radio counseling and interactive systems such as one-way-video and two-way-audio teleconferencing (Dikshit, Garg & Panda, 2013). IGNOU operates sixty-seven regional centres and a network of over 3000 learner study centres across India to offer students guidance, Internet access, and technical assistance.

Most of the courses at IGNOU were designed based on a flexible credit system, which consists of a three-tier course structure (Conrad 2013). The three-tier course structure is made of compulsory foundation courses, elective courses that are core areas of study and application oriented courses, which are aimed at improving graduates' employment prospect (Dikshit, Garg & Panda, 2013). The place, course options and pace of learning in the programs offered are open and flexible. Past perception that academic online learning complements lecture-based courses has been nullified since pedagogical models have been put in place to fit traditional teaching and learning processes. This has seen the flourishing of the IGNOU as an open university (Conrad 2013).

The pedagogical model of the courses offered by IGNOU are continually developed as add-ons in already established courses. The LMS consists of a homepage, syllabus, lecturer's announcements, online resources, assignments and an online discussion forum, as well as a repository for other related materials. The LMS platform is the backbone of the learning process. All the learning materials including textbooks,

lectures, assignments and exercises are available online and can be accessed by any learner (Common Prospectus 1993). An online learning environment has been established to facilitate the learning process. Collaboration and discussion takes place online helping to build a community of learners in each course.

The online tools that encourage online interaction among the students, instructors and resources have ushered in a revolution in the delivery of education. This creates a more enriching learning environment for students and empowers instructors to harness appropriate technology for online education (Belawati, Kusmawan & Islam, 2012). The tools already in place at IGNOU are electronic media and technology such as video cassettes, computers, teleconferencing and video teleconferencing. Video teleconferencing is very helpful in facilitating quick and efficient knowledge dissemination and enhances interaction (Abas, Ahmed, Kuldip & Harun, 2005).

Research has shown that online learning at IGNOU is as effective as face-to-face learning. The most significant factors such as learning style, media familiarity, and level of participation, teacher effectiveness and quality of assignments are at par with that of face-to-face learning (Belawati, Kusmawan and Islam 2012). There are established online discussion groups and video conferences, which facilitate the mastery of concepts (Conrad, 2013). IGNOU provides for non-linear and various learning styles. This ensures that student preferences are met. The non-linear learning styles help the learners to follow a course of action that is best suited to their personal learning plan. (Belawati, Kusmawan & Islam, 2012). This also helps in the building of knowledge based on one area, unlike a linear learning style, which mixes concepts and ideas together.

IGNOU has mentors whom assist learners to access the Virtual Learning Environment (VLE). It has also cyber classes, which facilitate instructor-learner interaction. Numerous video and audio sessions are offered to minimize student loneliness (Common Prospectus, 1993). These sessions also include administrative issues, course scope and schedule, as well as course content. All the links to internet sites with course materials are provided to ensure that every student can access them at their convenience. Course materials are designed to promote interaction between students and course facilitators (Abas, Ahmed, Kuldip & Harun, 2005). This ensures collaboration and a sense of community.

Conclusion

In conclusion, open universities are designing connectivist or constructivist pedagogical models in response to improvements in technology. The models help in advancing the key aspects of open learning that include flexibility and learning rather than teaching. This literature review has further demonstrated that when designing a pedagogical model, it is prudent to consider the contemporary technological levels, as well as the context and historical models, in addition to the key aspects of open learning that should also be considered.

The literature strongly suggests that pedagogical models need to be sensitive in various ways. Pedagogical models should be constructivist in nature. Constructivist pedagogical models put emphasis on learning rather than teaching, learner-centered interactive learning, collaborative learning, technology integration, scaffolding, motivation, self-directed learning among others.

Chapter IV: DIVERSITY AND HISTORY OF NEPAL

Overview

Nepal's total area is 147,181 square kilometers, with a rich and varied topography. Its length is 885 kilometers from east to west while the average breadth is 193 kilometers, between north and south. The population of Nepal is estimated at 29, 391,883 (CIA, 2011). According to the 2001 census report, this population consists of more than 100 ethnic groups, speaking 92 languages (Yadava, 2007; Yadava & Turin, 2007). More than half the population of Nepal is illiterate (Koirala-Azad, 2008; Shields & Rappleye, 2008; Bharati & Takao, 2009). Nepal is among the poorest countries in the world, ranking 82nd out of 104 of the world's poorest countries (Oxford Poverty & Human Development Initiative, 2013).

Bharati & Takao (2009) emphasize the leadership role of education in the development of a country economically, socially, and politically. Therefore, the education system of Nepal may be partially to blame for the impoverished state of the country. This review will demonstrate that the education system's incorporation of, and focus on, western ideologies, and its insensitivity to Nepal's diversity have been responsible for the inequalities, poverty and conflict in Nepal.

Pedagogical models attempt to be cultural sensitive to the context in which they serve. Failure to observe this aspect results in educational models that do not address the needs of the country. Therefore, it is imperative that educational models are designed after an assessment of the national forces that shape education within a country. With this understanding, it becomes essential to review previous publications on the various forces

that have impacted education in Nepal. There appears to be a general consensus that education in Nepal has been affected negatively, both by globalization and the diversity within Nepal. This chapter will concern itself with demonstrating how globalization and diversity has affected education in Nepal.

Embracing Western Ideology

Madsen & Carney (2011) assert that the education system in Nepal, which has its roots in western civilization, has continued to incorporate modern values associated with the western world into its systems. In embracing westernization, Nepal's education system is built on the basis of western ideological beliefs which appear to be irrelevant to the Nepali context. As a result, the country's young generation is receiving a deficient education (Madsen & Carney, 2011). Western powers are negatively influencing the education system through donor funding of the education system. Winther-Schmidt (2011) report that Nepal has long been working with western donors to fund its education systems with a view of improving it. Some of the initiatives identified by Winther-Schmidt (2011) are Seti Education for Rural Development Projects (SERP) and the Primary Education Project (PEP). Winther-Schmidt (2011) observes that these projects were selective in that they targeted specific aspects of the education system, in addition to excluding most rural areas. Some of the donor organizations that have had their effect in Nepal are Danish International Development Agency (DANIDA), World Bank, The United Nations Children's Fund (UNICEF) and Japan International Cooperation Agency (JICA). These were initiated in 1992 upon the launch of the Basic and Primary Education

Program (BPEP) which targeted 40 out of the country's 75 districts (Winther-Schmidt, 2011).

The donors are advocating for an education system that targets a 'global society' rather than the local context. In this light, Carney & Rappleye (2011) have observed that the young generation of Nepal is experiencing social exclusion as a result of its education system. Nepal is also socially excluded by globalization. Through donor funds, the western powers have been institutionalizing donor funds through civil societies who receive the funds (Carney, 2008; Madsen & Carney, 2011; Rappleye, 2011).This observation implies that western powers have established institutions in Nepal under the disguise of donor funds and civil societies. These western institutions are heavily involved in the promotion of an education system that targets a global society at the expense of national society. As a result, the people of Nepal have become subjects of the West who impose their ideologies upon the population through the Nepali education system. Contrary to the commonly held opinion that globalization is associated with political, social, and economical emancipation, the case in Nepal has demonstrated that globalization does not work that way in impoverished nations of the world (Carney, 2008). Actually, globalization in the world's poorest nations such as Nepal is believed to open "new forms of exploitation" that leave the country in even worse conditions than their initial state (Carney, 2008, p. 64). Therefore, the reason as to why Nepal continues to be a poor nation is that its education system is not relevant to its needs; it endeavors to address the needs of the United States, Great Britain, Scandinavian, and other developed nations (Carney, 2008; Shields & Rappleye, 2008; Carney & Rappleye, 2011; Shields, 2011; Madsen & Carney, 2011).

The West has been offering Nepal a concept of development that often only applies to the West. Upon embracing a western model of education Nepal has experienced continued high rates of poverty and civil war (Carney & Rappleye, 2011). The concepts of 'modernity' and 'development' in Nepal have failed because the country has pursued them using a western perspective. The civil war, *People's War*, as a product of the country's education system, targeted the education system in pressing the government to accept the Maoist demands (Shields & Rappleye, 2008; Overland, 2002.). Nepal's system of education has continuously disadvantaged the people of Nepal in their social, economic and political spheres of life. Since almost everyone has been disadvantaged by the education system, the Maoists were successful in recruiting people to join their ranks (Overland, 2002; Koirala-Azad, 2008). Those people who did not join were asked to take active roles during the 'bandhs' (strikes) (Overland, 2002; Koirala-Azad, 2008). The education system in Nepal has prioritized western needs at the expense of the local needs.

Ownership

Winther-Schmidt (2011) defends the Nepali government and points out alternative reasons for the failure of donor-funded education to address the local needs of the Nepali people, and instead fuelling violence or civil war. Winther-Schmidt (2011) reports that Nepal receives huge amounts of donor funds, (the highest per Capita in South Asia), and yet it has been unable to use the funds productively. The donors have been blaming the Nepali government for its inability to formulate effective policy initiatives that would favor education (Winther-Schmidt, 2011). Additionally, the donors have been

blaming the Nepali culture and geography for their inability to fund an education system that is beneficial to the people of Nepal and Nepal as a country (Winther-Schmidt, 2011). However, Winther-Schmidt (2011) identifies the problem; it is ownership of the programs. Ownership is the first of the five principles that govern donor-funding of education in poor countries. The other principles are alignment, harmonization, managing for results, and mutual accountability. Particularly, the principle of ownership holds that the recipient governments should "proactively map their own development paths, to which ideally donors orient their support" (Winther-Schmidt, 2011, p. 58). Despite this requirement, donors have prioritized external requirements instead of internal ones in a version witnessed during the strange version of development in Nepal, commonly referred to as 'development' (with quotation marks) (Winther-Schmidt, 2011). In the words of Winther-Schmidt (2011), the Nepali government has, for a long time, played "the role of the compliant, passive-permissive junior 'partner' rather than standing up for strategies of implementation" that bring about "the greatest gain for the greatest number" of the people of Nepal (p. 62). The activities of the donors, led by the primary one, the World Bank, have clearly demonstrated that they have been unwilling to offer ownership of the projects to the government of Nepal. The result has been what has already been what Rappleye (2011, p. 44) calls "institutionalization of donor resources" through civil societies. Furthermore, their actions have demonstrated that the donors have been unwilling to help the government of Nepal "develop the capacity to make their own decisions" (Winther-Schmidt, 2011, p. 63). As a result, the donors have been formulating policies on behalf of the Nepali government resulting in a kind of education that

replicates the western ideologies and hence irrelevant to the Nepali context (Winther-Schmidt, 2011).

Indigenous Inclusion

The education system of any country should preserve the diversity within that country. The innovations, practices and knowledge of indigenous communities associated with biodiversity has to be respected, preserved and maintained advises the Convention on Biological Diversity (Wiersum & Shrestha, 2010). Biodiversity has been found to be relevant to cultural diversity in areas where there are huge variations in biodiversity; such areas have been found to have diverse ethnic communities (Wiersum & Shrestha, 2010; Pretty et al, 2009; Yadava, 2007). Nepal provides an excellent example of this relationship. The country houses more than 5, 400 plant species (2.2 percent of the world) and 850 species of birds (9.4 percent of the world) (Yadava, 2007, p. 2). Consequently, the country has 101 officially recognized ethnicities and caste groups and 92 languages recognized by the state, according to the 2001 census report (Bhattarai, 2004; Yadava, 2007). As a result, the phrase 'biocultural diversity' is used to refer to both biological and cultural diversity (Wiersum & Shrestha, 2010; Sherpa, 2005; Persic & Martin, 2008). This diversity has serious implications for a country's education system. The education system has to have a place for the country's diversity in its social, cultural, language, race and ethnic aspects of life (Bhattarai, 2004). This situation presents an ethical dilemma to the country. On one hand, all the people in the country are supposed to enjoy the same rights and have access to similar opportunities; on the other hand, people within a country have a right to pursue their success and be different (Bhattarai, 2004). On this premise,

minority ethnic groups in Nepal, such as the Janajatis and Dalits, have a right to be recognized and presented with opportunities that help them promote their ethnicity. These opportunities include access and representation in mass media and an education system offered through an ethnicity sensitive curriculum (Bhattarai, 2005). An education system that ignores a particular ethnic group violates its rights of being different and distinct (Bhattarai, 2004). Recent research has demonstrated that the inability of the Nepali education system to be sensitive to the cultural needs of the country's diverse ethnic communities and instead concentrating on replicating western ideals has been responsible for inequalities and poverty in Nepal and the consequent conflict and civil war (Winther-Schmidt, 2011; Carney, 2008; Shields & Rappleye, 2008; Carney & Rappleye, 2011; Madsen & Carney, 2011; Koirala-Azad, 2008).

It is important to note that in 2005, the School Level Educational Statistics of Nepal reported that of 4,502,697 students at the primary school level in the country, 1,602,047 belong to indigenous groups whose languages have been neglected in the education system of the country (Yadava, 2007, p. 14). It has also been established that the majority of school dropouts are members of Non-Nepali languages. Furthermore, a large number of children belonging to the neglected languages, castes and ethnicities are not able to acquire basic education, depriving them of their right to basic education through their mother tongue (Yadava, 2007).

Cultural diversity has been found to impact on an education system, often negatively (Bhattarai, 2004; Winther-Schmidt, 2011). This observation makes it essential that a review of cultural diversity in Nepal be considered. Bhattarai (2004) calls upon Nepal to consider its cultural diversity as an invitation for people to interact, to celebrate

and to learn from difference, rather than a passive acceptance of their diversity and negatively viewing it as the source of all its problems. Actually, among the reasons that the donors have been advancing to defend themselves for their inability to help improve Nepal through their funded education has been cultural diversity (Winther-Schmidt, 2011). The donors thus fail to see Nepal's cultural diversity as a source of advancement, but as a source of the country's impoverished state. This is a clear indication that the donor funded Nepali education has not been considerate of the country's cultural diversity. It therefore follows that the pedagogical model for the Open University of Nepal needs to be sensitive to the cultural diversity of Nepal. With its diverse cultures and ethnicities, Nepal can be described as a pluralist country (Bhattarai, 2004). Pluralism indicates that a society consists of many, distinctively different languages, ethnicities, religions, and cultural traditions, which may change with time through interrelationships between various cultural groups (Bhattarai, 2004).

Although Nepal is a small country, the 3 geographic regions differ significantly. The mountain region running along the north portion and bordering China is extremely isolated. There are no roads to this area and the only access is by plane or by foot. Many of the very small ethnic groups live in the mountainous regions of Nepal. The hill region runs through the centre of Nepal. These 'hills' would be considered mountains in many other countries. They are very steep and reach heights of 2000-4000 metres. There is road and trail access throughout this region. The southern region of Nepal running along the Indian border is the Terai Valley. The Terai is the agricultural area of Nepal and many transient workers from the Nepali hills and India work in the fields.

Summary

A pedagogical model should be relevant to the local contextual setting as opposed to a global context. Whereas some countries are embracing a global context for their education system, in which they are aiming at producing global citizens, such a model cannot work in Nepal at this point in time. The review has clearly demonstrated that globalization of the curriculum produces an irrelevant education system in Nepal. The Western donors, led by World Bank, have been reluctant to allow the Nepali government to have full ownership of the educational projects they fund. Following their refusal, donors have been funding an education system in Nepal that has served to worsen the country economically, socially, and politically. Therefore, it is essential to design a pedagogical model that has the Nepali context at its heart.

The review has demonstrated that Nepal is a country of varied diversities, which appear to reflect its biodiversity. The forms of diversity relevant to this research study are linguistic, regional, and cultural. The Nepali education system has neglected linguistic diversity and the result has been high dropout rates and inaccessibility to education, denying children their right to basic education and pride in their mother tongues. Further, the review has demonstrated that literacy levels depend on regions, with Tarai/Madhesi groups being disadvantaged compared to Hill/Mountain groups. This may indicate that the education system has been inconsiderate of regional balance. Again, the education system has neglected the diversity of Nepal and as such has failed to address the needs of the country. Conflicts and poverty have resulted from the education system's failure or inability to address national issues. The general implication of these observations is that a

pedagogical model for an open university in Nepal should show sensitivity to diversity and local needs as opposed to emphasizing western values.

Chapter V: THEORETICAL FRAMEWORK

It is important to position this study within the wide range of scientific theory and paradigms. All research begins with the researcher and her/his beliefs (truths) and worldview (reality). Although all attempts were made to view Nepal, her people and an OUN initiative without any pre-judgments, the ontology which formed the basis of this research study cannot be ignored. It is based on a firm belief that groups, cultures and inevitably nations, must develop and refine their own systems rather than have foreign systems imported from other cultures in the hopes that these systems will somehow magically 'fit' in a particular context.

The concept of an open university is considered 'global' in the sense that it only offers the tools and infrastructure for open access to learning and knowledge. How it is designed and implemented depends on the context.

This leads to the epistemology forming the basis of this research which stems from constructivist theory and the work of John Dewey. As mentioned in the literature review, Dewey's followers (including Montessori, Strzemiński, and Vygotsky) believed that each individual perceives the world differently from others, and constructs knowledge in his or her own way; in other words, each individual has his/her own constructs (Lambert, 2002).

Working from a constructivist/interpretive paradigm it was a natural step to choose inductive analysis to guide this research study. No preconceived thesis was developed to 'test' in Nepal, rather the data collected during the study allowed concepts and theory to emerge. This ensured that the concepts were 'owned' by the Nepali

participants and not the reverse, which would be the Nepali attempting to adapt to foreign paradigms.

The purpose of this study was to develop a pedagogical model for an open university in Nepal. The study used a mixed method, descriptive, multiple case study approach based on inductive analysis. As pointed out by Baxter & Jack (2008), a case study approach works well in situations where a phenomenon is studied within a particular context. For example, in this study, the behavior of online students could not have been assessed without consideration of the context (Nepal and its culture). Since it was firmly based on the belief that the researcher would sincerely attempt to enter the process with as little pre-judgments as possible and use inductive analysis to allow concepts to emerge, many Glaserian techniques were borrowed from a Grounded Theory approach to the collection and analysis of data. As Thomas (2003) points out, "The general inductive approach provides a convenient and efficient way of analysing qualitative data for many research purposes. The outcomes of analysis may be indistinguishable from those derived from a grounded theory approach."

Grounded theory was first developed by Glaser and Strauss (1967). The theory evolves as the actual research progresses, through continuous data collection and analysis.

In their original work, Glaser and Strauss (1967) advocated for comparative analysis of data which ensures that the description provided is accurate. Later, the two authors differed on the basis of data analysis and verification (Cooney, 2010). The grounded theory adopted in this study follows the original view of data analysis to which Glaser is faithful; and has been defending, while Strauss has reformulated a new one. The difference between Strauss and Glaser arises in the way they approach data analysis in

grounded theory. Strauss (Strauss and Corbin 1998a; Strauss, 1987) viewed induction, deduction, and verification as essential while Glaser (1992, 1998, 2002) insisted that data analysis in grounded theory is done inductively only. This study follows Glaser's approach to data analysis. This approach stresses that grounded theory consists of generating emergent conceptualizations denoted by categories.

Key Features of Inductive/Grounded Theory Methodology

Grounded theory has three key features including iterative study design, purposive sampling, and a general method of constant comparative analysis (Glaser & Strauss, 1967). Through constant comparison with fresh examples obtained from the ongoing data collection, the refining of theoretical constructs is continuously taking place. Generally, constant comparison during data analysis is essentially necessary because it allows for the integration of the existing and new data. Elliot & Lazenbatt (2005) argue that research methods should be keenly considered to ensure that the vigor of grounded theory method is ascertained. In an iterative study design, data collection and analysis is done simultaneously in cycles; where analysis informs the next cycle of data collection. This means that data collection and analysis is not done once, but rather it is done in several rounds where the present data analysis informs the kind of data to be collected in the next cycle. By way of example, this study offered four online courses to Nepali participants (described in Chapter VI); a preliminary analysis of interview data collected from the participants in Course 1 provided some themes. The themes were then further examined, refined, and developed during the next round of interviews with participants in Course 2, to find out whether they will provide different views on such

themes. The data collected in light of the theme continued to further inform data collection in the next phase, until sufficient data was collected and analyzed that created an understanding. In all the phases of data collection, the sample was selected through purposive sampling, and was heavily informed by previous data collection and analysis. The participant interviews were thus able to challenge or confirm the themes emerging from previous data collection and analyses. Only concepts or themes emerging consistently throughout all data analysis were considered as valid for this research study. Emerging concepts were triangulated between each online course, and also between interviews, the post-course survey and observations in the field.

Emergence of the Model

As the interview data was analyzed, the researcher was cognisant of the fact that the interviewees used words and phrases that helped to explain an issue of special importance to the research. The researcher took note of such words and phrases and then made a brief explanation on a memo, called a code. The same or different words may be used to denote the same issue, which is also noted. The process involved and leading to the code is called coding (Allan, 2003).

Researchers using inductive/grounded theory, approach coding without any preconceived idea which may influence the coding process. They should be open-minded throughout the process, allowing the data itself to generate ideas (Glaser, 2002). Researchers are required to analyze the data they have, and simply write what they get from the data. In making codes, the researcher analyses data word by word, and then codes the words or phrases in light of the analysis. It is important to note that several

codes may emerge from the coding process. The researcher revisits the data many times to look and re-look for emerging codes and concepts, a process which will likely raise other issues or bring about other codes in the current interview and the interviews that will follow (Allan, 2003). From these codes, initial concepts begin to emerge from the data, which are then compared with further data, refined and eventually confirmed (Glaser, 2002).

The process of identifying general key points which are essential in answering the research question allows concepts to emerge. There is need to ensure that data is not overloaded, and therefore special focus should be made on the most important and most relevant bits of data (Allan, 2003).

The research identified such important and relevant points, as it progressed and highlighted them in a different fonts and colors. The points were then assigned an identifier starting with the first course and follow-up interviews, and then, retained in all other courses and interviews that were conducted. Numerals were used to denote the interview sequence. For example, if the first interview has a key point which has been denoted as P, the researcher assigned the same point in the subsequent interview by similar respondents as P2. Further, various suffixes were added to differentiate the source of the interviews (course participant, casual conversations, in-depth interviews with people met throughout travels). For instance, if letter P is assigned to a key point appearing in a transcribed interview appearing in data collected from students, the same key point was assigned P with a suffix such as x if it appeared in interviews conducted on the road. There were also identifiers for linguistic group, region and geographic location.

The next stage of analysis was to group codes of the same theme together, forming a concept. Glaser (2002, p. 4) describes concepts as "the naming of an emergent social pattern grounded in research data." Next, the concepts are grouped, and re-grouped further to find higher levels of other commonalities. Such high levels of commonalities are called categories (Allan, 2003). The concepts and categories are the ones which bring about a theory (in this case a model). The concepts should be compared with the data to determine how they relate as a way of validation (Corbin & Strauss 2008). Since such a theory/model was developed from data analyzed without any preconceived theoretical or hypothetical perspectives, it is described as being truly grounded in the data collected and analyzed.

Concern has been raised about when the analysis process should come to an end because researchers who use this theory find it difficult to determine the end of analysis. Glaser (2002) advised researchers to stop at saturation. This saturation point became apparent in this research study as the same concepts would begin to repeat themselves and no new ones were emerging. It is critical that the analyst remain focused on the purpose of the study in order to discover concepts relevant to the study. A vast amount of data was collected during this research study, but only emerging concepts relevant to a pedagogical model for an open university based on linguistic, geographical, and regional factors were coded. By remaining focused on the parameters of the study, concepts began to repeat themselves and finally no new concepts emerged, which indicated 'saturation' or the completion of analysis.

Credibility in Inductive/Grounded Theory Methodology

Grounded theory has been accused of lacking vigor, according to the standards of vigor (Beck, 1993). The standards of vigor in qualitative research include credibility, auditability and fittingness (Beck, 1993). In auditability, there is need to maintain a comprehensive record of the study issues such as sampling decisions, data sources, and analysis and the implementation that follows. In grounded theory, memos are used to keep records of all decisions made, of both methodological and analytical nature. These records provide an audit trail for studies using grounded theory methodology. Further, researchers are also expected to identify their biases, values, and assumptions and state how they believe they may have impacted on the study (Corbin & Strauss, 2008; Strauss & Corbin, 1998a). Fittingness or transferability tells whether the findings obtained from the study will have any meaning in other similar situations (Beck, 1993). Transferability is powerfully dependent on the extent to which the two contexts are similar. A study is fitting if the audience intended for the study find its findings meaningful and relevant to their experiences; and if the study can fit into an outside, similar context (Sandelowski, 1986). The implication of these observations is that the research has to describe the context of the study so that the audience can examine the context and determine how the findings can apply to their own experiences and to other contexts. Some researchers (Morse &Singleton, 2001) have disagreed with the idea of transferring findings to a similar context. They have noted that only the theory can be transferred if the context is similar.

Cooney (2011) identified three ways of enhancing and demonstrating the rigor of grounded theory, which include cross-checking the emerging concepts against the

meanings of participants, finding out from experts whether grounded theory is in line with their experiences, and detailed all processes involved in the analysis and sampling phases, which should all be recorded. Glaser (2002) rejected the idea of cross-checking the theory with respondents because they may not understand theoretical issues. This study adapted Glaser's approach and did not have interviewees help to construct knowledge relevant to the development of the pedagogical model.

The most important way to ensure that there is rigor in inductive data analysis is through care in applying triangulation to all emerging concepts. For Glaser & Strauss (1967), the criteria for rigor should be fitting to the situation and working in such a situation so that the researcher can make sense of the experiences.

Literature identifies three kinds of rigor needed in inductive/grounded theory: methodological rigor, interpretation rigor, and a combination of both. In methodological rigor, grounded theory researchers are urged to consider the actual methods followed in the sampling and the analysis process. In interpretation rigor, focus is made to the trustworthiness of the interpretations made from the data analysis (Chiovitti & Piran, 2003; Guba & Lincoln, 1989). The implication of the interpretive requirements is that how analysis is done and conclusions made are very important because these have to be grounded in the data (Cooney, 2011). Both methodological and interpretive vigor (combined) should be considered and ascertained in inductive methodology (Corbin & Strauss, 2008; Davies & Dodd; 2002; Fossey et al., 2002; Strauss & Cobin, 1998b).

Justification for Methodology

The resulting pedagogical model emerging from this study was created using mixed methods, including surveys, interviews, four two-week online courses, and field study observations. Each online course was considered as a case study. Firstly within-case analysis was completed for each course. Then cross-case analysis was applied to compare emerging concepts and discover concepts that emerged in all courses. Only concepts that emerged in all case studies were included in this study. This was based on the belief that only concepts that emerged in all four case studies can be considered valid. Emergent concepts were then validated again during the participant interviews. Inductive analysis is appropriately used in situations where the study of social interactions or experiences is intended to explain a new process, as opposed to the verification of already existing knowledge.

The primary aim of this study was to generate an understanding of the experiences of Open University and online learning in Nepal. In Nepal, there has been no Open University and therefore the experiences of Open University and online learning are not understood. The reason is that Nepal is highly diverse in many spheres of existence such as linguistic, biodiversity, cultural, and historic. Therefore, the approach for the study fitted with inductive analysis because it allowed for the emergence of concepts from data. These emerging concepts, cross-case comparisons, triangulation with interviews and knowledge gained through travel within Nepal, resulted in the formulation of the pedagogical model described in Chapter VIII. The emergent theory will help in an understanding of Open University and online learning experiences in Nepal.

Chapter VI: DESIGN

Purpose of the Study

This research study has developed a pedagogical model for an open university in a developing country.

In order to operate an open university in Nepal, a pedagogical model must be developed that is based on existing educational/learning theories and draws from successful OU models; while at the same time meeting the particular needs of Nepali learners.

Research Questions

There is much research demonstrating that pedagogy must adapt in design to the particular needs of differing cultures and communities (Gosper, McNeill & Woo, 2010; Madsen & Carney, 2011; Carney & Rappleye, 2011; Qiao & Tan, 2009; Kramsch & Sullivan, 1996). The guiding question for this research study asks: *What is the most suitable pedagogical model for an open university in Nepal?* This study looked specifically at linguistic, geographical and regional differences to answer the following:

1. What is the relative effect of linguistic background on students' attitudes and perceptions towards open and distance learning?
2. What is the relative effect of geographic/regional background on students' attitudes and perceptions towards open and distance learning?

Research Methods and Sample

This research employed mixed methods, case study methodology based firmly in inductive data analysis and utilizing the data collective techniques of Grounded Theory. The primary aim of this research was to generalize on the research findings to represent the desired target population which is potential students for the OUN. Every effort was made in the sampling process to ensure that students from diverse backgrounds were involved in the study. These diversity backgrounds are geographical, regional, and linguistic, as previously described.

Through the analysis of the online course transcripts, and the interviews with participants, as well as discussions with many Nepalis during extensive travel throughout the country, concepts began to emerge that were particular to the profile of a Nepali student. This new knowledge, combined with existing open university models and current educational theories, contributed to the design of the pedagogical model for an open university of Nepal proposed in this dissertation.

Identification Survey

The aim of the identification survey was to identify prospective participants for the two-week online course and determine their basic Internet Technology (IT) skills. The identification survey was posted online after research ethics board (REB) approval in May 2012. The main purpose of the identification survey was to recruit Nepalis interested in participating in this study.

In addition, the aim of the identification survey was to identify any weaknesses that may exist. Some of the weaknesses anticipated were: ambiguity in the way the

questions are phrased, complexity of the language that could be above the level of students (especially for second language speakers), redundancy among the questions and inappropriateness of responses to some categories of questions (Postlethwaite, 2005).

Generally, the identification survey aimed at determining the effectiveness of the procedures employed for the online data collection. The results of the identification survey phase were used to create a sample target group from which to recruit participants for this study.

This identification survey also aimed to identify any unexpected factors particular to Nepal that would need to be taken into consideration before further research could continue. These included, but were not limited to, infrastructure concerns (electricity is only available for about 10 hours/day in some regions), Internet access, computer accessibility, student IT skills, and/or current political stability.

Nepal does not have infrastructure in place that provides any ethics review procedure for research performed in the country. The Ministry of Education supplied a letter of approval for this research which met the requirements of the Athabasca Ethics Review Board (REB). Once the REB approved this research study then the identification survey was created and opened on SurveyMonkey, an online survey tool. Since the research study was not based on an identified target group, the challenge was to 'find' respondents. The search for respondents was initially performed through various social media platforms such as Facebook (FB), Twitter, websites, blogs, and LinkedIn. Posts were placed on FB and LinkedIn encouraging Nepalis residing in Nepal to complete the survey. Initial respondents came through LinkedIn, so more messages were posted on the Nepal forums on that platform. Once there were 30 respondents, then respondents were

messaged personally and asked to encourage friends, family and colleagues to complete the survey. Recruitment continued through LinkedIn, other Internet networks, and the researcher's professional network. The identification survey was open until the commencement of the final pilot course.

The sample for the identification survey was 86 when the fourth and final course began. The survey was open for 6 months. Although attempts were made to recruit more participants during travels throughout Nepal over the same 6 month period, it became apparent that only Nepalis already 'online' and familiar with the Internet would respond to the identification survey. Individuals who met the researcher F2F in rural Nepal were very interested in the Open University concept, but would repeatedly ask if there was a centre where they could obtain assistance to learn 'how' and 'what' to do in order to learn online. They also would explain that they had no access to the Internet except at expensive Internet cafes. It was encouraging to see that Internet access is available in remote areas for individuals to access learning materials.

Pilot Course: Introduction to Online Learning

After the identification survey had been administered and the results analysed, a two-week online pilot course was offered to respondents of the Identification Survey. After completion of the course offering, the course components such as Internet access, study materials, Moodle design, chat room participation and so on, was assessed.

It was difficult to predict the actual process involved in this portion of the research study. GT methodology and a Hermeneutic theoretical approach recognizes that the researcher must attempt to release all preconceptions and expectations, allowing the

study to progress of its own initiative, while analyzing and memoing observations in order to allow concepts to emerge.

The course was designed to offer only the global tools involved in ICT skills. Assignments focused on the use of the tool only and allowed participants to learn the skills while including their own worldview and paradigms. For example, the first skill introduced was 'how to upload an image'. Students were instructed in the steps necessary to complete this task, but they were not given an image to upload. Rather they had to choose an image to work with and embed it in Moodle. This approach allowed students to take control of the course content and it made the content much more relevant to 'their world'. It did not impose Western images to have the students upload.

An anonymous post-course survey and subsequent interviews asked participants to describe their experiences in the two-week online course.

Target Population

According to Ross (2005) a research study should make a clear distinction between two kinds of populations in order that it may form a reliable description of the population to be included in study. The two populations are the desired target population and the defined target population. The desired target population refers to that ideal population for which the results of the study are targeted; the defined target population refers to the population that is actually studied during the research (Ross, 2005). The defined target population will never be exactly the same as the ideal populations, for several reasons. In this study, these included

non-coverage, lack of resources, aging population, Internet access, English-speaking population, and poverty.

Non-coverage occurs when some essential elements are accidentally omitted in describing the population for the research. In a country like Nepal which is multi-ethnic and multilingual, not all aspects of the country's culture have been documented, which may result in non-coverage of some groups. Many ethnic groups have few resources and do not speak English. Whereas every possible attempt was made to obtain all information that would be useful for the design of a model, it is possible that some of the aspects did not receive attention.

The country has a poor network of roads and this hinders transnational communication and knowledge sharing; as a result, some students from hilly and mountainous regions outside Kathmandu did not have sufficient knowledge of IT and ICT skills to participate in this study. As a result, some aspects of the target populations living in the mountainous regions will not be included if they have not been documented. As previously noted, over seventy of the country's languages that have been officially recognized by the state do not have any literature (Yadava, 2007). Therefore these languages have not been expressed in any digital or print form. This makes it impossible to unearth all the aspects of life of people who speak such languages. As a result, their profiles were not covered in the description of the target population. This will bring about a difference between the target population and the ideal population that is expected to be affected by the findings of this research study.

A lack of resources is another factor that brings about differences between the defined target population and the desired target population (Ross, 2005). This research study was forced by circumstances to exclude some elements of the desired population due to the lack of resources to include air travel to remote mountainous regions. The cost of including these regions in the study was prohibitive, and yet this clearly points out the potential and value of eLearning and mLearning in these remote areas.

The third factor identified by Ross (2005) to explain the gap between the desired targeted population and the defined targeted population is an ageing population description. This study draws heavily on the official census findings of 2001. It is one decade since this last census. It is possible, therefore, to include some elements in the description of the population that no longer exist, especially in light of the changing political climate of Nepal. Given that the number of languages has recently been increasing after every census (Yadava, 2007), it is possible that they have already increased again. That is an aspect that will not be included in the description of the target population.

Internet access, English-speaking population, and poverty also limit this research study's access to the desired target population. It became clear, as data collection progressed and travel began throughout the remote regions of Nepal, that Internet access and the ability to speak English is limited to a large portion of the population.

Representation

According to Ross (2005), a representative sample is that whose particular percentage frequency shows similarity to corresponding distributions in the entire population that is targeted for the study (Ross, 2005, p. 4). The characteristics of the population that are set aside for the purpose of comparing the sample population and the whole population to determine whether the sample population is representative of the entire one are often called 'marker variables' (Ross, 2005, p. 4). Marker variables are obtained from the variables belonging to demography and that are evident in both the entire population and the sample (Ross, 2005). In this study, the marker variables will be geography or region and linguistic group. If the sample population has representatives from these groups, it should be considered representative. Ross (2005) notes that there have not been any set criteria for determining which variables should serve as marker variables. Additionally, Ross reports that the extent to which a sample should be representative of the entire population has not been agreed upon. It therefore becomes difficult to determine which sample is universally representative for the entire population. However, it is agreed that the extent to which a sample is representative of the entire population is determined after analyzing only the marker variables but not the other variables that the sample population assesses (Ross, 2005). Therefore, a sample that is described as 'representative' may not give certain accuracy of estimates for every element characteristic (Ross, 2005).

The Sampling Technique

The desired target population is the ideal population that is targeted by the study. The pedagogical model to be designed in this research study is intended for an open university in Nepal. As is the case with other open universities worldwide, the target audience for this pedagogical model included the working class, young people, housewives, government officials, farmers, businessmen and businesswomen who wish to earn professional degrees or advance the skills and knowledge they already possess. It targeted a population that requires lifelong learning. It attempted to include the entire country; those living in urban centres, rural areas and those to be found in hills, mountains, plains and valleys, as well as all linguistic and ethnicity of Nepal. The stratification variables for this study will be limited to regional/geographical and linguistic background.

Three populations require definitions. They are the desired target population, defined target population, and the excluded population (Ross, 2005). As already noted, the desired target population is that ideal population that a study is supposed to impact on (Ross, 2005). In this study, the desired population is the ideal population that the pedagogical model to be developed is to impact. They are those Nepali people who are in need of lifelong learning. It is also targeted at those in mountainous and remote regions who are unable to access education opportunities in urban centres with traditional universities. This population further includes the working people of Nepal who would wish to enhance their skills and

knowledge. In addition, the open university will target people who have no formal qualifications to qualify for admission to traditional universities.

The defined target population refers to that population that actually showed interest in the research, through the identification survey, and those who actively took part in one of the 2-week online courses. The students were representative of Nepalis who had the resources to be present 'online' and some of Nepal's ethnic groups. Geographic and regional background was well represented. The excluded population refers to that part of the desired target population that is not included in the defined target population because of non-coverage, lack of resources, and ageing description of population. These have been previously described.

Qualitative (Ethnographic) Component

Qualitative research refers to the research whose aim is to develop "an understanding of human systems" (Savenye & Robinson, 2004, p.1046). Qualitative research has been used synonymously with ethnographic research although ethnographies are more specific (Savenye & Robinson, 2004). Ethnographic research comprises of a description of events and is carried out during the life of a group (Postlethwaite, 2005). Qualitative research is often carried out within the natural environment without intentional manipulation of that environment (Savenye & Robinson, 2004). The researcher actively participates in the routine activities of the group under study with an aim of making observations and learning from those observations to gain an

understanding of the group's attitudes, perceptions and capabilities in light of the subject of study (Postlethwaite, 2005; Savenye & Robinson, 2004). The researcher is open to the perceptions and worldviews of the subjects (Savenye & Robinson, 2004). Here, the researcher learns by observations.

In this research study, two qualitative research methods will be applied. These methods are interviews and participant observation. The two methods will be used with one group simultaneously because the aim will be to get students' perceptions on open and online learning.

An interview refers to a "form of conversation in which the purpose is for the researcher to gather data that address the study's goals and questions" (Savenye & Robinson, 2004, p. 1056). When unstructured interviews are used during observations, the researcher holds a kind of a conversation with the subjects (Savenye & Robinson, 2004). The questions asked have to do with feelings, opinions, and experiences. Interview questions aim at eliciting information about a person's opinions and attitudes towards the subject in question. Interviews are useful because of their ability to offer insight into what motivates people. The aim of this interview, which was a follow up to the survey method, was to identify the unique attitudes and insights that students have as far as online education and/or open learning is concerned. Therefore, the interview questions were unstructured.

This study offered a series of four two-week courses, based on a prototype pedagogical model for an open university in Nepal designed by the researcher, in consultation with the volunteer course instructor. Students were observed during the

course and then later surveyed regarding their experience with the course. In the participant observations, the researcher became part of the setting by 'spending considerable time' (Savenye & Robinson, 2004) in the Learning Management System (LMS) environment which was created on Moodle. Moodle is an abbreviation for Modular Object-Oriented Dynamic Learning Environment which is a free and open-source eLearning software platform. The researcher did not interact on the Moodle but only observed.

Notes/memos were taken during the observations. The notes and memos were analyzed continuously throughout the observations and other data collection, placing and grouping/re-grouping them into emerging concept categories. The analysis aimed at describing students' behaviors, and events for further investigations through observation and conversation.

Post Course Survey

Students were asked to complete an anonymous post-course survey. This was administered to ensure that students could be completely candid about their online experience. In many Asian cultures, people are very uncomfortable with providing negative comments F2F, particularly when speaking with a teacher or someone they perceive to hold a position of power.

Interviews

Each of the 26 participants in the 2-week course offerings were interviewed F2F after course completion. The interviews were private, with each interview lasting about 30 minutes.

The interviews were one of the most enjoyable aspects of this research study. The Nepali participants were most welcoming and enthusiastic about the meetings. On four occasions the venue was at the home of the participant, which offered the researcher a rare glimpse into the personal lives and lifestyles of Nepalis. The other 22 interviews took place at the hotel where the researcher was staying, 10 of which occurred in a garden area and 12 of which occurred in a quiet corner of the hotel lobby.

Interviews were recorded with a small Sony IC recorder. The Glaserian GT approach argues against recording, transcribing, and microanalysis of interviews. Although this approach was followed and interviews were not transcribed for this research study, the unique opportunity to be in Nepal, interviewing Nepali participants, speaking with Nepalis across the country was so valuable, that it seemed ‘wrong’ not to record the experiences, as the recordings will be useful in future research.

The first two or three interviews followed the pre-set questions developed for the sessions. As the researcher began to travel the country, meet more Nepalis, and become more comfortable with cultural nuances and habits, the interviews became more dynamic and intimate. At the outset of such a research study it is difficult to determine what type of questions can be asked, or more importantly ‘how’ to ask questions. English is a very direct language and not often suited to cultures that are more indirect and layered with cultural nuances, differing body language, worldview and paradigms. The interviews

increased in length as the research study progressed, from 30 minutes to sometimes 3-4 hours.

Sometimes notes were taken during the interview, but more importantly, immediately after each interview the researcher would make extensive notes and memos while the discussion was fresh in her mind. These memos and notes formed the basis of data for the analysis of the participant interviews.

Conversations and Observations

Two 3-week trips were made to Nepal during this research study. The first was in July/August 2012 and the second in December/January 2012-13 for a total of 42 days.

During the first visit, the participants in Course 1 and 2 were each interviewed privately. Also an extensive journey throughout the western region was completed. The journey covered every major road in existence west of Kathmandu. This included the entire Hills and Terai regions. There are no roads in the Mountain region.

The second visit included private interviews with each of the participants in Course 3 and 4, as well as an extensive journey throughout the eastern region. All major roads were travelled throughout the eastern hills and eastern Terai. There are no roads in the eastern mountain region.

Approximately 300 individuals (50% Aryan, 50% non-Aryan) entered into conversations concerning infrastructure systems, the OUN initiative, online learning, and life in general.

A driver and jeep was procured in Kathmandu. This was a challenge in itself, as no one could understand why anyone would want to travel to the western region. It was

difficult to find a driver who was familiar with the west. Finally a young man who had worked with an NGO based in the western region agreed to take the journey. He was a Tamang from the region north of Kathmandu near the Tibet border. Babu became a great resource and a wonderful translator who remained as the driver for both journeys throughout the country.

The national Mahendra Highway traverses the country across the Terai. It is a 2-lane, paved road busy with trucks, buses, cars, rickshaws, pedestrians, water buffalo, and goats. An average speed of 30km/hour is the norm. Meeting up with the Mahendra Highway are the various roads running north into the hills of Nepal. Travel began from Kathmandu on each of the two journeys driving south to the Mahendra and then turning west on the first journey and east on the second trip. As an intersection approached with a road heading north into the hills, it was taken to its end. These roads heading north began as paved, busy side paths, but soon became empty and isolated except for the rare truck or local pedestrians.

The cultural diversity and richness in the variety of faces and dwellings during this journey is difficult to describe in words. It was a privilege to see people of varied backgrounds and ethnic origins going about their daily lives. It was also disturbing to see how difficult daily life is in the regions outside of Kathmandu. Each day is focussed on sustenance and obtaining enough food for the evening meal. Yet families still send their children to school each day hoping that perhaps they will have some lessons and learn a little more than the previous generation.

There is no apparent tension or anger in these regions. People stoically carry on with daily tasks yet will talk freely with visitors about their hopes and dreams for a better

future for their children and grandchildren. The frustration with government and education infrastructure and inefficiency was voiced by many.

The travel throughout Nepal was invaluable in establishing a greater understanding of the people, the culture, the infrastructure, the daily struggles, and the challenges that will be faced by the OUN initiative if it is to establish viable and efficient education to the people of Nepal.

Ethical Considerations

This research study involved minimal ethical risk. Students recruited for the surveys and interviews were informed of the purpose of this research study orally and in written form. The written information was offered in English with Nepali translations to ensure the parameters were clear to each participant. Expectations of participants were explained clearly to volunteers and it was emphasized that participation was voluntary and results would be confidential. Potential participants also understood that there would be no negative consequences if they decided to withdraw from the research study. All participants signed written consent forms, written in English and Nepali (see Appendix A & B).

The research study conclusions do not contain any names or personal information. All research information is secure and protected.

Chapter VII: RESULTS

This chapter will discuss the results of the data analysis of each survey, as well as the analysis of the qualitative data which includes Moodle transcripts, interviews, and conversations/observations while traversing the country.

It reviews the results of the quantitative data described in Chapter VI: the identification survey and the post-course survey. Both surveys were conducted online through SurveyMonkey. The identification survey included names, contact information and personal information of respondents, while the post-course survey was anonymous to ensure that participants felt comfortable in assessing the online course honestly.

The purpose of the identification survey was twofold. First was to obtain a pool of Nepali respondents who could be recruited for the online course. In addition, the identification survey was designed to determine the linguistic and regional/geographic background of each respondent as well as questions to determine their interest in open and distance learning.

Identification Survey Results

The Identification Survey asked for contact details and demographic information. The contact details were important as the respondents of this identification survey were later contacted and asked to participate in the two-week online course. The demographic information was included in order to have it on file for future research and to possibly assist the Open University of Nepal Initiative in future planning.

It is interesting to view the demographic profile of the respondents to the identification survey. Although the information is not directly related to the research

questions, it helps to understand the type of Nepali person who uses computers, has access to the Internet and is interested in open university initiatives.

Table 1 Demographic Profile of Identification Survey Respondents

Demographic Profile of Identification Survey Respondents (n=86)

Gender		**Marital Status**		**Mobile Phone**		**Post-Sec Education**	
Female	21	Single	18	Yes	83	Yes	86
Male	65	Married	68	No	3		

Age		**Number of Children**		**Employment Status**		**Computer/Internet**	
Under 17	1	0:	32	Unemployed	5	At home	72
18-20	2	1:	23	Student	15	At School	2
21-29	2	2:	14	Housewife	1	At work	11
30-39	32	3:	14	Employed	65	Café	1
40-49	13	4:	2				
50-59	4	5:	0				
60+	1	6:	0				
		7:	1				

The lower number of female respondents can be attributed to several factors. Firstly, the literacy rate in Nepal is significantly lower for women. The 2001 national census reports literacy rate for males at 65% and for females at 43% (Nepal Population Report, p. 54). Secondly, Nepali families do not place equal importance on the education of their sons and daughters. It is perceived as more important to educate sons. For every 100 males attending post-secondary education, there are only 22 females (Nepal Population Report, p. 87). In Nepali families, sons have an obligation to their parents, and extended family to take responsibility of the family wellbeing. When daughters marry they become part of their husband's family and are not traditionally obligated to care for their own parents. Therefore parents educate their sons, before considering education for their daughters. The result is a lower rate of education among the women of Nepal, so

they tend to work longer hours than men and have less time for self-improvement activities.

It is significant that the number of children of respondents is much lower than the national average. Approximately 50% of Nepali families have 7 or more children. (Nepal Population Report, p. 149). Family size is directly related to education levels, demonstrating that the respondents to the survey represent the privileged class in Nepal. Respondent profile will be discussed further in the Limitations section of this study. This is also exemplified in the working status of respondents with only 6% unemployed and 84% having access to a computer and Internet at home.

It is expected that the OUN initiative will help to improve this profile imbalance by establishing a system which will afford opportunities for the groups under-represented in this research study. The lower representation of women and those without post-secondary education exemplifies the need for an open university in Nepal. People throughout the country expressed interest in the concept of an open university and the opportunities it would afford to people who have not been able to complete their formal education.

Respondents were asked to identify their first language. The Identification Survey also asked respondents to list additional language proficiencies. For the purpose of this research study only the first language information was assessed, as the first language reflects an individual's ethnic/linguistic background. All respondents listed proficiency in English. Table 2 lists the first languages provided by respondents.

Table 2 First Language of Respondents

Identification: First Language (n=86)

First Language	# of Respondents	Percent
Nepali	81	95%
English	1	1%
Doteli	1	1%
Maithili	1	1%
Rai	1	1%
Tharu	1	1%

The percentage of Nepali first language speakers is higher than the national average of Nepal which is 48.61% (Nepal Population Report, 2011). This is directly related to the ethnic background of respondents explained in the discussion below (Table 3). The Nepali language holds a privileged position in Nepal and is spoken by the educated class (Ram, 2010). Since respondents to the Identification Survey could speak English and had the means to access the Internet, the high percentage of Nepali speakers is understandable.

The Identification Survey asked respondents for their ethnic background. The question offered choices for the largest ethnic groups in Nepal with an option for 'other' where a respondent could include their group if it was not listed.

The study of the diversity of Nepal is very complex. Often people identify themselves through their caste rather than their linguistic and ethnic background. This is evident in the results of the Identification Survey. Respondents were offered the choice of Pahari which would include those of Aryan descent. Yet most Pahari chose 'other' and identified themselves as Brahmin. Academically, Brahmin is a caste, but it became clear that many Brahmin in Nepal consider their caste to be their ethnicity.

Table 3 shows the final results of the Identification Survey with regard to ethnic origin. Pahari and Brahmin are those of Aryan descent which total 85%. This percentage is above the national representation of Aryans, which is 76% (Ram, 2010). Aryan people include Brahmin and Chettri castes whose members dominate government, education and political positions in Nepal. They have had the opportunity for higher education and many speak English. This research study was conducted in English, so it is not surprising that a large percentage of respondents are representative of this group.

Table 3 Ethnicity of Respondents

Identification: Ethnicity (n=86)

Ethnicity	# of Respondents	Percent
Aryan (chose 'other', stated Brahmin)	51	59%
Pahari	22	26%
Newari	4	4%
Bhotia	2	3%
Rai	2	3%
Sherpa	1	1%
Tamang	1	1%
Thakali	1	1%
Tharu	1	1%
Muslim	1	1%

Respondents cited the region in which they were raised. Nepal is a very small country and relocation to the Kathmandu Valley after completion of education is common. The government is very centralized and operates from Kathmandu. Major businesses, NGO offices, banks and universities are headquartered in the capital. The influx of people from rural Nepal to Kathmandu has increased significantly in the past decade (Nepal Population Report, 2011), but strong ties are kept with the area which people call home.

Geography divides Nepal into these 3 regions of mountains, hills, and valley, but there are also regional differences between West Nepal and East Nepal. If Nepal is divided into equal geographic halves, then Kathmandu sits in the centre of East Nepal. Politically, Kathmandu is considered the centre of the country, so land east of the capital is considered East Nepal and in turn, the area west of Kathmandu is called West Nepal. East Nepal is much more developed economically. One significant reason is that Mount Everest is located in East Nepal, so a vast portion of the tourist industry is focused on East Nepal. Although many tourists fly to the Everest area, many others come to trek in Nepal. They travel east along the Mahendra Highway and then north into the hill region where they will begin a trekking holiday north to view Mount Everest. This tourist influence not only helps the region economically, but also changes resident worldviews since Nepali in the eastern regions are more familiar with foreigners, foreign behaviours, and foreign languages.

West Nepal is about twice the size of East Nepal. It is more isolated because of the distance from Kathmandu but also as a result of less economic support from the Federal Government. For example, the Ministry of Education supplies textbooks to primary students in all elementary schools in Nepal. Yet during travels in West Nepal, it was discovered that many schools were without textbooks because the government delivery trucks do not choose to travel to the far west to deliver the texts. Tourism is non-existent in the western regions, so there is far less contact with foreigners.

The question of regional background was important in order to determine students' attitudes and perceptions towards open and distance learning if respondents chose to participate in the two-week online course. It was also of general interest to

determine where, if any, there appeared to be more interest in open and distance learning. It also left an opportunity for respondents to choose another region. Perhaps the research design designated regions/terms that were not recognized by Nepalis. Responses confirmed that Nepalis use the terms included in the survey and no respondent listed 'other' as their region of origin.

Table 4 shows the results with regard to the regional background of each respondent.

Table 4 Region of Origin of Respondents

Identification: Region of Origin (n=86)

Region of Origin	# of Respondents	Percent
Mountain East	0	0%
Hills East	6	7%
Terai East	6	7%
Kathmandu Valley	10	12%
Mountains West	17	20%
Hills West	34	40%
Terai West	13	14%

The 74% response rate from the western regions is significant in that it is disproportionate to the demographics of Nepal. According to the Nepal Population Report (2011) 46% of the population resides in the western regions. As mentioned above, the western regions are far more isolated than the rest of the nation, which may explain this higher interest in online and distance education as there is less access to quality education.

During travels in the Far West Regions, the Tribhuvan University campus at Dadeldhura was visited. Tribhuvan University is the largest university in Nepal. It is a national, public institution. The people of Dadeldhura were very proud of this campus and anxious to show off the buildings and introduce the professors. As is often the case in

Nepal, frequent strikes (bandhas) are held and it was a daily occurrence during the trips throughout Nepal. On the day of the visit to the Dadeldhura campus of Tribhuvan University, the professors were on strike and there were no classes in session. It was difficult to imagine that any classes could be held in the building. Desks and chairs were broken and piled ad hoc in each classroom. It looked like the classrooms had been abandoned for many years. This type of situation is very common in Nepal. There is evidence of attempts to create order; in this instance, a building had been constructed on a piece of land, but it was clear that the Dadeldhura campus was not operating regularly as a dynamic institute of higher education. It was a very haunting experience to wander the cluttered hallways and empty classrooms.

Respondents were asked if they would be interested in future online courses if affordable offerings were available. It was important to determine if respondents were interested in open and online learning or simply completing the Identification Survey out of general interest. Table 5 shows that respondents expressed an interest in participating in open and online learning.

Table 5 Interest in Future Online Courses

Identification: Interest in future online courses (n=86)

Interest in Future Online Courses	# of Respondents	Percent
Yes	64	75%
Maybe	21	24%
No	1	1%

Respondents were also asked whether they would be interested in participating in the two-week online course, An Introduction to Online Learning, offered as part of this

research study. Table 6 shows that a large majority of the respondents were interested in joining the course.

Table 6 Interest in 2-week Online Course

Identification: Interest in 2-week Online Course (n=86)

Interest in 2-week Online Course	# of Respondents	Percent
Yes	75	87%
No	5	6%
Maybe	6	7%

Two concepts that emerged very early in this study were the 'interest in education' and the 'frustration' with the current situation in Nepal. Each respondent to the Identification Survey was sent a personal email asking if they were interested in participating in the two-week online course. Of the 86 respondents to the survey, 74 answered the initial email. Many individuals who answered the first email spoke of the need for an open university in Nepal and then went on to express their frustration with the national education system. Table 7 and 8 exemplify some typical email comments. It is important to be reminded that the email sent by the researcher was a simple, business-style request for participation in the course. It did not ask for opinions concerning the Nepali education system. The type of comments in the responses to the email show the value placed on education by the respondents and also their feeling of helplessness with the current Nepali education system. These additional, unsolicited comments of interest, appreciation and need exemplify again, the value of the OUN initiative and the value it would add to the educational opportunities for the Nepali people.

The people of Nepal hold great hope that additional education will better their lives and assist them in building a future that is sustainable.

Table 7 'Interest in Education' Email Comments

Interest in Education Email Comments (n=74)
"Thank you very much for this opportunity. I am really interested with this."
"Sweet memory and trust from Nepal. Thank you!"
"I am very happy giving me this opportunity and have some more course like this"
"We need this so much. Now we can see the world."
"I wish for my wife also, but she cannot speak English."

Table 8 Frustration with Current Education System

Frustration with Current Education System (n=74)
"We need teacher training for Nepal teachers. They do not know methods."
"Often teachers are not in the schools."
"Standard (of education) very low in western region."
"I want to learn like people in other countries."
"Our system is no good."

It was surprising to read so many emails expressing annoyance and frustration with the current education system in Nepal, since the initial invitation to participate in the online course did not solicit any opinions of the Nepali education system. The two above-mentioned concepts became recurring themes throughout this research study. The keen interest in open education, stable delivery systems, and 'something better' than what is currently offered in Nepal were expressed repeatedly by respondents, participants and individuals who spoke with the researcher during travels throughout the country.

Online Course Analysis

Four two-week online courses were offered to respondents of the Identification Survey through email invitations. Of the 86 respondents, 52 individuals replied to the request to participate. The 52 prospects were sent a second email with instructions on

how to join the Moodle in order to participate in the course. All 52 individuals attempted to follow the instructions. One half of the group had difficulty; either they could not complete the sign in process, or once signed in, they did not know how to interact on the Moodle. Of the 26 who had these problems, 21 continued to ask for assistance through email but without success, while 6 managed to sign up but then were lost as to how to interact on the Moodle. Repeatedly the comments included, "I don't understand", "Can someone help me here in Nepal", or "I wish you were here to help me". This was very frustrating for the researcher and the prospective students. A total of 26 individuals managed to register and continue to participate in 1 of the 4 courses. This represents 30% of the 86 respondents. Considering that the 86 respondents were not part of a formal group or organization, did not know each other, did not know the researcher, and were not motivated by anything other than an intrinsic interest to attempt online learning, this was viewed as a reasonable response.

Table 9 describes the demographic profile of the course participants.

Table 9 Demographic Profile of Course Participants

Demographic Profile of Course Participants (n=26)

Gender:		Number of Children:	
Female	2	0	2
Male	24	1	4
Age:		2	18
30-39	12	Employment Status:	
40-49	12	Employed	26
50-59	2		
Mobile Phone:		Computer/Internet Access:	
Yes	26	At home	24
No		At work	2
Marital Status:			
Single	1		
Married	25		
Post-Secondary Education	Yes 26		

It is not surprising that all course participants were employed full-time and held post-secondary school diplomas or specialization certificates. The courses offered no F2F assistance and those who chose to participate had to communicate directly with the researcher, and register for the course online with only written directions received through email. They also required regular access to a computer and the Internet.

Of 86 respondents, 35 individuals replied to the first emails that encouraged them to register for the 2-week online course. Only 26 of the 35 managed to register and begin the course. The remaining 9 students could not follow the directions and register successfully. They all asked for F2F assistance which this study could not offer them.

Table 10 Ethnicity of Online Course Participants

Online Courses Participants: Ethnicity (n=26)

Ethnicity	# of Participants	Percent
Aryan	20	76%
Tamang	1	4%
Newari	1	4%
Muslim	1	4%
Rai	1	4%
Sherpa	1	4%
Thakali	1	4%

It was also fortunate that 24% of participants represented ethnic groups other than the majority Aryan group. The ethnicity profile of participants correlated to the national average of 76% Aryan (Ram, 2010). The non-Aryan participants represent ethnicities whose national representations are: Tamang 5.6%, Newari 5.4%, Muslim 4.2%, Rai 2.8%, Sherpa .68%, and Thakali .06%. Since a large percentage of the interest in the course came from the western regions of Nepal, it is fortunate that the ethnic profile of participants was varied. Poverty, poor education, and expensive Internet connections

disadvantage many of the ethnic groups who are not able to network online or join social media sites.

It is significant to note that of the 86 respondents to the Identification Survey, 27% of the Aryan respondents participated in the online course, while 46% of the non-Aryans registered. Although the number of respondents from non-Aryan ethnicities was lower, their participation rate calculated as a percentage of respondents was higher.

Table 11 Participation of Respondents

Rate of Participation of Respondents (n=86)

Profile	# of Participants/# of Respondents	Percent
Aryan	20/73	27%
Non-Aryan	6/13	46%
Female	2 /21	10%
Male	24 /65	37%

No respondents from the eastern regions participated in the course. Participants were from Kathmandu Valley, Hills West, and Terai West. Again this demonstrates the significant interest in online learning in the western regions. Table 12 shows the regional/geographic distribution of participants.

Table 12 Region of Origin of Participants

Participant Region of Origin (n=26)	*# of participants*
Kathmandu Valley	10
Hills West	10
Terai West	6

The course was called An Introduction to Online Learning. It was offered on a Moodle platform already established by Catherine of Sienna College based in New York. Catherine of Sienna College specializes in courses offered to students in India. The Dean of the college agreed to collaborate with this research study to enable the courses to be on a reliable, well established platform. The college staff

ensured all technical aspects were addressed. This enabled the researcher to concentrate solely on the development and offerings of the courses.

One instructor taught all the courses. This helped to maintain a similar approach and ambiance in each course. The instructor was an English as a Foreign Language (EFL) teacher with more than 15 years of experience teaching in various countries. This enabled the courses to run smoothly as the instructor was experienced in dealing with foreign cultures. Yet this was 'unknown territory' for both the instructor and the researcher, as neither had lived in Nepal, but the experience of the instructor enabled the courses to operate without any extreme culture shock hindering the instructor's progress.

It was decided to use a constructivist approach to learning with an emphasis on 'learning by doing' in order to assess whether Nepali online students could adapt to this approach. This was based on the knowledge obtained through the literature review which noted that most open universities and online learning pedagogy is currently based on a constructivist approach.

The course was divided into 10 IT/ICT tasks, one for each Monday through Friday session over the two-week period. When the course began, only the 'Day One Task' was available to students. Each day a new task would open. A café forum ran simultaneously alongside the daily task forums. The café was designed as a forum that could be used for icebreakers and casual chat which might offer insights into the Nepali participants' needs, interests, opinions and interactions.

The most surprising outcome of the Moodle discourse analysis was the fact that no ethnic students took part in the café. This was not noticed during the course offerings. The courses were compact and busy with the forums for each daily task full of teacher-learner and learner-learner interaction. The non-Aryan students participated actively and equally with Aryan students in the daily forums. This lack of participation by non-Aryan students in the Café did not affect general interaction in the task forums. Aryans and non-Aryans interacted actively in the task forums. The Café was a social

forum and as such, the non-participation of the non-Aryan students may represent a deep, cultural paradigm which would require further research.

One of the first concepts to emerge from the data was the obvious 'joy of interaction' the students experienced throughout each course. It was very encouraging throughout each course to see the expression of such general happiness and excitement with regard to online interaction. Table 13 shows some of the student comments expressing their pleasure with forum interactions. Although they had heard of online learning this was the first experience for participants to interact online in a learning environment. Their comments show their obvious joy in being able to interact in a virtual classroom.

Table 13 The Joy of Interaction

Student Comments Reflecting the 'Joy of Interaction'
"Wow its fantastic like pyramid but not...."
"Thank you very much for providing a platform for interaction!"
"Friends you are very far from me. But we are learning together. This is one of the most important outcomes of new technology"
"See something that I always like to see with reason. Enjoy with it and write me if it feels you. I am so happy to be talking."
"Waiting for new page from where I can get new idea, feel romantic and can't wait to answer"

Nepali students come from a tradition of teacher-centred, rote learning in large classrooms (50+ students). It was not known at the outset of this study whether Nepali students could 'make the leap' to a social constructivist model. The researcher and instructor were confident that learner-learner interaction would develop, since their combined experience of 35 years teaching in Eastern cultures had demonstrated that students coming from a rote learning, teacher-centred environment adapt quickly and with great enthusiasm to constructivist, student-centred approaches. The course was designed to promote a social constructivist approach but the instructor was prepared to work one-on-one with students if they did not interact online.

The instructor had sufficient experience with Asian students to tacitly understand that a great deal of instructor encouragement would be necessary at the outset of the course to promote participation

and learner-learner interaction. During Day 1 and Day 2 tasks, the instructor responded to each student every time he/she posted. The instructor responses would seem 'odd' and excessive from a western perspective.

Table 14 shows the type of instructor comments posted.

Table 14 Instructor Words of Encouragement

Examples of the Instructor's Words of Encouragement
"This is a wonderful image. Thank you so much for sharing with us!"
"Beautiful! Thank you so much for sharing this with us!"
"Thank you for sharing the library link - very interesting indeed!"
"Wonderful! Well done!"
"Wonderful words!"
"That is an amazingly beautiful image! Thank you for sharing the very interesting link."

It is difficult to explain the nuances of a culture, suffice to say, both the instructor and researcher agreed on this tactic. It was also decided that the word 'sharing' would be used often to emphasize that the instructor obviously appreciated interaction which in turn, would enhance learner-learner interaction. Emoticons were often used to make instructor posts 'fun', but to also show students various image tools.

This approach of encouraging posts and the use of the word 'sharing' worked well, and by Day 3 of each course students were beginning to talk directly to each other and assist each other with the assigned tasks. The building of knowledge and skills moved very smoothly into a social constructivist model. The instructor began to post only once a day after Day 3, yet student posts did not diminish as they were now speaking to each other.

Table 15 offers typical learner-learner interaction throughout the 4 courses.

Table 15 Learner-Learner Interactions

Examples of Learner-Learner Interactions
"Hello friends here I have create account and upload sample picture."
"Thank you [redacted] ji. This is a useful link. Now I will start using it."
"Oh it's a great deed! Thank you [redacted]. I think you are fond of TEEJ songs.
"Good [redacted] jee* By the way what is the figure about?"
"[redacted] ji, It's good to meet friends like you."
"Thank you for sharing [redacted] jee"

*jee/ji is a Nepali term of respect used after a name

There was no significant difference in learner-learner interactions on the course forums with regard to ethnicity or geographic/regional background. All students interacted with each other. Each student was required to post once a day with a demonstration of the daily assigned task. As mentioned previously, on the first day each student posted, and only the teacher responded with words of encouragement or a comment on the post (see Table 14). By the second day students began to respond to other student posts, and in turn, those who posted would respond to peer comments. Table 16 shows the average daily responses to posts, divided into responses to posts of Aryan students and to non-Aryan students.

Table 16 Cross-Background Interaction (Ethnicity Factor)

Ethnicity	$\bar{x}$ Resp./Day	$\bar{x}$ Resp. to Aryans	$\bar{x}$ Resp. to Non-Aryans
Course #1			
Aryan	3	n/a	n/a
Aryan	2	n/a	n/a
Aryan	3	n/a	n/a
Aryan	3	n/a	n/a
Course #2			
Aryan	3	2	1
Aryan	3	2.2	.8
Aryan	2	1.5	.5
Aryan	3	2	1
Aryan	4	2.5	1.5
Sherpa	3	2.5	.5
Thakali	3	2.5	.5
Aryan	4	2.5	1.5
Course #3			
Aryan	4	2.5	1.5
Aryan	3	2	1
Tamang	3	2.5	.5
Aryan	3	2	1
Aryan	3	2.2	.8
Aryan	3	2.5	.5
Rai	3	2	1
Course #4			
Aryan	3	2	1
Aryan	3	2	1
Muslim	4	3.5	.5
Aryan	3	2	1
Newari	3	2.5	.5
Aryan	4	2.5	1.5
Aryan	3	2	1

* $\bar{x}$ = average resp. = response n/a = non-applicable

Of the 26 participants in the 4 courses offered, 20 students completed the 2-week session. Those who did not attend the full 2 weeks, dropped out in the last 3 days due to personal and work commitments that took them away from Internet access. The average daily responses in Table 16 were

calculated on the number of days the students participated in the course. For example, if a student did not attend the full 10 days, but only the first 7 days, then their responses were averaged over 7 days.

Course completion was determined by students posting for each of the 10 daily tasks. However, there was an issue with students not actually completing each task. This was the second concept to emerge from the data analysis. This concept was labeled 'attention to task'. Students were enthusiastic, energetic, interacting and collaborating, but they were not attending to the requested task or task requirement. The instructor would repeatedly ask for the assignment and remind students to post their task. Students would respond with a 'yes' but then carry on with totally unrelated conversations. It was determined during this part of the study that Nepali open university students would require significant initial training in 'attention to task' and academic course expectations. Instructor comments such as those in Table 17 were a daily occurrence.

Table 17 Attention to Task

Attention to Task Reminders from Instructor
"Please re-read the assignment and share your thoughts."
"On another note, you haven't mentioned the Voki - did you manage to create and record your Voki?"
"It is important that you follow each day's task as they appear on the Moodle."
"That's very interesting, but now, would you like to try embedding your slideshow in the Moodle?"
"Well done for uploading a photo, but now you need to upload this image to Fotobabble."
"You need to follow instructions of task. Then, copy and paste link here in the Moodle to share with us. Please let me know how it goes."

During the 6 weeks spent travelling throughout Nepal and the 8 weeks observing the online courses, it became evident from conversations and interviews, that the majority of Nepalis have had only limited experience with the Internet. Unlike western counterparts who have been online for more than a decade, most Nepalis are unfamiliar with online discourse, as well as attending to detail online. Open university students will need to gain experience in online learning, and understand the concept of 'attention to task' that online learning requires.

All of the ICT skills taught in the course were new to the participants. Since the participants were all recruited online, it is fair to assume that they represent those Nepalis familiar with the Internet. Table 18 shows the ICT skills taught in the two-week course. It is clear OUN students will need initial training in basic IT and ICT skills to participate successfully in an online course.

Table 18 Course Topics

Skills Taught in the 2-week Course
Day 1: Open a Gmail account/upload a photo to your name on the Moodle
Day 2: Upload an image to the forum
Day 3: Platforms to connect with people online (social media, blogging, websites)
Day 4: Introduction to YouTube
Day 5: Introduction to Fotobabble
Day 6: What is a hyperlink and How to post a hyperlink (Introduction to Wikipedia)
Day 7: Introduction to LiveBinder
Day 8: Slideshows (YearbookYourself)
Day 9: Synchronous Chat
Day 10: Introduction to voice recording (Voki)

Broadband speed was too slow for rich ICT applications. The tasks that worked well with the Internet service in Nepal were: email, uploading a photo, hyperlinking and viewing websites, YouTube, and sites such as LiveBinder. Students were able to view rich content, but working with Fotobabble, slideshows, voice recording and synchronous chats to create a product did not work for two reasons:

1. It takes time to create such a product or conduct a class online and students would face Internet interruption or loadshedding in the middle of their work.
2. In order to achieve success in the aforementioned type of skills they felt that a F2F tutor would be helpful.

Post-Course Survey Results

The decision to make the post-course survey anonymous proved to be valuable since the post-survey results did vary slightly from the F2F interviews. In the interviews all 26 participants said that

they enjoyed the course and were very pleased with the instructor. Tables 19 and 20 show the post-course results for these questions.

Table 19 Student Enjoyment of Course

I enjoyed this course. (n=26)	*Number*	*Percentage*
Yes	25	96%
No	0	0
A little *	1	4%

*The student who responded with 'a little' was of Aryan descent.

Table 20 Assessment of Tutor

The tutor was helpful. (n=26)	*Number*	*Percentage*
Excellent	16	62%
Very Good	8	31%
Good	1	3.5%
Satisfactory	1	3.5%
Unsatisfactory	0	

Although there may not be a significant difference between 'excellent' and 'very good', it is interesting to note that all non-Aryan respondents rated the course as excellent.

At the end of the post-survey there was an opportunity for additional comments. Four comments were posted. They were:

1. "I would like to thank for giving me such wonderful opportunity and appreciate for great contribution for Nepal."

2. "The course was really fruitful however I couldn't attempt all the aspect it required because of my own in efficiency and power cut. I am waiting for a long online course where I can learn more about technology and subject matter specially the focus on teaching learning and use of the technology."

3. “Yes it was very interesting course for me. I would like request for another.”

4. “We need this online course because it helps us to learn to access in computer. Thank you so much to you to provide us this class.”

Interviews

Each of the 26 participants met with the researcher for a 30-minute interview shortly after they had completed the course. The major concept to emerge from the interviews was the ‘appreciation of interacting’ online and learning together. Every participant spoke at great length about the joy they felt during the online conversations. They adapted very quickly to a social constructivist approach.

Table 21 includes some of the type of comments from participants.

Table 21 Appreciation of Interacting

Appreciation of Interacting
“We are in initial stage and even we have not met each other. This indirect interaction has created room for friendship.”
“It was very difficult to say good-bye at the end of the course.”
“I know now that online learning means sharing and group discussion plays vital roles.”
“Really, there is no boundary of happiness for getting chance dealing and sharing in this course.”

One challenge for an open university in Nepal will be the regional differences throughout the country. These include, but are not limited to transportation, facilities, computer accessibility, Internet access, facilitator available, basic organization of structures, and timely communication. Throughout the entire course of this research study, the most difficult concept to accept was the constant struggle the Nepalis experience with every facet of their daily lives. It emerged as a theme in every portion of this study. Nepalis used the term ‘problem’ repeatedly to discuss food shortages, fresh water, electricity, Internet access, education, transportation, sanitation facilities, computer access, and healthcare.

Table 22 exemplifies typical comments heard throughout interviews, on the Moodle platform, and in conversations across the nation.

Table 22 Problems in Nepal

Problems
"We send our children to school but there are rarely teachers there."
"It is difficult to find clean water close by."
"The government is a big problem."
"Our family will never get out of debt."
"My husband has been away working for 3 years. We never see him."
"I want my children to live better than this."

The concepts that emerged in the qualitative data analysis were included in this thesis if they met the following criteria:

1. The concept emerged in each of the two-week online course transcript analysis.
2. The same concept emerged in at least 60% of the post course survey interviews.

This ensured that concepts considered for inclusion were authentic and verifiable.

Chapter VIII: SCCAD MODEL

The Skills, Content, Concepts, Application for Development (SCCAD) Model is the culmination of this dissertation. It is based on the analysis of the Moodle discourse, the post-course survey, and the F2F interviews with participants, as well as the conversations with approximately 300 people during the travels throughout Nepal. It also took into consideration the existing open university models and the existing theories and principles of online pedagogy.

Experts in the field of open and distance learning have used the terms model and/or framework to describe a pedagogical approach to learning. It is important to note that the SCCAD Model is an initial framework and requires further research and application testing to determine its viability in a Nepali context. As a framework it is the suggested underlying structure of a proposed pedagogical model for an open university in Nepal. It is a framework in the sense that it is in the initial stages of testing and suggests the underlying structure of a working model. It has been referred to as a 'model' throughout this document as it represents early suggestions as to the design of a final, working pedagogical model for an open university in Nepal.

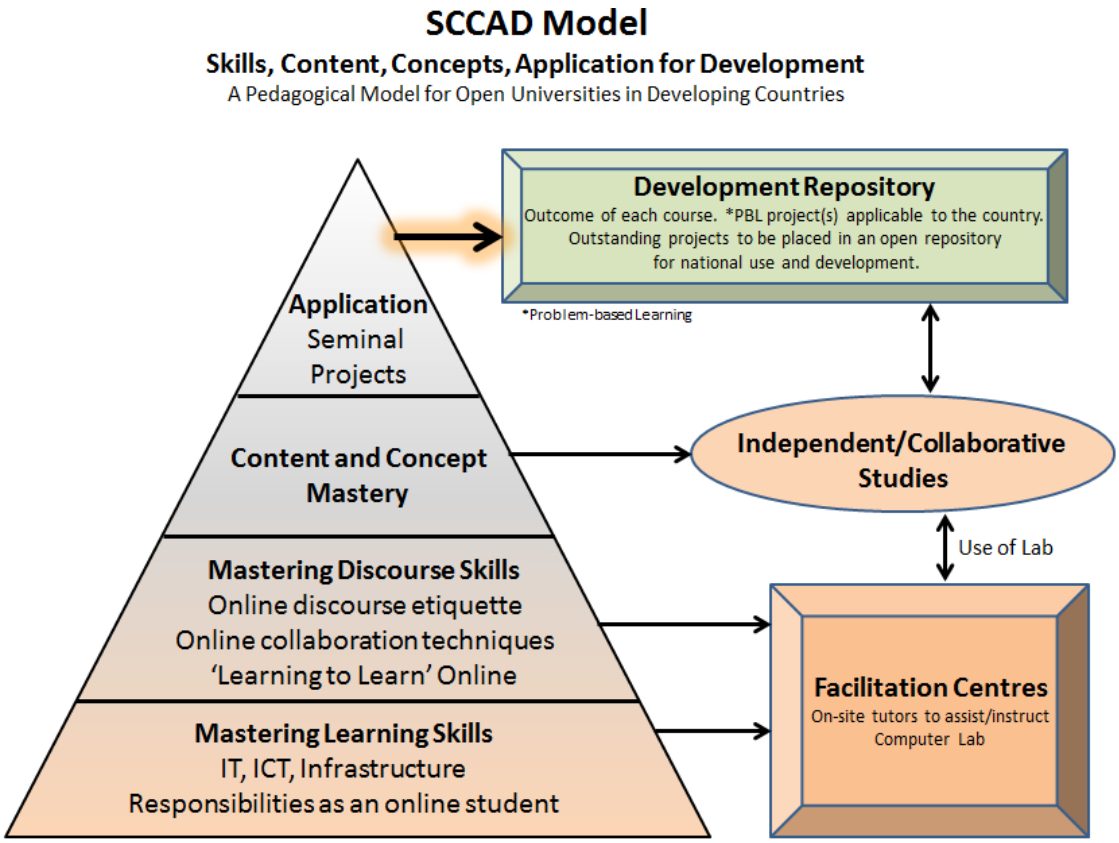

Figure 2: SCCAD Model

Model Design

The SCCAD Model was designed in a pyramid shape to emphasize the firm foundation required as its base in the initial stages of online learning for Nepali students. Without the F2F initial technical assistance and very clear explanations of the responsibilities of online learners, Nepali students will not make the progress expected in an online course.

Nepali students are coming from a school system based on Behaviourist Theory and operant conditioning. Classes are often large (about 50 students), teacher-centred, and students succeed by memorizing facts, not applying knowledge. Standardized examinations are the norm. The first step in

moving from a system such as this, to independent, online learning is to offer tutorials that will help new students understand the responsibilities of the 'student' in their own learning.

Students will also need to learn fundamental IT skills such as keyboard skills, basic Microsoft Word skills, and an introduction to the Internet and the LMS system used by the open university.

The F2F components have proven successful at the OU of Netherlands, Arab OU, OU of Israel, OU of Catalonia, The Open University, and IGNOU. The open university model for Nepal will strive to reduce exclusion and meet the needs of underrepresented members of the Nepali population, which should include some F2F support.

Modernity was discussed in the Chapter 1 and it is important to understand the confusion modernity causes in developing countries such as Nepal. Countries are considered 'developing countries' because most citizens live a subsistent agrarian life. For them, life is cyclical, and no such thing as moving forward or 'progress' is experienced or considered in their worldview.

Modernity on the other hand, consists of the concept of progress or moving to a new state of being. With modernity come concepts such as punctuality, deadlines, consequences, and new knowledge. Nepali online learners will have to learn and understand these new concepts. They will have to 'learn how to learn' in a collaborative, student-centred, online environment. For example, creating a plan of action for the course, including a calendar with assignment due dates, assessments dates, weekly tasks and learning how to 'chunk' their study time into viable time blocks and activities that will enable them to succeed in an online course. The comments of students and interviewees in this study make it clear that they see the opportunity of online learning as a 'moving up' process and therefore the pyramid model fits well with this notion.

The sidebars to the right of the SCCAD Model emphasize the tangible and physical aspects of the model. Students will be able to physically relate to the facilitation centre, study groups and the

resulting resource repository. They will be able to 'see' some of the aspects of online learning which will be critical, especially in the early years of the open university. With this 'tangible' notion in mind, it will be important to offer hard copies of course materials. These materials can be in any form that are easily accessible by students including but not limited to: DVD/CD, printed material or material that can be printed from online resources, and books. Most students will not have access to the Internet 24/7, so course materials have to be printed or downloadable for offline reference. Athabasca University, The Open University, OU of Japan and OU of Netherlands all offer some form of hard copy course material.

Step 1: Mastering Learning Skills

As mentioned previously in the Online Course Analysis section, 40% of the interested respondents could not complete the registration instructions and 10% registered but did not know what to do once on the Moodle. It became clear at the outset of each course that ground facilitation would have doubled course enrollments. All respondents were individuals who already had an 'online' presence through social media sites such as Facebook or LinkedIn. User-friendly social media sites are less complicated than a LMS platform such as Moodle and one half of respondents, although interested in joining a course, were not familiar with navigating online learning platforms and/or how to access them. Also during the course of the field work in this research study people in rural areas would ask how they could learn online and where could they find F2F assistance. Although the technology is available Nepali Open University students would require initial F2F assistance in order to be successful online learners. The facilitation required does not pertain to course content, but to the following: computer access, initial IT training, ICT training, and assistance with registration and other administrative details.

The 2-week online course offered students an introduction to some of the ICT tools available on the Internet to enhance learning and the building of knowledge. As mentioned above, although these

individuals were ‘online’ through social media, they were not familiar with techniques such as uploading a photo, creating and storing materials online through sites such as LiveBinders, cloud platforms, Slideshare, Tumblr. Tools and repositories such as RSS feeds, Wikipedia, curation sites and Open Educational Resources (OER) were new to them. If Nepali online students are to be successful online learners, which encompasses the evolving pedagogy of eLearning through distributed learning then they must have initial F2F training that introduces them to the vast repository of information available to them through the Internet. As mentioned in Chapter III, most Open Universities are embracing technology in their pedagogical models and with the growth and development of OER and Creative Commons, a great deal of information is available to students today. This information is free of cost which holds out great potential to students from underdeveloped and developing countries, but because their access to the Internet has been limited due to costs of computers and Internet connection, their knowledge of the resources available online have been limited to social media platforms such as Facebook and LinkedIn. They have not been introduced to the concept of ‘learning online’ and they will need to ‘learn how to learn’ online, with initial F2F assistance.

Step 2: Mastering Discourse Skills

As mentioned earlier in this chapter, the 26 students who participated in one of the four courses had difficulty completing the assigned daily tasks. Although they interacted enthusiastically, they often lost sight of the actual task. In order to complete an academic course online they would require tutorials in time management training, online discourse etiquette and norms, online collaboration techniques as well as a place to meet and talk with other students to form a community of learners. This additional assistance is related to culture as much as skill attainment. Nepal culture is present oriented and students

would require a comprehension of the nature of academic studies and their finite nature (specific end date of course, course assignment deadlines, etc.).

Some open universities such as The Open University of the Netherlands, Open University of Israel, IGNOU and The Open University have established support centres to assist students with their learning, while others such as the Arab Open University include mandatory F2F sessions as part of each course.

The University of Copenhagen uses Gilly Salmon's Five-stage Model of Online Learning which recognizes the fact that students require access, motivation and socialization to succeed in online learning. This collates with the first 2 stages of the SCCAD Model. Students will be able to form F2F communities of learners for support and motivation.

Therefore the proposed Skills, Content, Concepts, Application for Development (SCCAD) Model includes a facilitation centre in regions where OUN students could conveniently access this form of assistance. The centres might be permanent locations, mobile vans that roam the region or, as the Web evolves, virtual online platforms using tools yet to be developed.

The mandate and purpose of the facilitation centres would be to assist OUN students with the fundamental skills required to build the foundation for successful online learning; helping them to 'learn how to learn' online. The centres would also build a community of learners in remote regions, which would help students collaborate and motivate each other.

Step 3: Content and Concept Mastery

The completion of one online university course will be a daunting task for many Nepalis who have never experienced higher education or online learning. The concept of time is viewed very differently in polychromic societies, and the end of a course will appear as a great distance off, perhaps

even unattainable. Each course should be divided into 3-4 units with a certificate or badge rewarded at the completion of each unit. This would help to motivate students to continue and complete a course.

A blend of Constructionist and Operant Conditioning learning theories will work well with Nepali students, especially in first year program courses. An emphasis on positive re-enforcement from the instructor and stimulus/response design will ensure that Nepali students begin to learn that today's choice will have future consequences. This paradigm was clearly missing in the online courses offered in this study. Students were 'living in the present' rather than focusing on a task due the next day.

During a casual discussion in the field with a group of students who had completed one of the courses the students were asked why it was difficult to finish each task on time. The group laughed and smiled. One member perceptively replied, "Because in Nepal there are no consequences if something is not finished according to schedule. Life is very relaxed here." This is a fine example of the cyclical nature of life and the perception of time mentioned previously in this paper.

Successful course design should include Salmon's Five Stages with a constructivist approach. These stages emerged naturally in the online courses offered and students adapted well to this approach. A Subsumption theory will be important in the early years of a program as students adjust to a learner-centred, discovery approach, which they can apply in final years of study.

Operant Conditioning focuses on the close relationship between a stimulus and a response (Goldstein, 2008). Monchinski (2008) added that this perspective of Skinner's theory makes one assume that, owing to its implementation in a real-life classroom environment, students learn that today's choice influences future consequences.

Course content should be delivered through materials that can be downloaded to a computer or hard copies of course material such as books, readings, and DVDs can be included with the course package. Electricity service, and therefore Internet access, is not reliable in many areas of Nepal.

Students should be able to download assignment documents and readings, so they can work offline. When electricity service is in operation they can then upload their completed work. They can also be taught how to copy forum conversations to a Word document so they can read them offline, compose responses and then copy and paste their responses to the appropriate conversation thread when they are able to go back online.

Synchronous sessions are currently very challenging in Nepal. The 2-week Course had initially planned for a weekly synchronous chat on the Moodle, but none were successful. It was not possible to have all students connected to the Internet at the same time because loadshedding occurs intermittently throughout Nepal. There was never a time when all students had electricity and/or Internet access at the same time.

A system similar to the Athabasca University's Group Study Course would work well in remote areas of Nepal. Although students might progress at different rates, it is assumed that a group of students are working on one course at the same time with F2F classroom facilitation taking place at designated centres.

When the first classes begin with an Open University in Nepal, further research might find that mLearning applications, currently being developed by Athabasca University in Canada, might offer new learning opportunities. People in remote locations who have mobile devices with connectivity can access learning materials from anywhere and at any time.

As mentioned in Chapter III, pedagogical models of online learning must be developed through a grounded design approach which reflects the particular time and place. A pedagogical model for Nepal must consider that it is in its very early stages of development, both technologically and from a learner-centred constructivist approach. Therefore following the example of the Universida of Aberta the

SCCAD Model must be evaluated continuously and improvement made in areas that require improvement, when needed.

The SCCAD Model is not based on one learning theory, but incorporates various approaches to learning depending on the course level, course subject, and course learning outcomes; but the umbrella pedagogy will be constructivist in nature with an emphasis on learning rather than teaching, learner-centred interactive and collaborative learning with technology integration and solid scaffolding, and applied in contexts which are relevant and motivating to Nepali learners.

Students who participated in the 2-week online course had no difficulty with the transition from rote-learning, teacher-centred learning to a constructivist approach. Within 24 hours of the course start date, they were interacting with each other and asking questions of peers.

The SCCAD Model builds on these fundamental skills and then provides course content that includes materials and examples relevant to Nepali learners. Course content should not be simply imported from Western universities, but adapted to the cultural context and needs of Nepali learners. It must also consider an approach similar to the University of British Columbia in considering the learner creation of mental models based on their own experiences and situation.

Knowledge of the linguistic multiplicities of Nepal is crucial in designing a pedagogical model. Paulo Freire (2005) refers to this as "the dynamic relationship between what we inherit and what we acquire" (p. 124). Western-based pedagogy cannot simply be imported to a developing country with no adaptations for cultural differences without being at risk of failure (Qiao & Tan, 2009). As Kramsch & Sullivan (1996) succinctly state, 'global thinking, local teaching' is essential with regard to adapting pedagogy to meet the needs of varying cultures.

If the content is relevant to Nepali learners, then concepts will be easier to understand, appreciate and apply to a Nepali learner's worldview and situation. The application stage of the model is the

culmination of this building of skills, learning of content and formulation of concepts in each OUN course.

Step 4: Application

The greatest challenge to this research study was to remain focussed on the research questions and not veer off down a road of 'advocacy'. The 'problems' experienced daily by many Nepalis did influence the final creation of the pedagogical model for an open university in Nepal. Education should be resourceful in equipping students to question those structures and norms that are oppressive to some members of the society (Carney & Rappleye, 2011). It is also a resource for creating new structures and norms that address the diverse needs of the country. Students are able to question the legitimacy of discriminatory systems, and then aim at integrating the country (Carney & Rappleye, 2011). 'Integrating the country' would help develop a national education policy. Instead of addressing these pressing issues, the Government of Nepal and its Ministry of Education spend most of their time "managing aid flows and responding to external agencies" (Carney & Rappleye, 2011, p. 8). This enormous Western NGO influence on the educational system of Nepal has resulted in a disjointed and confusing mix of various Western educational approaches and pedagogies scattered throughout the country. There is no relevant national continuity or purpose guiding the Nepali educational system.

If an open university can contribute to a national repository of materials that result from the application of knowledge gained through courses it offers, then it will assist in empowering the people of Nepal with open access to information that might assist them with daily life. This repository would not only assist government agencies, but also empower all citizens as everyone with access to the Internet would be able to use the resources.

Every course offered by the open university would culminate with a final Problem-based Project. It would be one of the major learning outcomes of each course that students would contribute to the national repository. Projects will be varied and differ in complexity depending on the level of the course. For example, a first year B. Ed. course may produce simple flash cards or posters with images relevant to Nepal; while a Master of Engineering course may produce plans for an innovative model of a bridge in an inaccessible area of Nepal. This is based on Dewey's concept of 'learning by doing' which has proven valuable in modern learning environments. It gives students practical experience and allows them to synthesize their new knowledge with their own circumstance, culture, and environment (Dewey, 1997). Vygotsky's Social Development Theory and its emphasis on 'real world' application (Vygotsky, 1986) also support this application stage of the SCCAD Model. The Kolb (1984) theory that a student's personal life experiences influences her/his construction of knowledge also enforces the importance of course content that includes problems and examples set in a Nepali context.

The Open Educational Resource (OER) repository can be available to everyone, so professionals can review materials in a particular field, and teachers can access learning materials.

The repository holds the possibility of a massive reform influence, created by the Nepali, for the Nepali. It could become a centre of pride, strength and eventually assist Nepal in regaining control of the nation from NGOs to Nepali institutions.

If planned and operated properly, the national repository could become a model that holds value on several levels. Firstly, it 'gives back' to the nation, secondly, it gives 'purpose' to all learning, thirdly, it empowers Nepali students to begin to solve national problems, fourthly, it will stand as an initial example of openness and transparency much lacking in the institutions of Nepal and finally, it is simply the 'right thing to do'.

Summary

The final outcome of this study is the SCCAD Model. It is meant to serve as an initial pedagogical model for an open university in Nepal. Further research is required to study the SCCAD Model through its application and to determine its feasibility in practice.

The repository the SCCAD Model offers through the Application stage holds great potential to assist the Government of Nepal and the people of Nepal in beginning the process of creating a clear national education policy relevant to Nepal and her people. It will help to create resources applicable to the country and its needs, as well as showcasing materials and projects created by Nepalis for Nepalis. The repository will increase national pride and collaboration; important initial steps for a developing country to look inward rather than outward for support and knowledge.

Chapter IX: CONCLUSION

The purpose of this research study was to develop and assess a pedagogical model for an open university in Nepal, based on geographical, regional, and linguistic factors. It found that there was no significant difference in the attitude, participation, and success of students based on the aforementioned factors, excepting that there was significantly more interest shown for an open university initiative in the western regions of Nepal.

The guiding question for this research study asks: *What is the most suitable pedagogical model for an open university in Nepal?* As the analysis of all the components of this study progressed, other factors emerged from the data that were important contributions to the development of the SCCAD Model, such as the assistance Nepali students would require to begin learning in an online environment, as well as their ability and enthusiasm in adapting to a constructivist approach to learning.

The rapid evolution of the Internet and mLearning offers opportunity for further research and application based on this first assessment of online learning in Nepal.

The study embraced inductive analysis research techniques to allow the Nepali people involved in the 2-week course and those interviewed ‘on the road’ to teach and enlighten the researcher as to the components that should be incorporated into a pedagogical model that would best serve Nepal and her people.

Limitations of the Study

Due to time constraints and a lack of ground support to assist in finding participants for the 2-week online course, the participant profile was limited to those who had access to a computer, Internet

and were actively engaged on social media sites. It is not representative of all students who may benefit from an open university in Nepal.

This study was limited to a very initial study of the ability of Nepali students to succeed in an online learning environment with reference to their linguistic background, geographic location and regional infrastructure services. The pilot course used in this study did not include any type of formal assessments, reflection or academic assignments. It was simply an introduction to some of the skills online students require to work on a LMS platform such as Moodle.

The 2-week course included in this study was offered in the English language. English use is becoming widespread in Nepal and is the medium of study in most private schools, government and business offices. This study was limited to Nepalis who spoke English, and there is much more scope for further research which would include the other languages of Nepal. This is a challenge, as the diversity of Nepal is so rich, that less than half the population speaks Nepalese (Nepal Population Report, 2011).

It was also limited by the fact that only 2.8% of Nepalis use the Internet (Kathmandu Post, July 2012). Further research is required which can offer Internet access to individuals to determine if online education is viable in rural areas.

There is scope for a great deal of further study regarding academic online study and Nepali student success and motivation to achieve in online coursework. This study is the seed to allow further research to build on these findings and investigate the value of the SCCAD Model to serve online learning in Nepal.

Recommendations

Further study should include a broader range of individuals from a more varied geographical, regional, and linguistic background. When the OUN initiative begins its initial stages, the SCCAD

Model can be implemented and tested in specific regions, with a much broader student profile that includes those who may not have been able to participate in this research study.

There is also opportunity for further research of Nepali online students based on different parameters not included in this study such as gender and/or age; as well as research to determine if reflection and eFolios should be included in course content.

If pilot courses are offered in the initial stages of an Open University of Nepal initiative, it would be interesting to work with a control group using F2F assistance and one group with no ground facilities to test and verify whether the first two stages of the SCCAD Model are valid hypothesises.

The SCCAD Model could also be implemented and assessed as to its transferability when open university initiatives are implemented in other developing countries. It could also be implemented into existing open universities that wish to adapt their existing approach to online learning.

Significance of the Study

The keen interest in an open university initiative from the people of Nepal was observed repeatedly during travels throughout the country. Approximately 300 individuals (50% Aryan, 50% non-Aryan) entered into conversations about the OUN initiative during the journeys across the country. Aryans were very interested in the prospect of an open university, but in discussions of the initiative, they would ask technical questions such as: “When will it begin? What courses will be offered? What will be the costs?” Whereas the ethnic people would ask: “How can I participate? How can I learn about computers? Can you help me now?” In other words, Aryans saw it more as a new, convenient ‘way of learning’ whereas people of other ethnicities saw it as a ‘new and rare opportunity’ for education.

A Nepali cultural paradigm which is significant to the success of an open university initiative is the concept of time. Meetings and other occasions never begin on time in Nepal. One comment often

heard when people are waiting for an event to commence is: “Nepali time ho ni ta” (It’s Nepali time). Anup Ojha, a columnist for the Kathmandu Post put it succinctly when he wrote, “That is to say, if a program in Nepal starts and concludes as per the stipulated schedule, it loses its importance. The longer a function is delayed, the worthier it is,” (Kathmandu Post, 2011). Many developing countries have a past/present worldview and are not future oriented. In a global context this has put them at a disadvantage, since our modern world operates best in a future oriented mode. All industrialized nations are future oriented. Nepalis traditionally do not plan ahead, but live in the moment. This is another research study in itself; suffice to say, punctuality and planning ahead are not emphasized in Nepali culture and new students to the OUN will have to be trained in time management in order to promote success in academic studies. It would be wonderful if adaptions to culture could be 100%, but there does not seem to be an alternative to assure academic success other than planning your work and meeting course deadlines.

This concept of time may have influenced the manner in which students responded to tasks posted on the course. As mentioned in the previous chapter, students would post comments such as, “What an interesting task,” or “This looks like fun,”, but would not actually complete the task. They did not appear to grasp the concept of urgency or deadline (complete the task today). Although it was encouraging to see the interaction and interest in the Moodle course, and the ability of the students to move to a constructivist approach so quickly, it was clear that if the course had been an academic, credit-bearing course from the OUN, students would fall behind very quickly with assessments and obligations.

Through the analysis of data it was found that there was no significant difference between linguistic groups or geographical area (see Table 16). It was clear that there exists one regional disparity and that is the significant interest in open university initiatives in Western Nepal.

This research study took a holistic approach to the creation of a pedagogical model for an open university in Nepal. It combined all knowledge gained through the surveys, courses, interviews, analysis, conversations, observations, and extensive travel throughout the country. Although the researcher is a product of her own experiences and worldview, every attempt was made to follow a Glaserian approach and view Nepal and the impending research as a 'clean slate' hindered by no preconceptions of the results of the research study.

Other than being conscious of the country's diversity, an open university pedagogical model will embrace the basic features that promote open learning. Open learning is aimed at people from diverse backgrounds who have other commitments such as work and families, and who may be located in different parts of the country. Therefore, the pedagogical model is designed to meet the students' demands in light of their needs (Gosper, McNeill & Woo, 2010). Moreover, open or online education is student-centered, flexible, interactive, and inclusive of digital technology (Pereira et al, 2010; Gosper et al, 2010).

This was the first research study to assess open university pedagogy and student participation in an open model of online learning in Nepal. It can act as a foundation for continued research and development of open university initiatives in Nepal. It culminated with the SCCAD Model, the first pedagogical model for an Open University of Nepal which can now be assessed in further research studies. Further research should be conducted to validate the SCCAD Model in similar contexts, and to further refine the model in a Nepali context.

REFERENCES

Abas, Z. W., Ahmed, A., Kuldip, K. & Harun, H. (2005). Transforming ODL through online collaboration: The hidden curriculum. *Paper presented at the CRIDALA Conference 2005.* Open University Hong Kong.

Abbad, M., & Nahlik, C. (2009). Looking under the bonnet: Factors affecting student adoption of eLearning systems in Jordan. *International Review of Research in Open and Distance Learning, 10*(2), 1-22.

Abrioux, D. (2004). Foreword. In T. Anderson & F. Elloumi (Eds.), *Theory and Practice of Online Learning* (pp. ix-xii). Athabasca, AB: AU Press.

Allan, G. (2003). A critique of using grounded theory as a research method. *Electronic Journal of Business Research Methods*, *2*(1), 1-10.

Ally, M. (2008). Foundations of educational theory for online learning. In T. Anderson (Ed.), *The Theory and Practice of Online Learning* (2nd ed.) (pp. 15-44). Athabasca, Canada: Athabasca University Press.

Anderson, T. (2004). Toward a theory of online learning. In Anderson, T. & Elloumi, F. (Eds.), Theory and Practice of Online Learning (pp. 33-60). Athabasca, Canada: Athabasca University Press.

Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. *International Review of Research on Distance and Open Learning, 12*(3), 80-97.

Athabasca University (2006). *Athabasca University Strategic University Plan 2002-2006.* Athabasca University. Retrieved 25 March 2013 from http://www.athabascau.ca/sup/sup_19_06.pdf

Athabasca University (2013). *About AU.* The Official Site of Athabasca University. Retrieved 26 March from http://www.athabascau.ca/aboutau/distanceeducation.php.

Ausubel, D. P. (2000). *The Acquisition and Retention of Knowledge: A Cognitive View.* Dordrecht, Netherlands: Springer.

Bandura, A. (1997). *Self-Efficacy in Changing Societies.* Cambridge, UK: Cambridge University Press.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(4), 544-559.

Beck, C., (1993). Qualitative research: The evaluation of its credibility, fittingness, and auditability. *Western Journal of Nursing Research. 15*(2), 263-266.

Belawati, T., Kusmawan, U. & Islam, S.M. (2012). Open and distance learning in Asia: A case study. In Hogan, R. (Ed.), *Transnational distance learning and building new markets for universities*. Heresay: IGI Global.

Benados, E. (2006). A blended-learning pedagogical model for teaching and learning EFL successfully through an online interactive multimedia environment. *CALICO Journal, 23*(3), 533-550.

Bhattarai, H. (2004, July). Cultural diversity and pluralism in Nepal: Emerging issues and the search for a new paradigm. *Contributions to Nepalese Studies, 31*(2), 293-340.

Bharati, S., & Takao, H. (2009). Effect of educational values and cultural tradition in access to school. *The International Journal of Learning, 16*(9), 611-620.

Bista, D.B. (2011). *People of Nepal.* Kathmandu, Nepal: Ratna Pustak Bhandar.

Boettcher, J. V. (2011). *Ten Best Practices for Teaching Online Quick Guide for New Online faculty.* Retrieved from http://www.designingforlearning.info/services/writing/ecoach/tenbest.html

Boskic, N., Dobson, T., Gaskell, J., Khan, S., & Miller, J. (2007, October 29). Models for collaborative online learning: Pedagogy, design, and epistemology. Retrieved from http://net.educause.edu/ir/library/pdf/EDU07331.pdf

Boud, D., Cohen, R., & Sampson, J. (2001). *Peer Learning in Higher Education: Learning from & With Each Other.* London, UK: Routledge.

Bruner, J. S. (1966). *Toward a Theory of Instruction.* Cambridge, MA: Harvard University Press.

Carney, S. (2008). Negotiating policy in age of globalization: Exploring educational "policyscapes" in Denmark, Nepal and China. *Comparative Education Review, 53*(1), 63-88.

Carney, S., & Rappleye, J. (2011, March). Education reform in Nepal: From modernity to conflict. *Globalization, Societies and Education, 9*(1), 1-9.

Casil, A. S. (2006). *John Dewey: The Founder of American Liberalism.* New York City, NY: The Rosen Publishing Group.

Central Intelligence Agency (CIA). (2011, October). *The World Fact Book: Nepal*. Retrieved from https://www.cia.gov/library/publications/the-world-factbook/geos/np.html

Centre for Constitutional Dialogue (CCD). (2009). *Recognising diversity and social inclusion in the constitution: Participatory constitution building in Nepal: Book Series No. 9*. Kathmandu: Author.

Cheng, W., & Warren, M. (2007). Online collaborative learning and assessment. In S. Frankland (Ed.), *Enhancing Teaching and Learning Through Assessment: Deriving an Appropriate Model* (pp. 198-213). Dordrecht, Netherlands: Springer.

Chieu, V. M. (2007). An operational approach for building learning environments supporting cognitive flexibility. *Educational Technology & Society*, *10*(3), 32-46.

Chiovitti, R. F., Piran, N. (2003). Rigour and grounded theory research. *Journal of Advanced Nursing*. *44*(4), 427-435.

Clifford, J., & Thorpe, S. (2007). *Workplace Learning & Development: Delivering Competitive Advantage for Your Organization.* London, UK: Kogan Page Publishers.

Common Prospectus (1993). Indira Gandhi National Open University Press: New Delhi.

Cooney, A. (2011). Rigour and grounded theory. *Nurse Researcher*, *18*(4), 17.

Conole, G. (2010). *Review of pedagogical models and their use in eLearning.* Retrieved from http://www.slideshare.net/grainne/pedagogical-models-and-their-use-in-elearning-20100304

Conrad, D. (2013). Assessment challenges in open learning: Way-finding, fork in the road, or end of the line? *Open Praxis*, *5*(1), 41–47.

Corbin, J., Strauss, A. (2008). *Basics of qualitative research*. Thousand Oaks, CA: Sage Publications.

Costa, G. J. M. (2010). *Ethical Issues and Social Dilemmas in Knowledge Management: Organizational Innovation.* Hershey, PA: IGI Global.

Dabbagh, N. (2005). Pedagogical models for ELearning: A theory-based design framework. *International Journal of Technology in Teaching and Learning, 1*(1), 25-44.

Daniel, K. J. (2005). *Advance organizers: activating and building schema for more successful learning in students with disabilities.* Retrieved from Lynchburg College database.

Daniels, H. (2005). *Introduction to Vygotsky* (2nd ed.). New York, NY: Routledge.

Davies, D., & Dodd, J. (2002). Qualitative research and the question of rigor. *Qualitative Health Research. 12*(2), 279-289.

Dewey, J. (1997). *Experience and Education.* New York City, NY: Free Press.

Dikshit, J., Garg, S., & Panda, S. (2013). Pedagogic Effectiveness of Print, Interactive Multimedia, and Online Resources: A Case Study of IGNOU. *International Journal of Instruction, 6*(2), 193-210.

Ehlers, U. D. (2006). Making the difference in eLearning: towards competence development and E-Irritation. In U. Bernath and A. Sangrá (Eds.), *Research on Competence Development in Online Distance Education and ELearning* (pp. 157-170). Oldenburg, Germany: Verlag.

Eshet, Y., Epstein, A., Hammer, R., & Tal, E. (2003). Bridging the gap: A constructivist pedagogical model for distance learning in the academia. In D. Lassner & C. McNaught (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2003* (pp. 1265-1268). Chesapeake, VA: AACE.

Faculty Development and Instructional Design Center. (n.d.). *Howard Gardner's theory of multiple intelligences.* Retrieved from Northern Illinois University database, March 13, 2013, http://www.niu.edu/facdev/resources/guide/learning/howard_gardner_theory_multiple_intelligences.pdf

Filer, J. (2008). *Healthy, Active and Outside: Running an Outdoor Program in the Early Years.* Abingdon, UK: Routledge.

Freire, P. (2005). *Teachers as cultural workers*. Boulder, CL: Westview Press

Freire, P., (2011). *Pedagogy of the Oppressed.* New York: Continuum International Publishing Group.

Gardner, H. (2011). *Frames of Mind: The Theory of Multiple Intelligences.* New York City, NY: Basic Books.

Garrison, J., Neubert, S., & Reich, K. (2012). *John Dewey's Philosophy of Education: An Introduction and Recontextualization for Our Times.* New York City, NY: Palgrave Macmillan.

Geith, C. (2008). Teaching and learning unleashed with Web 2.0 and Open Educational resources. In EDUCAUSE (Ed.), *The tower and the cloud: Higher education in the age of cloud computing* (pp. 219-226). Berkley: EDUACAUSE.

Germain-Rutherford, A., & Kerr, B. (2008). An inclusive approach to online learning environments: models and resources. *Turkish Online Journal of Distance Education, 9*(2), 64-85.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory*. Hawthorne, NY: Aldine de Gruyter.

Glaser, B. G. (1992*). Basics of grounded theory analysis: Emergence vs forcing.* Valley, CA: Sociology Mill Press.

Glaser, B. G. (1998). *Doing grounded theory: Issues and discussions.* Mill Valley, CA: Sociology Press.

Glaser, B. G. (2002). Conceptualization: On theory and theorizing using grounded theory. *International Journal of Qualitative Methods*, *1*(2).

Goldstein, E. B. (2008). *Cognitive Psychology: Connecting Mind, Research, and Everyday Experience. Manual* (2nd ed.). Belmont, CA: Cengage Learning.

Gosper, M., McNeill, M., & Woo, K. (2010). Harnessing the power of technologies to manage collaborative e-learning projects in dispersed environments. *Journal of Distance Education, 24*(1), 167-186.

Government of Nepal (2001). Population Census 2001, Kathmandu: Nepal Central Bureau of Statistics.

Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation*. Newbury Park, CA: Sage Publications.

Hammad, S., Saria, T., & Al-Ayyoub, A. (2010). A regional integrated virtual learning environment: The AOUs experience. *Systemics, Cybernetics and Informatics, 2*(1), 10-14.

Haugen, H., Ask, B., & Bjørke, S. Å. (2010). ICT-supported education; learning styles for individual knowledge building. In M. D. Lytras, P. O Pablos, A. Ziderman, A. Roulstone, H. Maurer, and J. B. Imber (Eds.), *Knowledge Management, Information Systems, ELearning, and Sustainability Research* (pp. 215-224). Berlin, Germany: Springer

Heinze, A., Procter, C., & Scott, B. (2007). Use of conversation theory to underpin blended learning. *International Journal of Teaching and Case Studies, 1*(1/2), 108-120.

Hill, I., & World Bank. (1999). *Forest management in Nepal: Economic and ecology*. Washington, D. C.: The World Bank.

Hutchinson, M., Tin, T., & Cao, Y. (2008). "In-Your-Pocket" and "On-the-Fly": Meeting the Needs of Today's New Generation of Online Learners with Mobile Learning Technology. In T. Anderson (Ed.), *The Theory and Practice of Online Learning. 2nd ed.* (pp. 201-220). Edmonton, AB: AU Press.

Jarvis, P., Holford, J., & Griffin, C. (2003). *The Theory & Practice of Learning* (2nd ed.). Abingdon, UK: Routledge.

Johnson, S. D., & Aragon, S. R. (2003). An Instructional Strategy Framework for Online Learning Environments. In *New Directions for Adult and Continuing Education* (pp. 31-43). Wilmington, DE: Wiley Periodicals.

Jones, C., Aoki, K., Rusman, E., & Schlusmans, K. (2009). A comparison of three open universities and their acceptance of internet technologies. *Proceedings of the 23rd ICDE World Conference on Open Learning and Distance Education,* Maastricht, Netherlands. Retrieved from http://www.ou.nl/eCache/DEF/1/99/498.html.

Kathmandu Post, (2011) October 15 Posted at 09:19 http://www.ekantipur.com/the-kathmandu- post/2011/09/14/oped/postplatform-why-cant-we-be-punctual/226321.html

Kathmandu Post, (2012) July 8, 2012 http://www.ekantipur.com/the-kathmandu-post/2012/07/08/related_articles/the-english-language-in-nepal/236968.html

Keller, F. S., & Sherman, G. (1982). *The PSI Handbook.* Lawrence, KS: TRI Publications.

Khoja, S., Sana, F., Karim, A., & Rehman, A. (2008). Implementing constructive pedagogical model in dynamic distance learning framework. In D. M. A. Hussain, A. Q. K. Rajput, B. S. Chowdhry, & Q. Gee (Eds.), *Wireless Networks, Information Processing and Systems* (pp. 191-201). Berlin Heidelberg: Springer.

Kirkwood, Adrian (2007). Distance education in transition: adapting pedagogical models and approaches for adult learners in the digital world. In *The times they are changing: Researching transitions in lifelong learning* (pp. 22-24). Stirling, UK: Stirling University Press.

Kirkwood, A., & Price, L. (2005). Adaptation for a changing environment: Developing learning and teaching with information and communication technologies. *International Review of Research in Open and Distance Learning 7*(2).

Koirala-Azad, S. (2008, September). Unravelling our realities: Nepali students as researchers and activists. *Asia Pacific Journal of Education*, *28*(3), 251-263.

Kolb D.A. (1984). Experiential learning experience as a source of learning and development. Englewood Cliffs, NJ: Prentice Hall.

Koustourakis, G., Panagiotakopoulos, C., & Vergidis, D. (2008, June). A contribution to the Hellenic Open University: Evaluation of the pedagogical practices and the use of ICT on distance education. *The International Review of Research in Open and Distance Education, 9*(2). Retrieved from http://www.irrodl.org/indes.php/irrodl/Article/view/424/1044

Kramer, C. (2002). *Success in On-Line Learning.* Albany, NY: Cengage Learning.

Kramsch, C. & Sullivan, P. (1996). Appropriate pedagogy. *ELT Journal, 50*(3), 199-212.

Kruger, C. J. (2010, June). *Latest ICT trends in enhancing education*. Paper presented at Southern African Computer Lecturers' Association Conference, Pretoria, South Africa. Retrieved from http://web.up.ac.za/ecis/SACLA2010/Papers/SACLA029.pdf

Lambert, L. (2002). *The Constructivist Leader* (2nd ed.). Ney York City, NY: Teachers College Press.

Laurillard, D. (2002). *Rethinking university teaching: a conversational framework for the effective use of learning technologies* (2nd ed.). London, UK: Routledge.

Learning Technologies Unit. (2007, April 14). *Teaching quality enhancement fund projects (Pedagogical templates Report v 1.0).* London: University of London.

Leonard, D. C. (2002). *Learning Theories: A to Z.* Westport, CT: Greenwood Publishing Group.

Lewis, M. Paul (Ed.). (2009). Ethnologue: Languages of the world, (16th ed.). Dallas, Tex.: SIL International. Retrieved from http://www.ethnologue.com/.

Lorentsen, A., Bygholm, A., Wilt, J., Heiner, M., Schneckenberg, D., Kokkeler, B., . . . Opsomer, A. (2001). Report working group 7: Pedagogical models and online pedagogy. *Grant Agreement number: 2001-3453/001-001 EDU-ELEARN*. Retrieved from http://reve.europace.org/docs/cevu/online_pedagogy.pdf

Madsen, U., & Carney, S. (2011, March). Education in an age of radical uncertainty: Youth and schooling in urban Nepal. *Globalization, Societies and Education, 9*(1), 115-133.

Martin, J. (2002). *The Education of John Dewey: A Biography.* Chichester, UK: Columbia University Press.

Mason, R. (1998). Models of online courses. *The Open University ALN Magazine*, *2*(2), 1-11.

Mayes, T. & Freitas, S. (2004). *Review of eLearning theories, frameworks and models*. London, UK: JISC.

McDowell, L., Sambell, K., & Montgomery, C. (2012). *Assessment for Learning in Higher Education.* Abingdon, UK: Routledge.

McLoughlin, C., & Lee, M. (2008). Future learning landscapes: Transforming pedagogy through social software. *Innovate 4*(5).

McPherson, M., & Nunes, M. B. (2004). *Developing Innovation in Online Learning: An Action Research Framework.* London, UK: Routledge.

Mishra, S. (2007). *Cases on Global ELearning Practices: Successes and Pitfalls.* Hershey, PA: Idea Group Incorporation.

Mohan, R. (2007). *Innovative Science Teaching: For Physical Science Teachers* (3rd ed.). New Delhi, India: PHI Learning Pvt. Ltd.

Monchinski, T. (2008). *Critical Pedagogy and the Everyday Classroom.* New York City, NY: Springer.

Monty, A. (2005). Summary of a pedagogical model of elearning at KVL: "The five-stage model of online learning" by Salmon, G. (2002). *Kobenhavns Universitet IT Learning Centre*. Retrieved from http://www.itlc.life.ku.dk/it_paedagogik /elaerings_paedagogigik/gilly.aspx

Morgado, L., Pereira, A., & Quintas-Mendes, A. (2008). The 'contract' as a pedagogical tool in eLearning. In A. J. Mendes, I. Pereira, & R. Costad (Eds.), *Computers and education: Towards educational change and innovation*. London: Springer-Verlag.

Morse, J. M., & Singleton, J. (2001). Exploring the technical aspects of "fit" in qualitative research. *Qualitative Health Research. 11*(6), 841-847.

Munguatosha, G., Muyinda, P., & Lubega, J. (2011). A Social networked learning adoption model for higher education institutions in developing countries. *On the Horizon 19*(4), 307-320, doi: 10.1108/10748121111179439

Nardi, D. (2001). *Multiple Intelligences & Personality Type: Tools and Strategies for Developing Human Potential.* New York City, NY: Telos Publications.

Nepal Population Report (2011). Government of Nepal: Ministry of Health & Population. Retrieved from http://www.mohp.gov.nep/englihs/files/new_publications/Nepal%20Population%2OReport%202011.pdf

Ouinsee, S. (2004). 3 starts to effort – designing pedagogical models for online learning delivery. In D. Remenyi (Ed.), *Proceedings of the 3rd European Conference on eLearning* (pp. 335-342). Dublin, Ireland: Academic Conferences Limited

Overland, M. (2002). In Nepal, colleges in flames. *Chronicle of Higher Education 49*(6).

Oxford Poverty and Human Development Initiative (2013). "Nepal Country Briefing", Multidimensional Poverty Index Data Bank. OPHI, University of Oxford. Available at: www.ophi.org.uk/multidimensional-poverty-index/mpi-country-briefings/

Pereira, A., Oliveira, I., Tinoca, L., Amante, L., Relvas, M., Pinto, M., & Moreira, D. (2009). Evaluating continuous assessment quality in competence-based education online: The case of the e-folio. *European Journal of Open, Distance and E-learning.* Retrieved from http://www.eurodl.org/?article =373

Persic, A., & Martin, G. (Eds.). (2008). *Links between biological and cultural diversity.* Report of the International Workshop organized by UNESCO with support from The Christensen Fund, Paris: UNESCO.

Peters, O. (1998). *Concepts and models of open and distance learning: Pedagogical models in distance education.* Retrieved from http://www. c3l.uni-oldenburg.de/cde/found/peter98b.htm

Peters, O. (2002). *Distance Education in Transition Developments and Issues* (5th ed.). Berlin, Germany: Verlag.

Piaget, J. (2001). *The Psychology of Intelligence.* London, UK: Routledge.

Pont, T. (2003). *Developing Effective Training Skills.* London, UK: CIPD Publishing.

Postlethwaite, T. (2005, September). *Educational research: Some basic concepts and terminology*. Paris: UNESCO.

Potts, K. S., Sutton, R. M., and Weiner, R. (2009). *Dropouts in eLearning courses.* Retrieved from http://www.grcc.edu/files/rmsutton/Drop-outs_in_eLearning_classes.pdf

Pretty, J., Adams, B., Berkes, F., Ferreira de Athayde, S., Dudley, N., Hunn, E., . . . Pilgrim, S. (2009). The intersection of biological diversity and cultural diversity: Towards integration. *Conservation and Society, 7*(2), 100–112.

Qiao, X., & Tan, H. (2009). An overview of cultural-sensitive pedagogy. *Language at the interface of culture and communication, 1*(2), Retrieved from http://al.comm.louisville.edu/iic/?page_id=324.

Ram, A.G. (2010). Cultural anarchism: the consequences of privileging languages in Nepal. *Journal of Multilingual and Multicultural Development*, *31*(1), 87-100.

Rappleye, J. (2011, March). Catalyzing educational development or institutionalizing external influence? Donors, civil society and educational policy formation in Nepal. *Globalization, Societies and Education, 9*(1), 27-49.

Rennie, F. & Mason, R. (2007). The development of distributed learning techniques in Bhutan and Nepal. *The International Review of Research in Open and Distance Learning, 8*(1). Retrieved from http://www.irrodl.org/index.php/irrodl/article/View/339/765.

Richmond, A. S., & Cummings, R. (2005). Implementing Kolb's learning styles into online distance education. *International Journal of Technology in Teaching and Learning*, *1*(1), 45-54.

Ross, K. (2005). *Sample design for educational survey research*. Paris: UNESCO.

Rutherford, A., & Kerr, B. (2008). An inclusive approach to online learning environments: Models and resources. *Turkish Online Journal of Distance Education, 9*(2), 64-85.

Salmon, G. (2003). *E-Moderating: The Key to Teaching and Learning Online.* London, UK: Routledge.

Sandelowski, M. (1986). The problem of rigor in qualitative research. *Advances in Nursing Science. 8*(3), 27-37.

Sangra, A. (n.d.). Universitat Oberta de Catalunya. In S. D'Antoni (Ed.), *The Virtual University: Models and Messages*. Retrieved from http://www.unesco.org/iiep/virtualuniversity/home.php#catalunya

Santacana, T. (2006). The Open University of Catalonia pedagogical model: The classroom perspective. *Coneixementi Societat 10* (Articles). Retrieved from http://www.gencat.cat/diue/doc_un/cis10_uk_santacana.pdf

Santy, J., & Smith, L. (2007). *Being an E-learner in Health and Social Care: A Student's Guide.* Abingdon, UK: Routledge.

Savenye, W., & Robinson, R. (2004). Qualitative research issues and methods: An introduction for educational technologists. In W. C. Savenye & R. S. Robinson (Eds.), *Handbook of research for educational communication and technology* (1045-1071). Mahwah, NJ: Lawrence Erlbaum Associates.

Schneckenberg, D. (2008). *Educating Tomorrow's Knowledge Workers: The Concept of eCompetence and Its Application in International Higher Education.* Delft, the Netherlands: Eburon Academic Publishers.

Seattler, P. (2004). *The Evolution of American Educational Technology.* Charlotte, NC: IAP.

Shaffer, D. R. (2009). *Social and Personality Development* (6th ed.). Belmont, CA: Cengage Learning.

Sharples, M., McAndrew, P., Weller, M., Ferguson, R., FitzGerald, E., Hirst, T., … Whitelock, D. (2012). *Innovating Pedagogy 2012: Open University Innovation Report 1.* Milton Keynes: The Open University.

Sherpa, N. (2005, September). *Indigenous peoples of Nepal and traditional knowledge.* Paper presented at the International Workshop on Traditional Knowledge, Panama City.

Shields, R., & Rappleye, J. (2008, September). Uneven terrain: Educational policy and equity in Nepal. *Asia Pacific Journal of Education, 28*(3), 265-276.

Shields, R. (2011, March). ICT or I see tea? Modernity, technology and education in Nepal. *Globalization, Societies and Education, 9*(1), 85-97.

Shultz, T. R. (2011). Connectionism and learning. In V. G. Aukrust (Ed.), *Learning and Cognition* (pp. 25-33). Oxford, UK: Elsevier.

Sife, A. S., Lwoga, E.T., & Sanga, C. (2007). New technologies for teaching and learning: Challenges for higher learning institutions in developing countries. *International Journal of Education and Development using Information and Communication Technology, 3*(2), 57-67.

Sigelman, C. K., & Rider, E. A. (2011). *Life-Span Human Development.* Belmont, CA: Cengage Learning.

Siragusa, L. (2005). *Quality eLearning: An instructional design model for online learning in higher education*. Retrieved from http://www.aare.edu.au/ 06pap/sir06100.pdf

Skinner, B. F. (1976). *About Behaviorism.* New York City, NY: Vintage.

Solé, C.R., & Hopkins, J. (2007). Contrasting Two Approaches to Distance Language Learning. *Distance Education, 28*(3), 351-370.

Stein, M. (2011). Theories of experiential learning and the unconscious. In L. J. Gould, L. F. Stapley, and Mark Stein (Eds.), *Experiential Learning in Organizations: Applications of the Tavistock Group Relations Approach* (pp. 19-36). London, UK: Karnac Books.

Steedman, M. (2006). *Encyclopedia of cognitive science connectionist and symbolic representations of language.* Retrieved from http://homepages.inf.ed.ac.uk/steedman/papers/connectionism/ecs.pdf

Strauss, A. L. (1987). *Qualitative analysis for social scientists*. New York, NY: Cambridge University Press.

Strauss A, Corbin J (1998a) Grounded theory methodology: an overview. In N. K. Denzin & Y. S. Lincoln (Eds), *Strategies of qualitative inquiry* (pp. 158-183). Thousand Oaks, CA: Sage Publications.

Strauss, A., & Corbin, J. (1998b). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA; Sage Publications.

Taylor, J. (2001). Fifth generation distance education. *E-Journal of Instructional Science and Technology 4*(1).

Tinoca, L., Oliveira, I., & Pereira, A. (2010). Online group work patterns: How to promote a successful collaboration. In L. Dirckinck-Holmfeld, V. Hodgson, C. Jones, M. de Laat, D. McConnell, & T. Ryberg (Eds.), *Proceedings of the 7th International Conference on Networked Learning 2010* (pp. 429-438).

The Library of Congress. (2011, March 22). *Country studies: Nepal*. Washington, D.C: Author. Retrieved from http://lcweb2.loc.gov/frd/cs/nptoc.html# np0048

Thomas, D. (2003). A general inductive approach for qualitative data analysis. Retrieved from http://www.fmhs.auckland.ac.nz/soph/centres/hrmas/_docs/Inductive2003. pdf

Thornberg, R. (2012). Informed grounded theory. *Scandinavian Journal of Educational Research, 56*(3), 243-259.

Thorndike, E. L. (1999). *The Elements of Psychology.* London, UK: Routledge.

Toba, S., Toba, I., & Rai, N. K. (2005). *Diversity and endangerment of languages in Nepal.* (L.N. Pathak, Trans.) Kathmandu: UNESCO.

Truman Student Success Center. (n.d.). *Kolb's learning cycle.* Retrieved March 3, 2013, from http://excellence.truman.edu/tutoring/userfiles//Kolbs_Learning_Cycle-TSSC.pdf

Turin, M. (2007). *Linguistic diversity and the preservation of endangered languages: A case study from Nepal*. Kathmandu: International Centre for Integrated Mountain Development (ICIMOD).

UNESCO Institute for Information Technologies in Education. (2000, October). *Analytical survey: Distance education for the information society: Policies, pedagogy and professional development*. Moscow: Author.

Van Es, R., & Koper, R. (2006). Testing the pedagogical expressiveness of IMS LD. *Educational Technology & Society*, *9*(1), 229-249.

Vygotsky, L. (1986). *Thought and Language.* Cambridge, MA: The MIT Press.

Vygotsky, L.S. (1978). *Mind in Society: Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.

Waight, C. L., & Stercart, B. L. (2005). Valuing the adult learner in eLearning: part one – a conceptual model for corporate settings. *Journal of Workplace Learning, 17*(5/6), 337-345.

Watts, N. (2010). Reflecting on models for online learning in theory and practice. *All Ireland Journal of Teaching and Learning in Higher Education, 2*(1), 19.1-19.12.

Weegar, M. A., & Pacis, D. (2012). *A comparison of two theories of learning – behaviorism and constructivism as applied to face-to-face and online learning.* Retrieved from http://www.g-casa.com/conferences/manila/papers/Weegar.pdf

Weiten, W., Dunn, D. S., & Hammer, E. Y. (2011). *Psychology Applied to Modern Life: Adjustment in the 21st Century* (10th ed.). Belmont, CA: Cengage Learning.

Wiersum, F., & Shrestha, K. (2010, September). Biocultural diversity in community forestry in Nepal. *ETFRN News 51*, 20-24.

Winther-Schmidt, E. (2011). Projects and programmes: A development practitioner's critique of the transition to a sector-wide approach to educational development in Nepal. *Globalisation, Societies and Education, 9*(1), 51-65.

Wong, L. (2011). *Essential Study Skills.* Boston, MA: Cengage Learning.

Yadava, Y. (2007, August). *Linguistic diversity in Nepal perspectives on language policy.* Paper presented at the Constitutionalism and Diversity in Nepal conference of the Centre for Nepal and Asian Studies, TU, MIDEA Project & ESP-Nepal, Kathmandu, Nepal.

Yadava, Y. (2010, April 18). *Linguistic diversity in Nepal: Situation and policy planning [Abstract]*. Retrieved from http://www.socialinclusion.org.np /researchdetail-201.html

Yadava, Y. P., & Turin, M. (2007). Indigenous languages of Nepal: A critical analysis of linguistic situation and contemporary issues. In Y. Yadava & P. Bajracharya (Eds.), *The indigenous languages of Nepal(ILN): Situation, policy planning and coordination*. Kathmandu: NFDIN.

Yadava, Y., & Bajracharya, P. (2007). *The indigenous languages of Nepal (ILN): Situation, policy planning and coordination.* Kathmandu: National Foundation for Development of Indigenous Nationalities (NFDIN).

Yukselturk, E., & Baturay, M. H. (2011). Online project-based learning: students' views, concerns and suggestions. In S. B. Eom and J. B. Arbaugh (Eds.), *Student Satisfaction and Learning Outcomes in ELearning: An Introduction to Empirical Research* (pp. 357-374). Hershey, PA: Idea Group Inc.

Zhan, Q. (2008). A model for knowledge innovation in online learning community. In Z. Pan, X. Zhang, A. Rhalibi, and W. Woo (Eds.), *Technologies for ELearning and Digital Entertainment* (pp. 21). Hangzhou, China: Springer.

APPENDIX A: Consent Form (English)

For further information:
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April 20, 2012

Development and evaluation of a pedagogical model for an open university in Nepal based on geographical, regional and linguistic factors

Consent Form

I, (please print)_____ have read and understood the information on the research project **Development and evaluation of a pedagogical model for an open university in Nepal based on geographical, regional and linguistic factors** which is to be conducted by Susan Bainbridge. I agree to voluntarily participate in this research and give my consent freely. I understand that the project will be conducted in accordance with the Information Letter, a copy of which I have retained for my records. I understand I can withdraw from the project at any time, without penalty, and do not have to give any reason for withdrawal.

I consent to:

Completing a series of questionnaires. Yes/No

Participating in a short online course. Yes/No

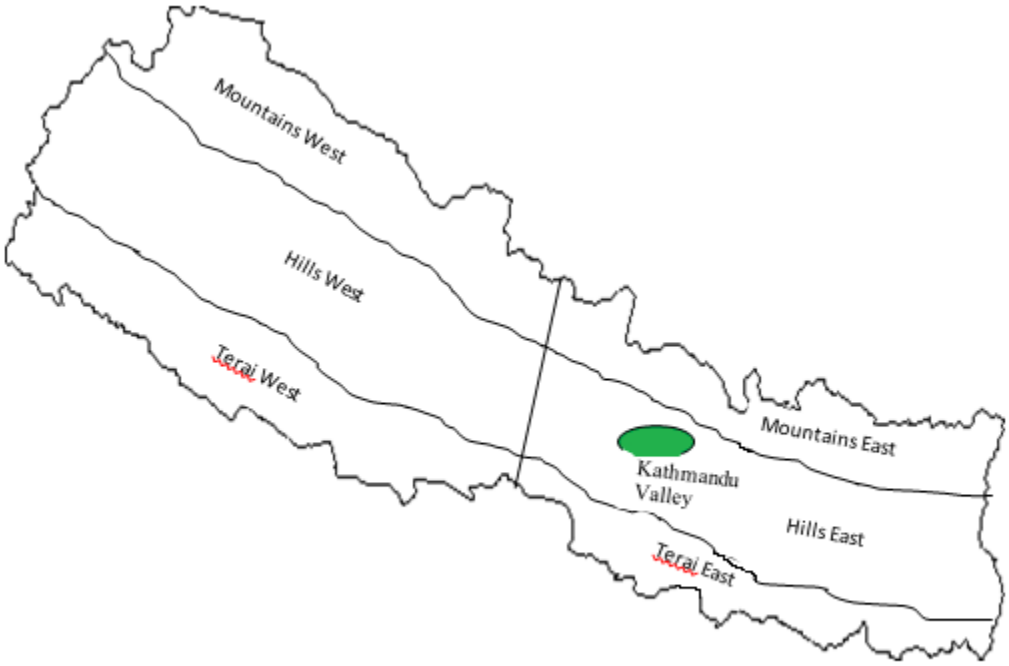
Providing feedback on the effectiveness of the course through a survey and/or participating in researcher-led focus groups and/or interview. Yes/No

Print Name: _____

Signature: _____

Date: _____

APPENDIX B: Map of Nepal



APPENDIX C: Identification Survey

1. First name
2. Last name
3. Do you own a mobile phone?
4. How many times do you use your phone daily/weekly/monthly?
5. What is your phone number?
6. What is your email address?
7. Gender: Male or Female
8. Age
9. Marital status: married or living as married, single, divorced, widowed
10. Number of children
11. I am: a student not working housewife employed

    Job:_____

12. What is your job?
13. I work : full time part time
14. I have access to a computer at: Home Family neighbour Internet Café at work
15. My Internet skills are: beginner elementary intermediate advanced
16. What is your first language?
17. What is your ethnic background?

    Pahari
    Bhotia
    Gurung
    Kiranti
    Limbu
    Magar
    Newar

Rai
Sherpa
Tamang
Thakali
Other

18. What is your reading level in your first language? elementary intermediate advanced
19. What is your writing level in your first language? elementary intermediate advanced
20. What is your level in Nepalese? elementary intermediate advanced
21. What is your level in English?
22. What additional languages do you speak? _____
23. What is your level in each additional language?

    _____ elementary intermediate advanced

    _____ elementary intermediate advanced
24. In what region did you grow up?
25. What is the name of your hometown?
26. Would you be interested in further education if an Open University offered online courses that you could afford? yes no maybe
27. If so, what subject area would interest you? _____
28. Would you be interested in participating as a student in a free, 2-week online course called "Introduction to Online Learning" to help improve online learning for people in your region? yes no maybe
29. Would you be willing to be interviewed in person or over the telephone by a researcher at the end of the course? yes no

APPENDIX D: Post Course Survey

Post-Course Survey:

1. Gender: Male or Female
2. Age:
3. Marital status: married or living as married, single, divorced, widowed
4. Number of children
5. I am: a student not working housewife employed

   Job:_____
6. I work : full time part time
7. I have access to a computer at: Home Family neighbour Internet Café at work
8. I would need access to a computer to complete online courses.
9. I felt welcome in this course. --- -- 0 ++ +++
10. My interest in online learning is: --- -- 0 ++ +++
11. The tutor was helpful. --- -- 0 ++ +++
12. I understood instructions without help. --- -- 0 ++ +++
13. I understood instructions with help from tutor. --- -- 0 ++ +++
14. I would need a facilitator to complete online courses, --- -- 0 ++ +++
15. My Internet skills BEFORE this course --- -- 0 ++ +++
16. My Internet skills AFTER this course --- -- 0 ++ +++
17. This course would be necessary before I took a full online course.--- -- 0 + ,+++
18. Course instructions were clear --- -- 0 ++ +++
19. I enjoyed this course. --- -- 0 ++ +++
20. How much time per day spent on course? Under 1 hour 1 hour More than 1 hour

APPENDIX E: Ethics Review Board Letter of Approval

MEMORANDUM

Athabasca University
Canada's Open University™

DATE: May 24, 2012

TO: Susan Bainbridge
COPY: Dr. Mohamed Ally (Research Supervisor)
Janice Green, Secretary, Athabasca University Research Ethics Board
Dr. Simon Nuttgens, Chair, Athabasca University Research Ethics Board
FROM: Dr. Rick Kenny, Chair, CDE Research Ethics Review Committee
SUBJECT: **Ethics Proposal #CDE-12-04: "Pedagogical Model for an Open University of Nepal Based on Cultural, Social and Linguistic Factors"**

Thank you for providing revised documentation requested by the Centre for Distance Education (CDE) Research Ethics Review Committee in the Conditional Approval memo dated February 10, 2012. Your cooperation in editing to incorporate changes requested was greatly appreciated. The changes resulting from expansion of the study to include non-student adult members of the community have also been noted.

On behalf of the CDE Research Ethics Review Committee, I am pleased to confirm that this project has been granted **FULL APPROVAL** on ethical grounds, and you may proceed **once the minor changes listed on page two of this memo have been made** and a final revised copy of the application has been submitted for file.

The approval for the study is **valid for a period of one year from the date of this memo.** If required, an extension must be sought in writing prior to the expiry of the existing approval. **A Final Report is to be submitted when the research project is completed.** The reporting form can be found online at http://www.athabascau.ca/research/ethics/ .

This approval of your application will be reported to the Athabasca University Research Ethics Board (REB) at their next monthly meeting. The REB retains the right to request further information, or to revoke approval at any time.

As implementation of the proposal progresses, if you need to make any significant changes or modifications, please forward this information immediately to the CDE Research Ethics Review Committee via rebsec@athabascau.ca , for further review.

If you have any questions, please do not hesitate to contact Janice Green at janiceg@athabascau.ca or rebsec@athabascau.ca .

Centre for Distance Education Research Ethics Review Committee
(A Sub-Committee of the Athabasca University Research Ethics Board)
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