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**CONTEMPLATIVE PRACTICES AND LEARNING:  
A HOLISTIC APPROACH TO EDUCATION IN BHUTAN**

A Dissertation Presented

by

YANG GYELTSHEN

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

September 2016

College of Education  
Education Policy and Leadership

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**CONTEMPLATIVE PRACTICES AND LEARNING:  
A HOLISTIC APPROACH TO EDUCATION IN BHUTAN**

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YANG GYELTSHEN

Approved as to style and content by:

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College of Education

## **DEDICATION**

This dissertation is dedicated to all devoted Teachers for their unconditional and infinite  
love, care, and guidance for the overall wellbeing of their Students

## **ACKNOWLEDGMENTS**

I am indebted, first of all, to the Center for International Education for accepting me to be part of the Graduate Study community in the College of Education at the University of Massachusetts Amherst. As an intellectual community, the help and cooperation the center rendered to me in my pursuit of this study was not only warm and cordial, also have been helpful all along.

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Without Professor Alice Harris from the Department of Linguistics, I would have not known whom to choose for my external examiner. For accepting to be my external examiner, I owe Professor Alice my deepest gratitude. As Language Consultant for Linguistic 748, the interactions I had with her and her students have been enriching.

It is with great honor and appreciation I thank all my above professors for helping me get through this research study, the academic endeavor I highly value.

## **ABSTRACT**

### **CONTEMPLATIVE PRACTICES AND LEARNING: A HOLISTIC APPROACH TO EDUCATION IN BHUTAN**

September 2016

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M.ED., UNIVERSITY OF NEW BRUNSWICK CANADA

PH.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor Cristine S. Crispin

This study examines the comments, behavior, and products of young student monks, who are exposed to an integrated curriculum of contemplative practices and secular lessons, about whether and how they bring their social-emotional learning from the contemplative practices to bear when learning secular functional skills and knowledge. At the beginning of my self-study, I hypothesized that an integrated curriculum of secular learning combined with contemplative practices would result in deeper learning, based on the research and literature on the connection between affective and cognitive learning. My findings support and do not negate previous research that an integrated curriculum, integrating contemplative practices with secular studies— affective and cognitive learning—contributes both to one’s affective, social and emotional development and to improved cognitive learning. My observations of students’ comments, behavior and products lead me to propose that the Dharma lessons

incorporated in each thematic unit in the *Lhomon Education* curriculum work toward that end. I propose that contemplative practices help to build critical, problem-solving, analytic and cognitive skills that educators strive to develop in students. My proposition—and that of Bhutan—is that the ultimate goal of education should be well-being and happiness, and the purpose of education should be to create those conditions that will enable the pursuer to strive for this fundamental goal.



## TABLE OF CONTENTS

	<b>Page</b>
ACKNOWLEDGMENTS.....	v
ABSTRACT.....	vi
LIST OF TABLES .....	xi
LIST OF FIGURES .....	xii
LIST OF ACRONYMS .....	xiii
<b>CHAPTER</b>	
1: INTRODUCTION TO THE STUDY .....	1
Problem Statement.....	1
Geopolitical and Socio-Historical Context.....	3
Bhutanese Education System.....	5
Research Question and Context.....	11
Purpose and Significance.....	13
Dissertation Overview.....	14
2: LITERATURE REVIEW .....	16
Introduction.....	16
The Taxonomy of Learning Domains.....	16
Holistic Education.....	18
Holistic Education Theory.....	18
The Evolution of Holistic Education.....	20
Holistic Education in Practice.....	23
Holistic Education at Chokyi Gyatsho Institute in Bhutan.....	25
Contemplative Education.....	29
Contemplation and related Terms and Purpose.....	29
Contemplative Education Theory and Practice.....	31
Spirituality in Contemplative Practices.....	34
Research on the Impacts of Contemplative Practices in Education .....	36
Mindfulness and Attention .....	37

Mindfulness and Social-Emotional Learning.....	39
Mindfulness and Creativity.....	43
Mindfulness and Problem-solving.....	46
Conceptual Framework.....	49
3: RESEARCH METHODOLOGY .....	51
Introduction.....	51
Personal Philosophy.....	52
Research Approach.....	57
Definition of Self-study.....	58
Self-Study Defined by Role.....	58
Self-Study Defined by Situated Practice.....	59
Self-Study Defined by Purpose.....	60
The Nature of Self-Study.....	60
Open, Collaborative, and Reframed Practice.....	61
Paradoxical Processes.....	62
A Postmodern Stance.....	62
Multiple and Multifaceted Methods.....	63
Research Context.....	65
Participant Sample.....	66
Research Instruments.....	69
Curriculum Examination.....	70
Participant Observation and Field Notes.....	71
Informal Conversational Interviews.....	74
Student Products (artifacts of learning).....	76
Open Monitoring: A Creativity Exercise.....	77
Focused Attention: A Problem Solving Exercise.....	78
Student Portfolio.....	79
Self-study Reflections as a Teacher.....	80
Analysis Plan.....	82
Limitations.....	85
4: RESEARCH FINDINGS .....	87
Introduction.....	87

Educational Intervention.....	87
Typical Class Session Using Integrated Curriculum.....	87
Before the Class Session.....	88
Beginning of Class Session .....	89
Closing of Class Session.....	95
Middle of Class Session: Teaching Secular Subjects.....	96
Teacher's Role.....	100
Assessment.....	100
Outcomes of Integrating Affective and Cognitive Learning.....	102
Increased attention.....	102
Socio-emotional learning.....	104
Creativity.....	107
Problem-Solving.....	115
Summary.....	129
5: CONCLUDING THOUGHTS AND REMARKS .....	130
Introduction.....	130
Conclusions.....	130
Implications for Further Research.....	132
Lessons Learned from Self-Study.....	133
Final Remarks.....	136
APPENDIXES	
A : LHOMON EDUCATION CURRICULUM FRAMEWORK AND MAP.....	138
B : THE DRUK 3020 CURRICULUM FRAMEWORK & MAP.....	149
C : PROPOSED THEMATIC UNITS.....	158
D : THEMATIC UNIT PLAN AIR AND SPACE.....	161
E : DHARMA LESSON PLAN ONE.....	165
F : DHARMA LESSON PLAN THREE.....	170
G : A SUMMARY OF MY FIRST TWO WEEKS OF FIELD EXPERIENCE AT CGI.....	175
REFERENCES.....	179

## LIST OF TABLES

Table	Page
1 : Conceptual Framework .....	83
2 : Portfolio Assessment Rubric .....	101
3 : Drawings from CGI Students.....	110
4 : Drawings from RES Students.....	113
5 : CGI Students' Lettering Worksheet.....	123
6 : RES Students' Lettering Worksheet.....	126

## LIST OF FIGURES

Figure	Page
1 : Bloom's Taxonomy.....	27
2 : Two Views of Process in Solving Problems.....	47
3 : Conceptual Framework.....	50
4 : 15 Square Grid.....	78
5 : Art and Nature as a Reflective Process.....	81
6 : Caterpillar.....	108

## **LIST OF ACRONYMS**

<b>CGI</b>	:	Chokyi Gyatsho Institute
<b>CSO</b>	:	Civil Society Organization
<b>EHAS</b>	:	Equinox Holistic Alternative School
<b>GNH</b>	:	Gross National Happiness
<b>LME</b>	:	Lho Mon Education
<b>LMS</b>	:	Lho Mon Society
<b>MOE</b>	:	Ministry of Education
<b>RSA</b>	:	Royal Society for the encouragement of Arts, Manufactures, and Commerce
<b>RES</b>	:	Rekhey Elementary School
<b>SEL</b>	:	Social-Emotional Learning
<b>UNESCO:</b>		United Nations Educational, Scientific, and Cultural Organization
<b>WCS</b>	:	Whole Child School

# CHAPTER 1

## INTRODUCTION TO THE STUDY

### **Problem Statement**

*Gross National Happiness is more important than Gross National Product*  
— The Fourth King of Bhutan

His Majesty the Fourth King of Bhutan made this pronouncement soon after his enthronement in 1972. Since then, Bhutan has oriented its national policy and development plans towards Gross National Happiness (Ura et al., 2012). Popularly known by the acronym “GNH” (Gross National Happiness), it has become Bhutan's guiding development philosophy, seeking to balance equitable and sustainable socio-economic development with environmental and spiritual wellbeing of the people (NECS, 2012). In the words of Bhutan's first democratically elected Prime Minister, “...true development of human society takes place when material and spiritual development occur side by side to complement and reinforce each other” (Hayward et al., 2009, p. xix). In 2007, the Ministry of Education, Royal Education Council<sup>1</sup>, and Centre for Bhutan Studies<sup>2</sup> all undertook studies on how to incorporate GNH principles and values into educational curricula (MoE, 2010). By the end of 2009, the government, in collaboration with the Ministry of Education, launched an unprecedented new paradigm for education in Bhutan—*Educating for Gross National Happiness* (MoE, 2011). The vision for this GNH-infused educational system states:

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<sup>1</sup> Established through a Royal Command to initiate and implement education reforms across the entire school, technical, and tertiary education.

<sup>2</sup> An autonomous research institute dedicated towards promoting research and scholarship on Bhutan.

*The principles and values of Gross National Happiness will be deeply embedded in the consciousness of Bhutanese youth and citizens. They will see clearly the interconnected nature of reality and understand the full benefits and costs of their actions. They will not be trapped by the lure of materialism, and will care deeply for others and for the natural world.*

How?

*Bhutan's entire educational system will effectively cultivate GNH principles and values, including deep critical and creative thinking, ecological literacy, practice of the country's profound, ancient wisdom and culture, contemplative learning, a holistic understanding of the world, genuine care for nature and for others, competency to deal effectively with the modern world, preparation for right livelihood, and informed civic engagement (Hayward & Colman, 2010, p.6).*

Deeply embedded in this statement about a GNH-infused education system and its projected trajectory lies the focus of my study, which is *Holistic Education*—education that takes into account the *affective* dimension of learning as much as the *cognitive* dimension. One of the ways for educators to infuse the affective dimension into learning is through reflective or contemplative practices such as concentration meditation and mindfulness meditation. The Ministry of Education in Bhutan promotes these practices as one of the key pathways to bring GNH principles and values into the educational system:

- Contemplative training is an important element in preparing our children into GNH graduates.
- Contemplative practices have proven its benefits in learning through enhancement of concentration, memory and self-discipline.
- Our students would benefit from contemplative practices by way of improvement in academic performance, stress relieve and generally nurturing positive emotions.

The ultimate goal of GNH-infused education is well-being and happiness, echoing Noddings's (2003) claim that "Happiness should be the aim of education" (p.1). While



the attempt to transform school curricula into holistic education, by incorporating deep critical thinking, indigenous wisdom, contemplative practices, sustainability, and eco-literacy into teaching, is not new in schools in different parts of the world, no country has ever attempted to do so, on a national scale as in Bhutan (Hayward et al., 2009). The hope is, if successful in Bhutan, it could succeed elsewhere. If the ultimate goal of education is well-being and happiness, education should create holistic learning conditions that focus equally on students' affective and cognitive development.

### **Geopolitical and Socio-Historical Context**

Bhutan is a small country with a population of approximately 750,000 people, nestled in the eastern end of the Himalayas. Bhutan is often compared with Switzerland, both in size and natural beauty. The far northern half of the country is adorned with majestic snowcapped peaks and the southern half with lush green subtropical mountains and foothills, with fertile river valleys in between. Despite its giant neighbors—India to its east, south, and west frontiers and the Autonomous Region of Tibet or China to the north, Bhutan has been independent throughout its history. However, until recently, Bhutan has not opened itself to the outside world, and global movements had little impact on Bhutan, partly due to the country's geography, making navigation of mountainous terrains difficult. Thus, topography shaped Bhutanese life, history, and culture, with little outside influence.

Before any large-scale development activities took place, Bhutanese people largely lived on subsistence farming. As in other Himalayan countries, early settlers in Bhutan were semi-nomadic herdsmen, for whom the trees, lakes and mountains were sacred. Bhutanese still regard the natural environment with great respect. Trade or

commerce if any, existed only in the form of barter between the neighboring valleys. Literacy, either in *Dzongkha*<sup>3</sup> or *Choekey*<sup>4</sup>, received from monastic education was sufficient then. With the arrival of Buddhism in Bhutan in the eighth century, religion has played a significant role in the lives of Bhutanese people.

The first hereditary King of Bhutan was Ugyen Wangchuck, enthroned in 1907 (Wangchuk, 2006; Dorji, 2008). Thereafter, each succeeding king brought gradual changes in the country by liberalizing and conceding powers to the elected representatives that formed the National Assembly. Exactly a century later, in 2007, the fourth king decided to hand power back to his people by drafting a Constitution that would give Bhutan a two-party electoral system and a constitutional monarchy. He abdicated the throne in favor of his eldest son, Crown Prince Jigme Khesar Namgyel Wangchuk as the constitutional monarch (Wangchuk, 2006). The general election was held in March 2008, and the winning party president Jigmi Yoser Thinley became Bhutan's first democratically elected Prime Minister. An absolute monarchy for a full century, Bhutan is now both a constitutional monarchy and a parliamentary democracy, making it one of the youngest democracies in the world.

Bhutan has only recently become more open to the rest of the world. Television was introduced in Bhutan for the first time in 1999; satellite connections and Internet services began after that. Thus, Bhutanese have only been exposed to the outside media in the past 16 years, but its impact is already felt:

---

<sup>3</sup> Bhutan's national language

<sup>4</sup> *Choekey* literally means *dharma language*, classical Tibetan language specified for expressing dharma teachings as opposed to *Phalkey*, a common language for general communication in Bhutan.

*A Thimphu [Capital City] high school student is more apt to choose a plastic bottle of artificial juice from Bangkok over a glass of locally pressed apple juice. The first cases of anorexia are surfacing in the country. Boys are beginning to model behavior they've seen in Korean gangster films. Villagers are selling their land or going into debt in order to buy flashy cars, or simply letting the land go fallow (LMS, 2012).*

### **Bhutanese Education System**

Western-style education was introduced to Bhutan during the reign of the first King, but it was confined to just two private schools—one in Ha (West Bhutan) and the other in Bunthang (Central Bhutan). Until then, the only formal education available to most Bhutanese students was through Buddhist monasteries. Establishment of formal secular schools, government and private, began in the 1950s, signifying a breakthrough in the modern history of education in Bhutan (LMS, n. d.). Formation of a secular school system “brought heterogeneity to the otherwise largely homogenous Bhutanese educational system” (Phuntsho, 2000, p. 98). Bhutanese students could then choose a traditional, monastic education or a secular, modern one.

I use the term “traditional” in this dissertation to refer to the indigenous culture of a particular society established over time, while “modern” refers to recent development characterized by up-to-date ideas, techniques, or tools. From a Bhutanese perspective, “traditional” would mean anything indigenous passed on from our ancestors through the generations, while “modern” is viewed as ideas and concepts that come from outside the country, especially from the scientific, western world. These two aspects of culture each have their own sets of goals, values, and perceptions. Bifurcating the styles of how we live and learn this way into traditional and modern is rather an over simplification of the two systems, according to Phuntsho (2000), and he cautions, “One must not overlook the

complexities that underlie both systems and the nuances involved in the usage of the terms” (p. 98).

Bhutanese traditional learning is focused on spiritual content, the fundamental goal being the attainment of the Buddha wisdom, “the benevolent thought of seeking enlightenment for the sake of all sentient beings. Education is to be viewed as a process of edification and knowledge as a tool for benefiting the world” (Phuntsho, 2000, p. 100). In this traditional learning, human development and worldly happiness are only secondary to the spiritual goal of inner enlightenment, an “introverted” purpose. Strongly embedded in Buddhist moral values, traditional education is almost exclusively a *liberal* education, meaning—to *liberate*—to set the mind free from the restraints of narrow thinking, from holding onto one’s prejudices and biases. Liberal education in this sense, from the traditional point of view is largely aimed at making students wiser and enlightened. While modern education comprises both liberal and technical training, the focus is on making students more skillful and productive, not value-oriented. Liberal education in this context, from the western or modern education point of view is to liberate to become free thinkers, potentially in finding solutions to various problems for economic advantage (Phuntsho, 2000).

Guided largely by spiritual principles, every traditional learning session is a solemn occasion, observed with awe and reverence, in an atmosphere of composed posture. Typically, a session begins with a prayer, soliciting guidance and blessing from the lord of knowledge, and concludes with a dedication of merits for the sake of all sentient beings. Texts that contain the subject are considered sacred and treated with respect, and teachers are also respected: full faith and devotion to the teacher and the

teachings are an important aspect of traditional education. Learning itself is viewed as a virtuous activity that will lead to a higher level of spiritual enlightenment, and the knowledge acquired is a tool for benefiting the world. Traditional learning could be critiqued as focusing primarily on upholding and preserving, rather than innovating and inventing. It is characterized by mostly passive receptive learning and repetitive exposition, as Phuntsho (2000) notes, making it possibly unstimulating and monotonous for an unconventional learner.

Modern education, by contrast, is, among other goals, a means of acquiring knowledge and skills for a career, an “extroverted” purpose. According to Phuntsho (2000):

*[modern education] is strongly influenced by materialism, and spiritual endeavors, if any, are marginal. A student is encouraged even at an early stage of learning to opt for subjects through which he or she can develop skills to earn a better living or choose professions that are financially lucrative and socially beneficial (p. 101).*

According to Hayward et al. (2009), most Western education initiatives today are driven by the belief that improvements in economic performance will lead to the enhancement of societal wellbeing. The key role of education, therefore, is to prepare students for their role and function in the economy. In this age of information technology and mass media, education’s role is to:

*upgrade the technical skills and proficiencies of the workforce to meet the new challenges of competition and technological innovations. Central to this is the need for education to prepare students to fit into this new workforce ... and the attainment of a lucrative career (p. 2).*

These may be reasonable goals but, Hayward et al. (2009) argues that, “with the emphasis on material gain, the focus of education becomes narrowed, and the central

challenge of sustainability is not addressed” (p. 2). While preparing students for the job market to secure a livelihood is important, it is only one of the elements of what is needed for overall wellbeing and happiness. For example:

*GNH values define quality of life and wellbeing broadly to include physical and mental health, time balance, vital communities, a healthy environment, and good governance. From the GNH perspective, therefore, an effective education system is one that, as its outcome, enhances wellbeing in all these domains (p.2).*

Modern education provides liberal and technical training, and is overtly less value-oriented, aimed at making the student more skillful and productive, although the “hidden curriculum” in modern education can include many unstated values of industrial cultures, such as waiting one’s turn, sharing, and achievement. Modern education focuses on secular knowledge and skill about the world, its history and its problems. In some modern education systems, students are encouraged to question the teacher, to question received knowledge and to construct knowledge themselves. With the advent of modernization, secular education is, at least according to Phuntsho (2000), “a shift of focus from the endogenous, sacred religious training, which emphasized spiritual development, to the exogenous, secular and technical education, which aimed at enhancing material and economic development” (p. 112).

The ideological difference, according to Phuntsho, is not only in the objectives of the two systems, but also in their perception, outlook, and approach.

Bhutan is maintaining its ancient traditions along with modern education not only for economic knowledge and profit, but also for meaning, social harmony, and human survival. In monastic education, the medium of instruction was Choekey—the classical Tibetan language. An offshoot of this classical language is Dzongkha, Bhutan’s national

language. Dzongkha became the medium of instruction in secular schools, with English as another medium of instruction. With the launch of development activities from the early 1960s, and changing socio-economic conditions, the meaning of “success” has also changed; for many young Bhutanese people these days, “success” is determined not only by a college degree, but also by becoming a civil servant, and hopefully rising to the status of a *Dasho*<sup>5</sup>, with power, privilege and respect in society. As Ueda (2004) puts it, “one has to be a winner in the current education system” (p. 331-332). People began to view English medium education as the path to success (Ueda 2004). Opportunities to climb the ladder of success are almost exclusively for those in English medium education. English has now surpassed Choekey and Dzongkha, perhaps due to the perception of an English medium education as modern.

Throughout much of the world, schools have become a mechanism for survival, a means of upward mobility in society (Galvin 2003), characterized by high hopes and a world “in which college admissions are increasingly competitive, good jobs are hard to find and harder to keep, and basic necessities like housing and health care have skyrocketed in price....This is a time of soaring expectations and crushing realities” (Twenge, 2006, p. 2). Thus, has Bhutan begun the transformation towards a *knowledge society*, “in which knowledge is acquired, created, disseminated, and applied to enhance economic and social development<sup>6</sup>”. Such a transformation also changes historical models of production, according to Tuomi & Miller (2011):

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<sup>5</sup> *Dasho* is the title of a high ranking officer in the government. Traditionally, commoners wear white scarfs, Dashos wear red, Ministers wear orange, and the kings wear yellow. The colored scarves are awarded only by the King. When a person gets the rank of Dasho, he is given the red scarf by the King together with a sword.

<sup>6</sup> From *What is The Knowledge Society?* availed from

*It also generates fundamentally new modes of value production ... characterized by the rapid blurring of the traditional boundary between producers and consumers, downstream innovation, peer production, and unique user-generated products and services...we are moving towards a meaning-based economy (p. 7).*

Any knowledge being acquired or sold must be useful for socio-economic growth and development (Mokyr, 2003). The type of knowledge required in such a world is *cognitive* knowledge, with socio-emotional, *affective* knowledge taking a backseat.

However, to reach the goal of Gross National Happiness, the government stresses that all education should be holistic in nature, paying attention to the spiritual as well as the secular. One proponent of holistic education is the *Lho Mon Society*<sup>7</sup> (LMS), a major civil society organization in Bhutan. Its mission is to foster genuine GNH-based development, in collaboration with existing education institutions and in harmony with government goals. The impact of modern media on Bhutanese youth is one of Lho Mon Society's main concerns. They believe that Bhutanese youth are being indoctrinated by powerful consumerist messages, which are not only contradictory to the indigenous social and cultural values, but also undermine the very philosophy of *Gross National Happiness*. In the face of so called "modern development," LMS worries that Bhutanese youth are losing their connection to the wealth of their own traditions and culture (LMS, 2012).

Thus, the problem I am addressing in this study is the potential unification and harmonization of the two systems of education in Bhutan—one that is traditional, monastic, spiritual and focused on students' affective development, and the other that is

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<http://www.gesci.org/assets/files/2.%20Knowledge%20Society%20October%202012.pdf>

<sup>7</sup> *Lho* means south and *Mon* region. *Lhomon* therefore refers to the people of the region south of the Tibetan plateau, meaning Bhutan.



modern, school-based secular, and focused on students' cognitive development. The CGI pilot of the Lho Man Education curriculum provided me the opportunity to conduct action research, using a self-study methodology, to investigate students' reactions when participating in such an integrated curriculum. This dissertation will investigate whether integrating contemplative practices such as mindfulness meditation into secular education can serve as a pathway to holistic education.

### **Research Question and Context**

The focus of this dissertation is the experiences of Bhutanese youth participating in a holistic oriented curriculum. The Education Ministry's determination has been to bring about *far-reaching reforms* in school education where, what is enshrined in the Bhutanese traditional education system is well balanced with modern education knowledge and skills. In other words, to see, the traditional and spiritual educational goals are well integrated with modern, secular goals in the reformed new approach to education in Bhutan. Such a holistic curriculum strives to develop both students' affective and cognitive development. Along with secular approaches, a contemplative practice such as mindfulness meditation (mind training) is included as one of the pathways to students' affective development. Based on the research literature about the use of contemplative practices in educational settings and their underlying educational philosophies, there is the potential of harmonizing the desired aspects of traditional and modern education systems. Thus, the question driving this study is:

*What can we observe in the comments, behavior, and products of young student monks, who participate in an integrated and holistic curriculum, about whether and how they bring affective learning from contemplative practices, to bear when learning secular, functional skills and knowledge?*

The Lho Mon Society has developed just such an integrated curriculum called *Lho Mon Education* (LME), which includes secular knowledge while using Bhutanese traditions of contemplative practices (see Appendix A for a more in-depth description). LME seeks to create education alternatives that reinforce ancient Bhutanese wisdom traditions while introducing the best of progressive sustainable development practices. The aim is to educate the whole person by engaging the heart and mind in a way that “challenges students, is forward-looking and inclusive, project-based, reflects GNH values, and affirms their unique Bhutanese identity” (LMS, n. d., p. 4).

Since GNH principles are recognized as consistent with Buddhist values and traditions, Dzongsar Khyentse Rinpoche<sup>8</sup> (the founder of LMS) felt that his Chokyi Gyatso Institute (CGI) for Buddhist Studies in Dewathang in south-eastern Bhutan should become the first monastery in the country to introduce a full secular curriculum integrated with the traditional monastic curriculum that includes both meditation and mindfulness training activities.

Under the guidance of Rinpoche, in accordance with the LME framework, the *Druk 3020*<sup>9</sup> Curriculum (see Appendix B for an in-depth description) was design by an international community of educators in collaboration with partner organizations in Bhutan to provide modern education consistent with Bhutanese traditional values. Using Rinpoche’s CGI as a laboratory, LME began to pilot the Druk 3020 curriculum in 2013. To find out how a specific set of students—young Buddhist monks with whom the LME

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<sup>8</sup> *Dzongsar Khyentse Rinpoche* is an honorific title given to a Bhutanese meditation master from a great line of masters and yogis, a teacher of Buddhist philosophy, one of the most progressive Buddhist teachers teaching today.

<sup>9</sup> Rinpoche has chosen the name *Druk 3020* as he wanted educators to think not only about 100 years into the future, but a full millennium ahead. What will be the status of this planet and who will be leading it?

curriculum is being piloted at the CGI for Buddhist Studies —I conducted a self-study research project to investigate how students respond to contemplative practices as part of their learning secular knowledge. *Self-study research* has emerged as an important *research methodology* for teachers who want to investigate their own teaching and classroom and personal education philosophies by using their experiences as student teachers, teachers or teacher educators. A self-study research methodology allowed me to learn from my action research experience as a teacher using the pilot curriculum by using my own autobiographical narrative and personal history.

By teaching for three months in the pilot of the integrated Druk 3020 curriculum at CGI, I was able to observe, talk with, and study how students learning under this curriculum responded as “contemplative learners.” Students designated for testing out this curriculum were 20 boys, their ages ranging from 12 to 17 years. To compare this group’s learning products with those students who do not follow contemplative learning, I chose a group of 6 graders who fall within the same age group in one of the regular schools. There were 10 boys and four girls in this group.

### **Purpose and Significance**

The main purpose of this study is to bring into focus the role of affective learning and development as part of a holistic curriculum for students, one that integrates cognitive and affective learning. *Cognitive learning* is associated with concepts such as knowledge and skills for workforce development and future employment, a core tenet of modern education. *Affective learning* promotes socio-emotional skills, spirituality, and social and cultural values, a core tenet of traditional education in Bhutan. In the face of the influence of mass media and technology on Bhutanese life, the Lho Mon Society

worries that competition will grow, traditional values will weaken, and the result will be communal disharmony in society. Their Lho Mon Education curriculum is an effort to pilot a potential curricular option that can balance the traditional and modern and serve as a model for secular school reform in Bhutan.

Such integrated education reform has the potential to promote understanding of the natural world spiritually and academically. *Teaching for GNH* is one of the initiatives of education reform for this very reason. The need to address the affective dimensions of learning is felt globally and the call for holistic education is universal. While this study addresses the gap between cognitive and affective dimensions of learning, it also attends to the material and spiritual balance, traditional values and modern skills harmony. Affective, contemplative, and GNH-driven education are value laden and process oriented, which credits learning as a holistic endeavor for a transformational change.

Mindfulness training in education is hypothesized, in the research literature, as a support for emotion regulation, stress reduction, and attention development, useful for engaging in any task, personal or academic. Finding from this study can add to the literature base about the role of contemplative practices in teaching and learning, and help educators and policy makers understand whether making affective learning in education settings equal to that of cognitive learning is appropriate for Bhutan and perhaps beyond.

### **Dissertation Overview**

This dissertation consists of five chapters and an appendix. Following this first chapter's introduction to the research problem, purpose and significance of the study, and research question, the second chapter presents a comprehensive review of the literature,

focusing on affective learning and the role of contemplative practices such as concentration meditation and mindfulness meditation in education. Emerging from this review and analysis of the literature is the conceptual framework for this inquiry. Chapter three presents the research philosophy, approach, methods, data collection, and analysis plan. Chapter four presents the research findings, and finally, chapter five presents broad interpretations and discussion of the findings and analysis as well as conclusions and recommendations for further research, policy, and practice.

## CHAPTER 2

### LITERATURE REVIEW

#### Introduction

*When educating the minds of our youth, we must not forget to educate their hearts*

— The Dalai Lama

The basis for a holistic approach to education, including the use of contemplative practices such as concentration meditation and mindfulness meditation, is guided by research in multiple areas, including:

- The taxonomy of *Learning Domains*;
- *Holistic Education* theory and practice;
- *Contemplative Education* theory, practice, and research.

#### The Taxonomy of Learning Domains

The American academic and educational expert, Dr. Benjamin Bloom, developed a system of learning outcomes, known as *Bloom's Taxonomy of Educational Objectives*, first published in 1956. The goal was to assist educators in the design and assessment of learning. Bloom argued that “most teaching tended to be focused on fact-transfer and information recall—the lowest level of training—rather than true meaningful personal development” and believed that, “education should focus on 'mastery' of subjects and the promotion of higher forms of thinking, rather than a utilitarian approach to simply transferring facts” (Chapman, 2006, para. 4). Bloom’s taxonomy identified three categories of learning outcomes: cognitive, affective, and psychomotor. “Bloom's Taxonomy provides an excellent structure for planning, designing, assessing, and evaluating training and learning effectiveness” (Chapman, 2006, para. 12).

The *cognitive domain* of learning involves intellectual skills, such as transforming information in the environment into knowledge, while the *affective domain* involves socio-emotional feelings and attitudes, such as making meaning out of one's experiences. The cognitive domain has come to be known as the *thinking* domain. Affective learning has much to do with participants' *feelings* and *emotions*, often difficult to measure in quantifiable terms. Krathwohl et al. (1964) found that the largest proportion of educational objectives fell into the cognitive domain; by categorizing the learning areas, educators would be able to plan and use each category effectively. Good academic planning and classroom instruction demands that adequate attention be given to both.

This study focuses on the integration of the cognitive and affective learning domains, the *head* (cognitive) and the *heart* (affective). The importance of the affective domain of learning has deep historical roots. For example, the *Upanishad* (Hindu Sacred Texts) states that "truth should be realized, rather than simply known intellectually" (Liu, 2011). French mathematician and scientist Pascal argued that, "We know the truth not only through our reason but also through our heart." Even in literature, *The Little Prince* learns from Fox that, "You can only see clearly with the heart. What matters is invisible to the eye<sup>10</sup>". Holistic education is an education approach that seeks to promote cognitive and affective development together, educating the whole individual.

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<sup>10</sup> From Joann Sfar's graphic novel *The Little Prince*, adopted from the classic book by Antoine De Saint-Exupery

## **Holistic Education**

### **Holistic Education Theory**

The vision of human wholeness is an ancient one, according to Miller (2006). It can be found in the cultures of indigenous peoples worldwide—in Greek culture, in Buddhism, Hinduism, Taoism, and in the American Transcendentalists. The “education of the whole child”, often referred to as “holistic education”, is not a new concept; “it is rooted in the writings and teachings of many ancient cultures” (Elias, 2006, p. 5). In defining the concept of *The Whole Child Education*, Miller (2010) quotes Gandhi who has said, “The child includes head, hand, and heart” and he says “we could also say body, mind, and spirit” (p. 8), which are interdependent. Ron Miller explains holistic education as a philosophy of education “based on the premise that each person finds identity, meaning, and purpose in life through connections to the community, to the natural world, and to spiritual values such as compassion and peace” (as cited in Horvath, 2016, p.59). According to Millar (2005), holistic education includes “intellectual, emotional, physical, social, aesthetic, and spiritual” (p. 2) underpinnings. The attempt is to nurture the development of the whole person.

Elias (2006) defines the goals of holistic education as helping children to:

- *Be fully literate and able to benefit from and make use of the power of written and spoken language, in various forms and media;*
- *Understand mathematics and science at levels that will prepare them for the world of the future and strengthen their ability to think critically, carefully, and creatively;*
- *Be good problem solvers;*
- *Take responsibility for their personal health and well-being;*



- *Develop effective social relationships, such as learning how to work in a group and how to understand and relate to others from different cultures and backgrounds;*
- *Be caring individuals with concern and respect for others;*
- *Understand how their society works and be prepared to take on the roles that are necessary for future progress; and*
- *Develop good character and make sound moral decisions* (2006, p.4-5).

Any attempt to isolate cognitive from affect is arbitrary, according to Kramer (1990). Kramer maintains that real-life events are a result of simultaneous activation of both affective and cognitive schemata, requiring integration in solving problems effectively, because “modern biology reveals humans to be fundamentally emotional and social creatures” (Immordino-Yang & Damasio, 2011, p. 116). Goleman (1995) maintains that:

*When it comes to shaping our decisions and our actions, feeling counts every bit as much—and often more—than thought... We have gone too far in emphasizing the value and import of the purely rational—of what IQ measures—in human life. For better or worse, intelligence can come to nothing when the emotions hold sway* (p. 4)

Palmer (1993) contends that “education is not just a cognitive process, not just the transmission of facts and reasons. It is a process that involves the whole person, and so involves deep feelings as well” (p. 115). “Our commitment to ‘finding the facts ‘marks the turn from primitive superstition to modern science, from subjective knowledge based on feeling, intuition, and faith to objective knowledge” (p. 22). The eventual consequence is “a systematic disconnection of self from the world, self from others” (Palmer, 1999, p. 18).

For his proposal for *GNH Value Education* in Schools in Bhutan, the President of the Centre for Bhutan Studies, Karma Ura (2009), has reviewed lessons from abroad on social responsibility, trust, and individualism. His conclusion is that western

individualism “militates against altruism, against community consciousness, and against social responsibility. As a consequence, trust, commitment, and altruism have been undermined” (p. 4). Ura highlights themes such as trust, commitment, and compassion, all of which are crucial for a vibrant community. Through Value Education, Ura stresses the need to expand one’s boundaries of consideration and the caring consciousness of others, beyond oneself, friends, and relatives. Educating for GNH approach is holistic—incorporating mind, body, and spirit, hence *holistic education*—education with values.

The very purpose of inclusive and child friendly schools therefore is to serve the whole child—mind, body, and spirit—the cognitive, behavioral, and affective construct. In Shernoff’s (2013) term this would mean “... the fulfillment of the individual in all of its multidimensional forms: awakening the individual’s yearnings and callings, stimulating the individual’s sense of excitement, facilitating the individual’s personal discoveries, and invigorating the individual’s strengths”—a holistic approach (p.6).

### **The Evolution of Holistic Education**

In pre-industrial society, children were able to participate in almost all productive activities (Tuomi and Miller 2011) and so education started in the family, but education in the 19<sup>th</sup> century became driven by a radical shift from family-centric production to manufacturing and industrial organization. It was “the time at which technology assumed an ever-increasing weight and eventually dominant role in the generation of growth” (Mokyr, 2003, p. 4). In such a market-driven system of production, tasks lost their intrinsic meaning and motive, according to Tuomi and Miller, which resulted in the loss of the crucial link between productive work and personal development. The industrial revolution did not support holistic personal growth; instead,

*The impact that the Industrial revolution had on education in the United States is truly what defines education as we know it. The growth of factories and the homogenization of people to the schedule of industry spawned the “factory model” for schools to follow. Teachers’ roles were taken seriously enough to create training schools specifically for their skills. Education in general moved away from a right of privilege to a societal necessity (Galvin 2003, n. d)*

More recent scholars have commented on the system of education emerging from the Industrial Revolution, and the resulting predominance of cognitive learning in such systems. Objective teaching and learning have become the norm in most of our educational endeavors today, according to Lichtmann (2005). Sir Ken Robinson, the world-renowned educator and creativity expert, concurs: “[The] current system of education was designed, conceived, and structured for a different age. It was conceived in the intellectual culture of the enlightenment and in the economic circumstance of the industrial revolution”<sup>11</sup>.

Driven by the economic imperative of the time, Robinson argues that the arts were the victims of this mentality, especially the aesthetic experience that happens when one is fully alive and one’s senses are operating at their peak. In his TED talk, Robinson proposes that, in any public education reform, there will always be two leading concerns:

1. *Economic concern or how to educate our children to take their place in the economies in the 21<sup>st</sup> century; and*
2. *Cultural concern or how to educate our children to have a sense of cultural identity, so that we can pass on the cultural genes of our communities, while being part of the process of globalization.*

In such public education reform or curriculum modification, Dewey (1900) believed, it is necessary to take the broader social view as there is every tendency of

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<sup>11</sup> From Ken Robinson’s *TED talks* on the *TED Blog*, available from [http://www.ted.com/speakers/sir\\_ken\\_robinson](http://www.ted.com/speakers/sir_ken_robinson)

arbitrary inventions of some particular teachers. The modification that goes on in the method and modes of education is “as much a product of the changed social situation, and as much an effort to meet the needs of the new society that is forming, as are changes in modes of industry and commerce” (p.20). Dewey (1902) believed, “the child's life is an integral, a total one” and that “The things that occupy him [or her] are held together by the unity of the personal and social interests which his life carries along” (p.5). This in a way highlights the key aspects of holistic education propagated by Dewey since the early 1900s, often discussed under the banner of *Progressive Education*.

As educators have come to recognize that no one view can take in the whole picture, “multiple and integrating perspectives are essential” and have proposed holistic education as one of the viable remedies to the crisis in modern educational systems (Schreiner, 2010). Freire (1998) encouraged critical learning involving passion and enthusiasm, and be part of a whole body of concrete realities and the power of ideology, and that learning should not simply lead to passive immobility.

The need for a holistic approach to education is supported by the following argument. For example, Purpel criticized the “trivialization of education” in America, where:

*attention is directed to the more modest issues of class electives, schedules of testing, length of school year, and mode of funding rather than issues of moral numbness, spiritual alienation, social injustice, nuclear armaments, and terrorism....America's support for schools is not the same as support for education, or at least for education defined as the development of the mind* (Purpel 1989, p. 3 & 6)

Purpel questioned whether the crisis in education was professional incompetence or cultural failure. Likewise, Noddings (2003) argued that educational discussion was dominated by talk of standards and the reason for that emphasis was almost always

economic. Miller (2005) argued that human wholeness (intellectually, emotionally, physically, socially, aesthetically, spiritually) that people enjoyed prior to the industrial revolution slowly disintegrated as the industrial revolution took hold in industrializing countries. True to his observation, “Our culture and education systems have become obsessed with acquisition and achievement. In schools, the move to high-stakes testing has narrowed the focus of teaching and learning to ‘standards’ that are measurable (p. 1). America for example is a land of economic growth and success, yet, the paradox is, in such “acquisitive and competitive corporate culture” there is “spiritual poverty” (Myers, 2000, p. 257).

The failure of schooling to effectively address the affective domain is in sharp contrast to the successes achieved in developing the cognitive domain, according to Brett et al. (2003). The inadequate attention to affective education has led to “increases in the incidence of illicit drug usage, alcoholism, teen pregnancy, and sexually transmitted diseases among youths” (Brett et al., 2003, p. 8), and Miller (2006) contends that ignoring the emotions and spirit has led to emotional sickness.

### **Holistic Education in Practice**

The following educational methods that Paulo Freire advocated in critical learning in one way or the other complement holistic learning in putting its principles into practice (reflection and action):

1. ***Dialogue:*** One of his main principles. Dialogue is changing teachers and learners. Teachers become teacher-learners and learners become learner-teachers. Raising questions together becomes more important than to share ready-made answers.

2. ***Praxis*** (*oscillation of action and reflection*). Freire's approach has been developed through praxis, action and reflection about action that leads to a further development of action etc.
3. ***Conscientization***. The development of consciousness is the central focus of Freire's pedagogy. The learner is seen as a subject with active meaning-making capacities and the capacity to re-name his/her context.
4. ***Lived experience*** is more important than theoretical thinking.

(Schreiner, 2010, p.7)

These critical learning methods align well with the methods of contemplative practices such as mindfulness or analytical meditation—bringing into conscious the happenings in and around oneself (consciousness/be aware of)—reflect and feel (lived experience). Freire (1998) talks about openness to dialogue, teachers' openness for caring for the students, and that openness to caring for the well-being of one's students has to do with one's "openness to life itself, to the joy of living" (p.125). For a contemplative practitioner, this relates to the practice of compassion, to be able to be in other's shoes to understand their needs, problems, and points of view before acting—putting into practice (praxis).

A good example of holistic curriculum is being practiced at Equinox within the Toronto District School in Canada, known as Equinox Holistic Alternative School (EHAS) or the Whole Child School (WCS). Whole Child School's holistic curriculum is founded on Jack Miller's three principles namely: *balance*, *inclusion*, and *connection*.

*Balance*: In holistic education, based on the philosophical roots from the Tao and the concepts of *Yin* and *Yang*, the classroom elements are subjected to continuous assessment for balance. For example, group process is associated with *Yin* while individual content is associated with *Yang*. In this context, a greater

emphasis on cooperative learning is deemed appropriate rather than individual achievement and competition in the early years. Accordingly, a qualitative assessment method such as portfolio maintenance is considered to be more effective than marks and testing. At a later time however, student assessment can be through paper and pencil test as well.

*Inclusion:* In holistic education, inclusion is seen in terms of linking together the three distinct orientations of education that have emerged in the past century identified by John Miller, namely: transmission, transaction, and transformation. These orientations integrate well with other prevalent modes of teaching and learning which is elaborated little later.

*Connections:* In holistic education, due attention is paid to connections or relationship between *linear thinking* and *intuition*, relationship between *mind* and *body*, relationship among various *domains of knowledge*, relationship between the *individual* and the *community*, one's relationship to the *earth*, and one's relationship to the soul. "In the holistic curriculum the student examines these connections so that he or she gains both an awareness of them, and the skills necessary to transform the relationships where it is appropriate (TDSB, 2007, p. 42).

### **Holistic Education at Chokyi Gyatsho Institute in Bhutan**

At Choyki Gyatsho Institute (CGI), the curriculum is designed for students to develop the values, knowledge, competencies, and practical life skills that will enable them to live not only full and satisfying lives but also to become contributing members of society:

*As connected individuals they will:*

- Possess a deep understanding of interdependence
- Relate well with others
- Effectively use of communication tools
- Become natural active members of their communities

*As actively involved citizens they will:*

- Understand and embrace GNH principles
- Understand their responsibilities, roles and opportunities in society
- Feel empowered to contribute to the well-being of Bhutan—socially, culturally, economically, and environmentally
- Participate as informed decision makers

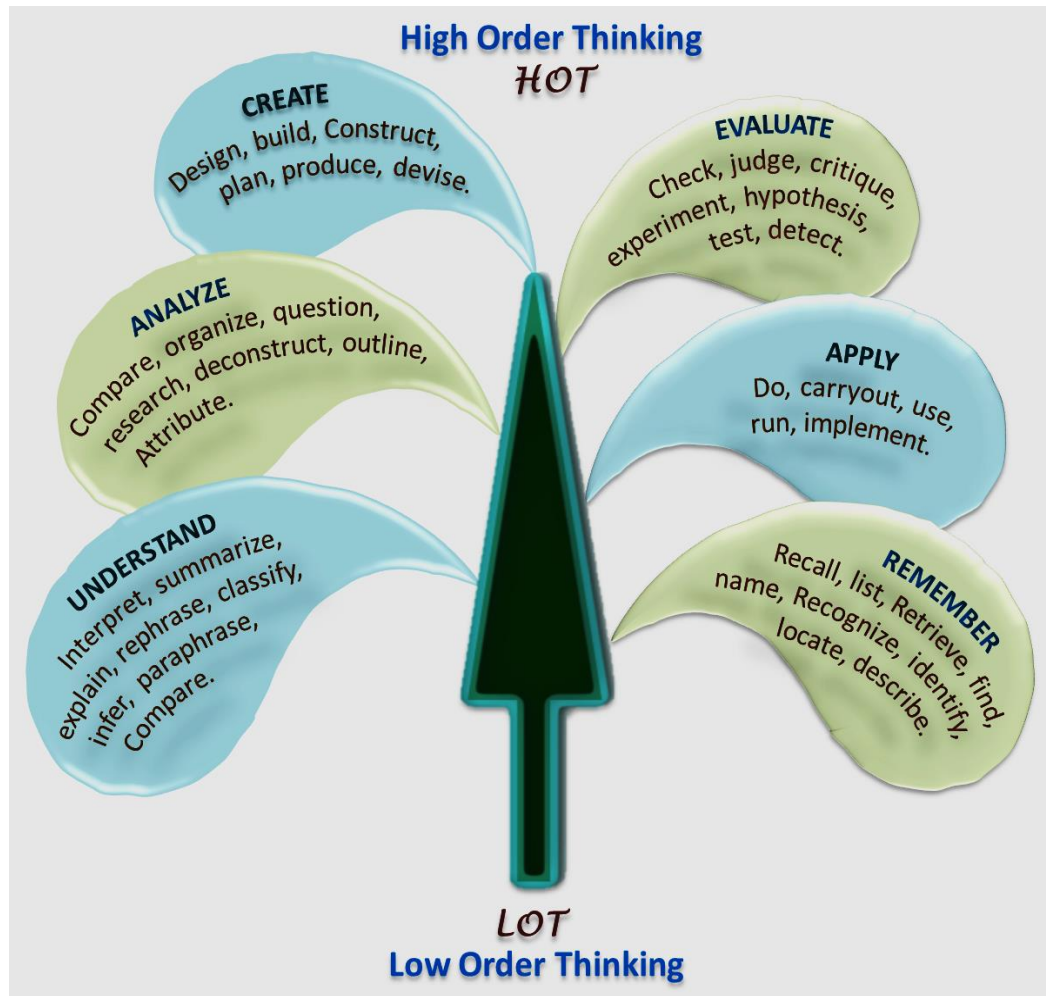
*As life-long learners, they will:*

- Know how to learn and how to think creatively
- Have the ability to find and use information with critical discrimination
- Possess knowledge, skill, wisdom, good character, and emotional maturity
- Actively seek, use and create knowledge
- Take responsibility for their education and development
- Enjoy learning for the sake of learning (SJI, n. d., p. 2).

As identified by John Miller above, CGI uses a three-phase, traditional Buddhist modes of teaching and learning sequence: *transitional*, *transactional*, and *transformational*, seen in relation to *listening*, *contemplating*, and *meditating*, a three-stage process of developing wisdom—transcendental knowledge—known as *prajna* in Sanskrit (Ponlop, 2009). In terms of educational orientation or instructional process, the approach is similar to Wiggins and McTighe’s (2005) *Know-Understand-Do* (KUD) method and Bloom’s taxonomy of learning objectives. In Wiggins and McTighe’s KUD method, teachers develop learning objectives and identify what their students will *Know* (K), *Understand* (U), and *Do* (D) by the end of a lesson or unit. This aligns with Bloom’s revised taxonomy in terms of the flow and process of learning as shown in his learning ladder below (Figure 1):



**Figure 1: Bloom's Taxonomy**



**Diagram adapted from Bloom's Revised Taxonomy<sup>12</sup>**

*Transitional/Know/Remembering (Knowledge):* These are the facts, figures, names, dates, places, etc., related to topics and content. Here students recall or remember information which does not involve or demand deep thinking or analysis, but only spontaneous attention. This information is usually transferred (transitional) to the students from the teacher through lecturing or reading, hearing, seeing, studying: “By receiving information, the student is given the raw material needed for assembling, or

<sup>12</sup> From *Bloom's Revised Taxonomy*, from  
<http://edorigami.wikispaces.com/Bloom%27s+and+ICT+tools>

reconstructing, a conceptual framework in which to think about the topic”

(Grossenbacher & Parkin, 2006, p. 3). When a lesson is being discussed or information being passed, the teacher draws learners’ attention to key aspects of the lesson and encourages taking note of important points. The focus at this stage is to ensure proper *transition* of information from the teacher as well as from learning materials provided. Receiving information can be passive or active: Hart (2004) differentiates between passive listening and active listening as the following: “*Passive listening* involves casual attention; *active listening* involves intentional focus and skills such as paraphrasing and summarizing what another has said...A teacher might ask students to write down the important points in a teaching video or to reflect what the teacher or a fellow student just said” (Hart, 2004, p. 36). These are necessary learning skills leading to higher order thinking skills.

*Transactional/Understand/Understanding (Comprehension)*: This phase of learning refers to the concepts and the “big ideas” of a unit or a lesson—what a student would remember in years to come, potentially concepts that might have impacted one’s life. Here, students are expected to explain concepts and big ideas, a *transaction* from facts and figures to deeper understanding, involving some active *contemplation* or serious reflection. Students reflect or *contemplate* on the key concepts and then discuss what and how they understand them. The focus at this stage is whether proper *transaction* has taken place: did the learners grasp the lesson? In this phase, students employ a third kind of listening, what Hart (2004) refers to as *deep listening*. Students interact with the material by way of developing questions, exploring relationships to other subjects, and reflect on how it is meaningful to their lives: “By virtue of perspective taking and rational

analysis, contemplation often yields greater conceptual understanding of the studied topic, as well as making a personal relationship with the topic” (Grossenbacher & Parkin, 2006, P. 3).

*Transformational/Do/Applying-Analyzing-Evaluating-Creating:* This phase refers to skills and measurable actions students need to investigate a topic, develop solutions, and share those solutions. This phase of learning involves deep *meditation*, listening to one’s own inner voices for insightful ways and means of problem solving. Grossenbacher & Parkin (2006) equates meditation training with experiential learning. In this phase, students *meditate*, based on what they have understood, about what action(s) to take. Transformation is not possible in every lesson but the teacher should take steps to ensure there is proper transition and transaction toward eventual *transformation*.

### **Contemplative Education**

#### **Contemplation and related Terms and Purpose**

The online Merriam-Webster Dictionary defines *contemplation* as “the act of thinking deeply about something,” or “the act of looking carefully at something.” It originates from Latin *contemplationem* "act of looking at," from *contemplari* “to gaze attentively, observe." From a spiritual point of view, contemplation is a way of knowing (Miller, 2006) and uncovering the nature of true self (Liu, 2011), the awareness of happenings inside and outside one that influence one’s own self. The basic methodology in this process is the practice of meditation. Hence, we can say, *meditation* is a technique of contemplative practice.

Typically, meditation is classified into two major types: *concentration meditation* and *mindfulness meditation*. Concentration meditation consists of forcing the mind to remain on a single-pointed awareness, such as breathing. This is one of the two qualities of the mind—single-pointedness, the ability to bring focus and concentration. Concentration meditation results in calming the mind to bring peace and tranquility. Mindfulness meditation, on the other hand, is letting the mind as free as possible, to notice whatever comes up. This is the other quality of the mind—awareness, the ability to sense and be receptive. Mindfulness meditation brings clarity on what is being observed and develops insight (Gunaratana, 2015, Zedelius & Schooler, 2015).

Concentration and mindfulness meditation work in tandem as a team, hence, both must be cultivated side-by-side. However, which one to emphasize more will largely depend on one's goal. If one wishes to have calm and peaceful time, concentration must be emphasized as the main feature, but also be mindful of not getting lost to get to that tranquil composure. If one's goal is to be creative and insightful in solving problems, mindfulness is emphasized as the main feature, and concentration a necessary but a secondary factor (Gunaratana, 2015, Sujiva, 2000).

Kabat-Zinn (1994) defines mindfulness as “paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally” (p. 4). The significance of being in the present moment is that one is not dwelling in what usually goes on with an “unguarded mind”: “remaining enshrouded in thoughts, fantasies, and impulses, mostly about the past and about the future, about what we want and like, and what we fear and don't like, which spin out continuously, veiling our direction and the very ground we are

standing on.” Not knowing that one is in such dreamlike fantasies is what Buddhists call *ignorance*, and working to wake up from those dreams a *meditation*:

*This waking up goes hand in hand with what we might call ‘wisdom,’ a seeing more deeply into cause and effect and the interconnectedness of things, so that we are no longer caught in a dream-dictated reality of our own creation.*

(Kabat-Zinn, 1994, p. xv)

One of today’s strong advocates of mindfulness, Zen master Hanh (1987) uses mindfulness to refer to keeping one’s *consciousness* alive in the present moment. Hanh advocates us to be mindful not just during meditation sessions: “Each act must be carried out in mindfulness...Each act is a rite, a ceremony” (p. 24). For example, he says, if one is doing the dishes, doing the dishes must be the most important thing in that moment. While washing the dishes, if one thinks about having tea afterwards, one might rush through the job as quickly as possible in order to sit and drink the tea. In that case, he says, one is incapable of living during the time he or she was doing the dishes. This can be true in any situation—while playing, studying, or working.

In the last decade or so, educational research on the effects of using mindfulness practice in the classroom on children’s learning and behaviors have picked up and have become a popular worldwide. The rudiments of contemplation education theory and practice are discussed in the following followed by some research findings.

### **Contemplative Education Theory and Practice**

Contemplative education is an educational philosophy that infuses learning with experiences of compassion, awareness, and insight through practice of contemplative disciplines. Essentially, it is a fusion of western scholarship and Eastern wisdom traditions. Contemplative education is an integrative, transformative, and communal

enterprise that cultivates the whole person in the fullest possible way, through forms of inquiry and imaginative thinking<sup>13</sup>. Goleman (1995) argued that "our passions, when well exercised, have wisdom; they guide our thinking, our values, our survival" (p. xiv). A state of serenity can bring wisdom and intelligence to one's emotions. Hart (2004) believes that the natural capacity for contemplation, which balances and enriches the analytic "has the potential to enhance performance, character, and depth of the student's experience" and perhaps, "the contemplative helps to return the transformative power of wonder, intimacy, and presence in daily learning and daily living" (p. 43). Zajonc (2009) provides an overview of the contemplative path based on the premise that good intentions and technical skills alone are not sufficient to generate future educators, doctors, statesmen, scientists, and artists. They need transformation through meditative traditions and healing practices—deep insights that reach "beyond the reductionist, materialist conception of our world" (p. 15). Contemplative inquiry can cultivate those qualities that give rise to the kinds of insights needed in all domains of life.

Today in schools, "contemplative pedagogy uses forms of introspection and reflection [mindfulness practice], allowing students the opportunity to focus internally and find more of themselves" (Barbezat & Pingree, 2012, p.180). Fundamentally affective, contemplative practices not only promote emotion regulation and stress reduction but also develop attention, indispensable for cognitive function. Integrating contemplative practices such as mindfulness is one of the strategies for closing the gap between cognitive and affective dimensions of education.

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<sup>13</sup> The Association for Contemplative Mind in Higher Education (ACMHE) from *Vision and Mission Statement*, downloaded from <http://www.contemplativemind.org/programs/acmhe>

Naropa University at Boulder, Colorado, a leader in contemplative education, sees learning as a journey, incorporating three distinct educational approaches known as the “three areas of inquiry,” which define contemplative education:

1. *Traditional Academics or “third-person” inquiry*: The learners study the work and the insights of others implied here as “third-person inquiry”—critical but only a component of contemplative education.
2. *Experiential Learning or “second-person” inquiry*: Going beyond third-person inquiry to the actual translation of the skills learned into real world use is implied here as “second-person inquiry”—intuition, self-awareness, and personal discoveries.
3. *Contemplative or “first-person” inquiry*: The defining element of contemplative education is the subtle mastery of mind, the blossoming of mindfulness and self-awareness development into clarity and purpose—genuine, holistic human fulfillment<sup>14</sup>.

Contemplative education strategies aim to enhance learning at all levels, with due attention to the education of the emotions, in order to cultivate transformational *mindsight*<sup>15</sup>, responsible for greater stability and equanimity: “Such qualities are vital to any form of education aimed at the development of the whole person, and are indispensable to the promotion of community trust and the common good” (Hyland, 2011, p. 192). Contemplative practices such as mindfulness meditation promotes well-being through emotional stability. One of the core efforts of holistic education has been to bring mindfulness practice to the forefront to rejuvenate affective dimensions of

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<sup>14</sup> From *What is Contemplative Education*, availed from <http://www.naropa.edu/contemplative-education/index.php>

<sup>15</sup> “Mindsight” is a term coined by Dr. Dan Siegel to describe our human capacity to perceive the mind of the self and others. Mindsight is a kind of focused attention that allows us to see the internal workings of our own minds, helping us reduce the “autopilot” of ingrained behaviors and habitual responses, and letting us “name and tame” the emotions we experience, rather than being overwhelmed by them. From *About Mindsight*, from <http://www.drdansiegel.com/about/mindsight/>

education which often gets pushed aside, in the competitive model of market driven education systems.

### **Spirituality in Contemplative Practices**

Contemplative practices are closely associated with *spirituality*, and spirituality with *religious* traditions, but spirituality need not always be religious:

*Religion is an organized community of faith that has written doctrine and codes of regulatory behavior. Spirituality, however, is more personal belief and experience of a divine spirit ... about how we construct meaning ... and honor as the sacred in our lives* (Tisdell, 2003, p. 29).

Similarly, Grossenbacher & Parkin (2006) make the distinction between *spiritual* and contemplative: Spiritual concerns the experience of vitality, life force, divinity, sacredness, and so on. Contemplative concerns a person's reflective approach to his or her experience (p. 2).

Glazer (1999) sees spirituality in education as intimacy with experience: "intimacy with our *perceptions*—the experience of having body; our *thoughts*—the experience of having a mind; and our *emotions*—the experience of having a heart" (p. 2). From this point of view, spirituality does not arise from indoctrination but is a product of the interplay between one's unique sense of awareness, experience, and expression.

Hooks (1999) describes how, as a teacher, she does not "do spirituality *and* education, but does spirituality *in* education" (p. 113). She embodies the teachings of being present in mind, body, and spirit. Teaching is a process that comes easiest to those who also believe that one's vocation is sacred, that teaching is not merely to share information, but to share in the intellectual and spiritual growth of our students (Hooks, 1994). She argues that "To teach in a manner that respects and cares for the souls of our



students is essential if we are to provide the necessary conditions where learning can most deeply and intimately begin” (p. 13).

In one of his recent tours to Bali, Indonesia, LME founder Rinpoche commented on the benefits of superstition: “One of the reasons why Bali is beautiful is because there’s so much superstition, and superstition makes it so magical. Sometimes it’s so good, this belief. The critical world destroys this, and it does not get replaced by anything else<sup>16</sup>”. The void that is being created this way breaks the link between knowledge and personal existence. When Palmer (1999) talks about reclaiming the sacred in knowing, teaching, and learning, he is referring to this spiritual void. Louis Dupre describes the bearing of a spiritually oriented, contemplative person:

*The spiritual person comes to view the world in a different perspective. Underneath ordinary reality he or she recognizes another dimension. At the very core of each creature, the contemplative finds an otherness that compels him to allow it to be itself and to abstain from the conquering, objectifying attitude we commonly adopt. This does not reveal a new idea of God; rather, it allows reality to reveal itself (cited in Palmer, 1993, p. 120).*

Spirituality through contemplative practices can also help the educator, not just the student. Spirituality must come from transformed teaching which begins in the transformed heart of the teacher. Renewing education today means renewing our own hearts (Palmer (1999). “Only in the heart searched and transformed by truth will new teaching techniques and strategies for institutional change find sure grounding” (Lichtmann, 2005, p.107).

Some of what is accomplished through contemplation or spiritual practice is humility and faith, reverence without idolatry, love and openness to grace (Palmer 1993);

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<sup>16</sup> From *Modern Education and the Future of Buddhism: An Interview with Dzongsar Khyentse Rinpoche*, availed from <http://newlotus.buddhistdoor.com/en/news/d/43773>

according to Palmer, these are not only spiritual virtues but epistemological virtues as well, since “the degree to which they are present in us has much to do with our capacity to know and be known in truth.” A virtue such as humility allows us to pay attention to the other, be it student or subject, “whose integrity and voice are so central to knowing and teaching in truth” (p. 108). This is very much in congruence with what hooks (1994) passionately advocates—respect and care for the souls of our students, the necessary conditions for learning to take place deeply and intimately.

### **Research on the Impacts of Contemplative Practices in Education**

In the last decade or so, the interest on the impacts of contemplative practices, especially on using mindfulness in the classroom on children’s learning and behaviors have been growing. The *Mindful Schools* see mindfulness as three *attentions skills* working together and that these skills must be practiced just as art, music, or sports:

1. *Concentration*: The ability to focus on what you want, when you want.
2. *Clarity*: Increased awareness of thoughts, emotions, senses, and external behaviors.
3. *Equanimity*: Non-reactivity; the ability to let sensory experience come and go without push or pull.

The benefits from exercising these skills are: It decreases toxic stress and impulsivity and increases attention, emotion regulation, classroom engagement, and compassion<sup>17</sup>, the key essentials for social, emotional, and cognitive development. In this section, I present some of the research findings of the relationship between mindfulness and attention, mindfulness and social-emotional learning, mindfulness and creativity, and mindfulness and problem solving.

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<sup>17</sup> From <http://www.mindfulschools.org/>

## **Mindfulness and Attention**

*What is attention?* Like most definition, attention is being defined in varied ways. Nonetheless, the common understanding is, as Smith & Kosslyn (2007) puts it, “attention involves selecting some information for further processing and inhibiting other information from receiving further processing” (p.104) and hence, “Attention may be thought of as a mechanism that controls processing so that we are not overwhelmed by too much information” (p.128).

Almost everything in life demands attention, and as such, if we do not pay it we lose it. Quoting John Dewey that "Everything depends on the *quality* of the experience which is had," Ergas (2016) proposes that “the quality of experience depends on the human faculty of *attention*,” and that attention must be positioned at the center of curriculum and pedagogy (p.66). Therefore, how can we boost attention: what are the tools and techniques? Of the many ways and means employed to boost attention in teaching and learning meditation, especially mindfulness, is becoming popular. Mindfulness meditation not only boosts one’s attention, it helps in keeping one’s composure cool and calm. Following are a couple of research findings as illustrations.

*Research Findings:* Based on the general premise that practicing mindfulness enhances attention, Semple (2010) tested the hypothesis that mindfulness training would enhance four components of attention: sustained vigilance, concentration, inhibition of distraction, and executive control. She randomized a three-group design which includes:

1. a mindfulness meditation group,
2. a progressive muscle relaxation group to control for effects of physical relaxation on attention, and

3. a wait-listed group to control for practice effects of repeated measures.

Fifty three community adults were randomly assigned to one of these groups. Forty-five participants completed the 4-week program. After training and 4 weeks of practice, twice-daily, the mindfulness group demonstrated significantly greater discriminability on a signal detection task than did the other groups. Significant improvements in sustained attention were found following mindfulness meditation, which did not appear to be mediated by relaxation or practice effects. Performances on measures of concentration and inhibition of distraction did not support the hypothesis. In view of these findings, the author concludes that, the results partially support current considerations of mindfulness meditation enhancing attention.

Likewise, Jha, Krompinger, & Baime (2007) investigated the hypothesis that mindfulness training may alter or enhance specific aspects of attention. They examined three functionally and neuroanatomically distinct but overlapping attentional subsystems: alerting, orienting, and conflict monitoring. Functioning of each subsystem was indexed by performance on the Attention Network Test. Two types of mindfulness training programs were examined, and behavioral testing conducted on participants before (Time 1) and after (Time 2) training. One training group consisted of individuals, naive to mindfulness techniques who participate in an 8-week mindfulness-based stress reduction course, which emphasized the development of concentrative meditation skills. The other training group consisted of individuals experienced in concentrative meditation techniques, who participated in a month-long intensive mindfulness retreat.

Performance of these groups was compared with that of control participants, who were meditation naive and received no mindfulness training. At Time 1, the participants

in the retreat group demonstrated improved conflict monitoring performance, relative to those in the mindfulness-based stress reduction and control groups. At Time 2, the participants in the mindfulness-based stress reduction course demonstrated significantly improved orienting, in comparison with the control and retreat participants. In contrast, the participants in the retreat group demonstrated altered performance on the alerting component, with improvements in exogenous stimulus detection in comparison with the control and mindfulness-based stress reduction participants. The groups did not differ in conflict monitoring performance at Time 2.

The authors conclude that, mindfulness training may improve attention-related behavioral responses, by enhancing functioning of specific subcomponents of attention. Whereas, participation in the mindfulness-based stress reduction course improved the ability to endogenously orient attention, retreat participation appeared to allow for the development and emergence of receptive attentional skills, which improved exogenous alerting-related process.

### **Mindfulness and Social-Emotional Learning**

*Theory and Practice:* Social-Emotional Learning (SEL) is essentially the process of nurturing self-awareness in which emotions play the key role in navigating one's work, relationships, and the decisions in life (Zakrezwski, 2015). The Collaborative for Social, Emotional and Academic Learning (CASEL) defines SEL as:

*the processes through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions* (Bridgeland, Bruce, & Hariharan, 2013, p.16).

This definition overlaps with the mindfulness practice principles and skills, and hence very much the same outcomes. The only difference is in the approach. SEL uses an outside-in approach with the focus on teaching skills, while mindfulness works from the inside-out, for example, building relationship evoking innate human qualities such as empathy and kindness. Rather than stressing on one or the other, it is better to cultivate SEL and mindfulness in tandem as one is complementary to the other. For example, the five SEL competencies are integrated with mindfulness as in the following:

1. ***Self-awareness:*** Students' self-awareness deepens when enhanced by the mindfulness practices of focusing attention and self-compassion.
  2. ***Self-management:*** Mindfulness increases students' emotion regulation skills, which enhances their ability to resolve conflict more creatively or to say how they're feeling in an emotionally balanced way.
  3. ***Social awareness:*** Mindfulness increases students' empathy by helping them to regulate their emotions rather than get emotionally overwhelmed when faced with a difficult situation. As a result, their capacity to notice another person's suffering and respond to it increases.
  4. ***Relationship skills:*** Mindfulness increases compassion. Thus, when students practice SEL skills such as creating a win-win solution with someone who challenges them, they are doing so with more compassionate understanding.
  5. ***Decision-making:*** Mindfulness increases cognitive flexibility and creativity, which gives students a wider range of responses to challenging situations.
- (Lantieri & Zakrezwski, 2015, p.2-3).

Ultimately, it is the positive emotions nurtured through such integration of skills help shape one's life and others—the overall social and emotional wellbeing.

*Research Findings:* Schonert-Reichl et al. (2015) believe that, SEL and mindfulness integrated program such as caring for others, designed for elementary school students, would enhance cognitive control, reduce stress, promote well-being and pro-sociality, and produce positive school outcomes. To test this hypothesis, they randomly

assigned four classes of 4th and 5th graders, the SEL with mindfulness program versus a regular social responsibility program. The measures assessed were:

1. Behavioral assessments of executive functions,
2. Biological assessments of children's salivary cortisol,
3. Child self-reports of well-being and pro-sociality,
4. Peer nominations of pro-sociality, and
5. Year-end teacher-rated math grades collected from school records.

Relative to children in the social responsibility program, children who received the SEL program with mindfulness:

1. Improved more in their cognitive control and stress physiology;
2. Reported greater empathy, perspective-taking, emotional control, optimism, school self-concept, and mindfulness,
3. Showed greater decreases in self-reported symptoms of depression and peer-rated aggression,
4. Were rated by peers as more prosocial, and
5. Increased in peer acceptance.

Overall, the authors conclude that “the results of this study are in accord with other research evaluating the effectiveness of well-designed SEL interventions” (p. 18) and that “The results of this investigation suggest the promise of this SEL intervention and address a lacuna in the scientific literature—identifying strategies not only to ameliorate children's problems but also to cultivate their well-being and thriving” (p.2).

Based on Mindfulness-based cognitive therapy for children (MBCT-C), developed specifically to increase social-emotional resiliency through the enhancement of mindful attention, Semple et al. (2009) conducts a study to test the hypotheses that children randomized to participate in MBCT-C would show greater reductions in (a)

attention problems, (b) anxiety symptoms, and (c) behavior problems than wait-listed age and gender matched controls. 25 children (boys and girls aged 9–13) participate in this study. A randomized cross-lagged design provides a wait-listed control group, a second trial of MBCT-C, and a 3-month follow-up of children who complete the first trial. Measures include: the Child Behavior Checklist, State-Trait Anxiety Inventory for Children and Multidimensional Anxiety Scale for Children. Results show: Participants who completed the program displays fewer attention problems than wait-listed controls, and a strong relationship between attention problems and behavior problems. Authors conclude that “MBCT-C is a promising intervention for attention and behavior problems, and may reduce childhood anxiety symptoms” (218).

Schonert-Reichl and Lawlor (2010) reported the results of a quasi-experimental study, evaluating the effectiveness of a *Mindfulness Education* (ME) program on facilitating the development of social and emotional competence and positive emotions. They studied students engaged in mindful attention training, conducted three times a day. For the study, 246 pre-and early adolescent students participated, drawn from six mindfulness education program classrooms and six comparison classrooms. They completed pretest and posttest self-report measures assessing optimism, general and school self-concept, and positive and negative affect. Pre-and early adolescents were rated by the teacher on dimensions of classroom social and emotional competence. Results revealed that pre-and early adolescents who participated in the ME program showed significant increases in optimism from pretest to posttest, compared to those who did not. Likewise, improvements on dimensions of teacher rated classroom social competent behaviors were found favoring ME program students.



## **Mindfulness and Creativity**

*Theory and Practice:* As Robinson (1999) puts it, “Creativity is obviously to do with producing something original” (p.28), but the interpretation depends on how one views it—socially, professionally, or intellectually, as there is sectoral definition, elite definition, democratic definition, and the like. From educational point of view, creativity is defined as “Imaginative activity fashioned so as to produce outcomes that are both original and of value” recognizing four characteristics of creative processes:

1. They always involve thinking or behaving *imaginatively*.
2. Overall this imaginative activity is *purposeful*: that is, it is directed to achieving an objective.
3. These processes must generate something *original*.
4. The outcome must be of *value* in relation to the objective (p. 30).

One of the goals of meditation, such as mindfulness is to free the mind and bring to total rest. Novel ideas or creativity engenders from such settled and calm mind. As Willard (2010) exemplifies Archimedes and the bathtub, the legendary “Eureka” moment, it was not while working at his desk that the Greek mathematician, engineer, inventor, and astronomer Archimedes realized the principle of buoyancy, but while taking a bath. Likewise, Sir Isaac Newton gets to his insight about gravity while resting under a tree and seeing an apple fall down: “Quiet contemplation creates the conditions for new ideas and insights to arise” (Willard, 2010, p. 57). Another key aspect of meditation is to bring flexibility to one’s thinking process. The contention is that, as we get older, we learn to take in new information based on what the school and culture teaches, and in so doing, we may dismiss certain valuable and creative ideas.

Mindfulness practice can help to revive what may be lost with some conscious considerations (Willard, 2010).

*Visualization:* One of the key facets of contemplative practices is visualization. Visualization helps foster *creativity*, and particularly creativity in *problem solving*. Berzin (1998) discusses the creative aspect of imagination and visualization in brain development:

*If we think of the Western psychological division of the brain into a right side and a left side, Tibetan Buddhism develops both sides—both the intellectual, rational side and the side of creative imagination. Therefore, when we speak of visualization in Buddhism, we're not talking about some magical process. We're talking about something quite practical, in terms of how to develop and use all our potentials, because we have potentials on both the right and left sides of the brain. When we work with the imagination, we're dealing with creativity, artistic aspects and so on (para. 2).*

Visualization is prominent in the Tibetan form of meditation practices. The intents and purposes go beyond working with just visual images; it involves imagined sounds, smells, physical sensations, and emotional feelings. The incorporation of such *Dharma* principles and techniques in secular lessons only heightens creativity and problem solving skills, as it involves use of various senses. One can practice to visualize for thinking, planning, creating, and problem solving.

*Research Findings:* As introduced earlier, in general, there are the two types of contemplative techniques: *concentration meditation* and *mindfulness meditation*. These terms are used synonymously with *focused-attention* (FA) meditation and *open-monitoring* (OM) meditation. With regard to creativity, each exerts specific effect: “OM meditation induces a control state that promotes divergent thinking, a style of thinking that allows many new ideas of being generated,” while “FA meditation does not sustain

convergent thinking, the process of generating one possible solution to a particular problem,” (Colzato, Ozturk, & Hommel, 2012, p.1).

By using creativity tasks, tapping into convergent (Remote Associates Task—RAT) and divergent thinking (Alternate Uses Task—AUT), Colzato et al. investigated whether this effect was modulated by prior meditation experience, by comparing a group of 20 practitioners and a group of 20 novices. In RAT task, participants were presented with three unrelated words and are asked to find a common associate. In three sessions, participants complete 10 different items. In AUT task, participants were asked to list as many possible uses for six common household items. In three sessions, participants complete two different items. The results are scored in terms of originality, fluency, flexibility, and elaboration.

The enhancing effect of OM meditation on divergent thinking was found to be vigorous irrespective of prior experience. However, on convergent-thinking problem solving, practitioners used insight strategy significantly more often than the novices, as opposed to an analytical approach. In other words, the enhancing effect of OM meditation on divergent thinking was easier to demonstrate than the enhancing effect of FA meditation on convergent thinking. Hence, what this study indicates is that, mindfulness meditation promotes creativity than concentration meditation.

Likewise, there are other studies presenting the evidence of linking mindfulness to greater creative performance. One such evidence comes from a set of studies by Baas, Nevicka, and Ten Velden (2014). They present similar results where the ability to focus attention and act with full awareness was linked with poor performance on the *Alternate*

*Uses Task.* Nonetheless, the ability to observe and attend to various stimuli, the *open-monitoring* aspect of mindfulness was linked with increased creativity.

### **Mindfulness and Problem-solving**

*The Problem Solving Process:* A well thought problem solving process is established by Williams (1991), built on problem solving procedures practiced over many centuries. This modern problem solving process can be looked at from two sets of viewpoints: (1) the *actual cyclical process* and (2) *simplified linear process* (See Figure 2 below). It begins with the simplified linear process. In this process, the first stage is *divergent* in nature where:

- A) The problem or the situation is investigated.
- B) The problem to be solved is identified, evidence collected and organized, and possible solutions are proposed.
- C) Relevant information is collected and possible solutions investigated.

Here, “the net is cast as widely as possible within the constraints set, to ensure that the second stage, when decisions will be taken, will be based on sound foundations” (Williams, 1991, p.33).

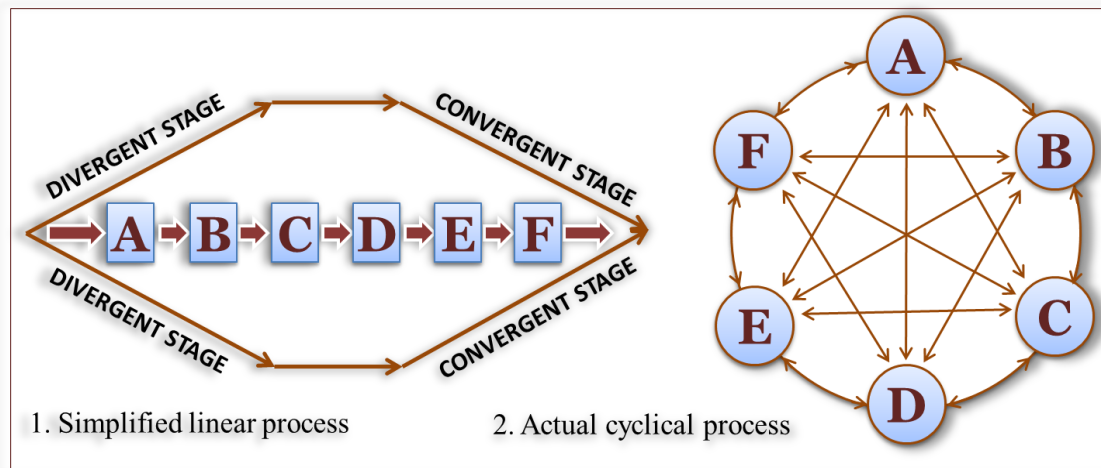
In the second stage, the process gets *convergent*, which consists of narrowing down the options, until finally, a commitment is made where:

- D) The selected solutions are developed.
- E) The final version is made or constructed.
- F) The finish product is evaluated, and if necessary, modified.

This process of *divergent thinking* and *convergent thinking* aligns well with *mindfulness meditation* and *concentration meditation*, respectively. While the mindfulness meditation or the *open monitoring* exercise was closely associated with

creativity, the concentration meditation or the *focused awareness* did not correspond well with creativity. However, in the problem-solving exercise, the open monitoring method can be optimally combined with the focused awareness method. The first three procedures in the linear process is to engage in divergent thinking, in order to generate as many novel ideas as possible. To evaluate these ideas, convergent thinking is used in the last three procedures, in the second stage, to come to a certain conclusion or solution (Taylor, 2012).

**Figure 2: Two Views of Process in Solving Problems**



**Diagrams adopted from Williams (1991, p. 39)**

The simplified process of solving a problem is in linear fashion as illustrated in the first section of the diagram above, but it may be necessary, at any point, to return to the actual cyclical process in order to pursue a different line of enquiry, as illustrated in the second section. Should an alternative solution or new approach come to mind, even at the last evaluation stage, it may be modified or even started afresh. While the normal approach is an open monitoring process, the wide range of possible ideas is moderated by

the selective critique of focused awareness, to make a solution or answer that much more authentic and credible (Taylor, 2012).

*Research Findings:* Rest, such as relaxation and sleep, can promote insight.

Generating insight would require more than simple rest and relaxation. While the meditation is also to bring calm and relaxation, the difference is that meditation is focused and fully conscious. Does meditation promote insight, such as problem solving?

Ren et al. (2011) investigated this question. The participants were 48 university students without meditation experience, who learned a simple meditation technique. In the pre-test session, they were given a list of 10 insight problems to solve. The focus in this study was on the unsolved problems, and the authors investigated to see if these problems could be solved successfully after a 20-minute rest interval with or without meditation. Relative to the control group who listened to Chinese or English words for a language judgment, groups who learned meditation solved significantly more failed problems from the pre-test session. This provides direct evidence for the role of meditation in promoting insight.

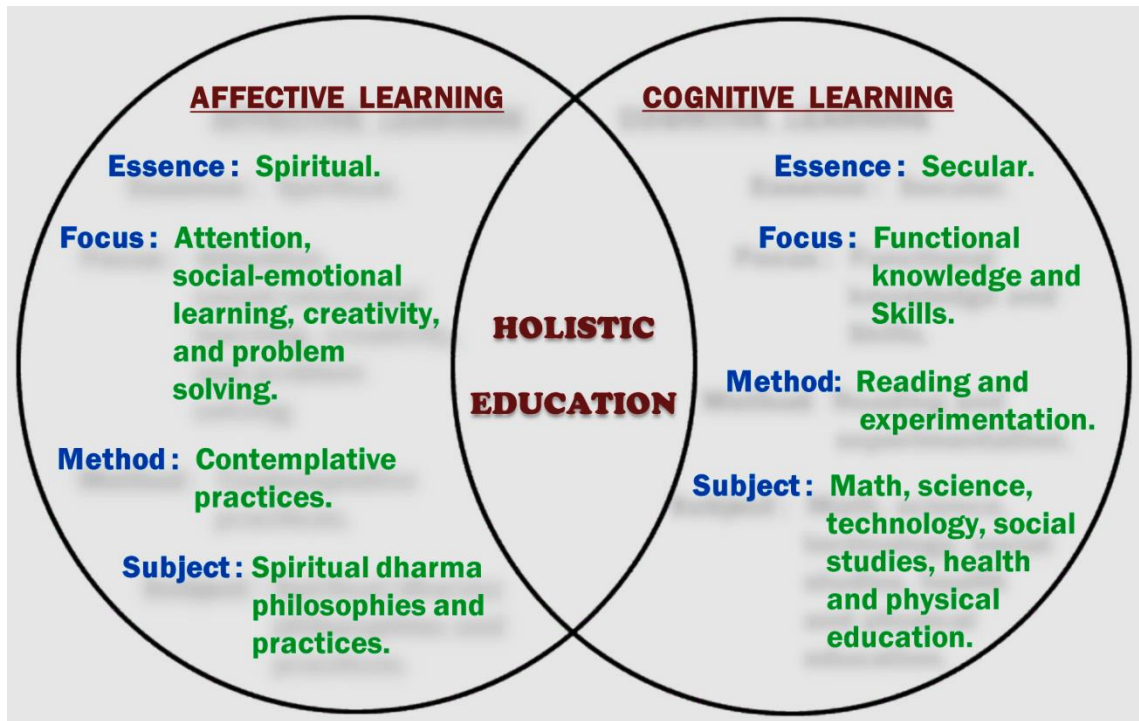
The authors' analysis shows that maintaining a mindful and alert state during meditation resulted in more maintaining a mindful and alert state during meditation resulted in more insight regarding the failed items from the pre-test session. The implication is that, it was watchfulness in meditation, rather than relaxation, that actually contributed to insight. They found that the percentage of alpha waves (a brain index of mental relaxation) was negatively correlated with insight in the meditation session or control task, suggesting a meditation-based insight-promoting mechanism different from that involved in passive rest such as relaxation and sleep.

Similarly, to examine the relationship between mindfulness practice and cognitive rigidity, Greenberg et al. (2012) at Ben-Gurion University, Israel, conducted a two-part study, using a variation of the Einstellung (a mechanized state of mind/a problem solving set) water jar task, where participants were required to use three hypothetical jars to obtain a specific amount of water. The first three required some complex solutions while the last three progressively easier ones. Non-meditators continued to apply difficult methods to solve easier problems, where the tendency to get frustrated was higher. Meditators, on the other hand, could figure out fairly quickly that the later problems could be solved using easier steps. The researchers concluded that mindfulness meditation reduces cognitive rigidity via the tendency to be “blinded” by experience. “Results are discussed in light of the benefits of mindfulness practice regarding a reduced tendency to overlook novel and adaptive ways of responding due to past experience, both in and out of the clinical setting” (p. 1). The finding that mindfulness practices reduce cognitive rigidity and in a sense, immunizes one from being “blinded” by past experience, can encourage teachers to give students problem-solving activities and to use mindfulness practices in classrooms to increase their mental flexibility.

### **Conceptual Framework**

Based on this review of the taxonomy of *learning domains*, theory and practices of *holistic education*, and the theory and research on the influence of *contemplative practices*—specifically concentration meditation and mindfulness meditation—on students’ attention, social-emotional learning, creativity, and problem solving, I will use the following framework to guide the analysis of the data I collected on students’ comments, behaviors, and products.

Figure 3: Conceptual Framework





## CHAPTER 3

### RESEARCH METHODOLOGY

#### Introduction

*My own life experiences are immediately accessible to me in a way that no one else's are.*

Max Van Manen

The definition of *learning* I am familiar with reads: *Learning is a process whereby an organism changes its behavior as a result of experience.* Fundamentally, this definition draws our attention to two concepts: that learning as a process *changes* individual behavior, and that this change comes as a result of *experience*. Life is full of experiences, and there is “a sense in which our experience is ‘given’ to us in everyday life”, that is why, personal experience must be a starting point to bring meaning to the surface from “the depths of life’s ocean,” (Van Manen, 1990, p.54). Such meaning-making entails reflection, which is synonymous with “contemplation” in this study.

Contemplation is self-examination or self-study—study of conscious inner thoughts, feelings, and sensations, which “promotes the self-monitoring and de-contextualization of automatic thoughts that serve to sustain pathological structures” (Segall, 2005, p.143). In Buddhism, truth or self-actualization is sought by seeking the truth within the nature of one’s own mind, not outside. In Bhutan, Buddhism is known as “Nangpa” meaning “inside” or “within”. The key construct here is the self, or the conscious, reflective personality of an individual. However, at a deeper level, the self-reflective contemplation exercises help one to help others: “understanding the [*Self*] to understand the [*Other*]” brings together inner subjectivity with outer objectivity to create maximum inter-subjectivity (Roth, 2005, p.15). Mitchell and Weber (2004) maintain that

“looking inward can lead to a more intelligent and useful *outward gaze*,” reinforcing the idea that narrative and autobiographical forms of inquiry are a viable method of research; in self-analysis, “there is nothing about focusing inwards on the individual that necessarily precludes simultaneously pointing outwards and towards the political and social” (p.4).

Based on these principles, I employed self-study research methods for this study, bearing in mind the relevancy as well as the rigor in its operationalization. In this chapter, I will describe the following aspects of my research:

1. My personal philosophy and its relevance to this study,
2. The research approach,
3. The research context,
4. The student sample,
5. The research instruments I used in this study,
6. The analysis plan, including how I used my conceptual framework in the analysis,
7. The limitations of the study.

### **Personal Philosophy**

A self-study approach to research supports the inclusion of one’s educational philosophy as part of the methodology: “personal biography shapes the project in important ways. It is crucial, therefore, that [the researcher] develop an acute sensitivity to who she or he is in the work” (Rossman & Rallis, 2012, p.34). Thus, in this section, I describe my experiences as a student and an educator, in order to position myself as a researcher and as a self-reflective teacher.

When I first went to school, I worried about how I would be treated. I did not go to school for the thirst of knowledge; I was compelled. As a child from the village, my fear was being ridiculed in the school by other students, or being scolded and beaten by

my teachers, if I did not do well in my studies. Such incidents of bullying and punishments were the accepted norm then. Luckily, I did not suffer much. What I cherish most are the friendly smiles I received from schoolmates, and the kind words and affection from teachers. Those positive feelings made all the difference in helping me feel secure, with peace of mind as a student.

I consider myself an educator, starting with a high school internship working as an educational media illustrator in a Teacher Education college in Bhutan. My job was to illustrate primary education teaching materials such as teacher's handbooks, classroom brochures, charts and posters. Each visual image needed to convey the message or illustrate the content of a subject. Therefore, to begin an illustration, I needed to understand the content of a subject by reading the draft materials. Analyzing and creating graphic illustrations through discussions with teacher education consultants served as a window into the inner world of teaching and learning. It built my understanding of a child's growth, development, and educational needs.

When my internship turned up to be a fulltime job in the education college, I decided to become a teacher. Teaching, a profession which had not been one of my choices, became important to me, a profession in which I now take great pride. I am proud of teaching, not because of the position it holds in society, but because I learn and have the opportunity to share with others. The satisfaction I derive from teaching comes from sharing with others a common goal and purpose, as well as mutual knowledge and wisdom, experiences and respect.

I became aware about the importance of the affective issues in the classroom, such as physical wellbeing, feelings, and emotions, as I observed my students teachers

teach young children during their field practicum. They failed to notice and address some of the physical uneasiness and mood swings children often displayed. Their primary concern was on lesson steps and activities planned to fulfill the objectives set. On analyzing this observation, I realized, it was not their fault. In teacher education colleges, we lecturers—their advisers failed to equip them with the knowledge, skill, and attitudes necessary to detect the social and emotional needs of children, beyond their academic capabilities. What Miller (2000) said: “The soul hides while our minds analyze, memorize, and categorize” rings true (p. 39).

During my supervisory visits to various schools across Bhutan over a period of ten years or so, I learned to sense the positive or negative energy existing in schools. Whenever I visited a school, I paid attention to the school atmosphere: how comfortable are the children? Do I get a sense of a home feeling? If the children seemed interactive, open, and cheerful, it indicated that the teachers were friendly and caring. I also learned that the school principal sets the tone for the school. I saw principals who prioritized, through stringent rules, accountability issues, physical neatness of the school, discipline, and students’ academic performance rather than concern for the children’s well-being overall. In such situations, I sensed the lack of a natural vibrant flow amongst the children. They, like the teachers, were more concerned with the rules, regulations, efficient use of time, and punishments. This contributed to my growing feeling that learning should begin first with attention to children’s social and emotional wellbeing.

Back at the teacher education college, although Bloom’s taxonomy was closely followed, cognitive and psychomotor discussions took the center stage, as most academic subjects requires declarative (concepts/background information) and procedural

(skills/ability to do something) knowledge. Affective content such as love, compassion, and respect existed only in some aspects of traditional subjects such as *Driglam Namzha* (Bhutanese National Etiquette) and social studies. While some expressed the need for specific module on value lessons, most were of the view that it must be integrated or built in every single lesson. Infusing GNH principles in education (*Educating for GNH*) is for this very reason. Still, when it comes to social and emotional feelings, it does not get addressed properly in classrooms.

I tried my very best to incorporate social and emotional discussions in teaching skills and strategy classes I taught at the teacher education college. Since the theoretical and practical strategies were not well established, to bring the affective dimensions of teaching and learning to the forefront was difficult. The need for social-emotional learning discussions always remained a priority for me.

At the elementary level, following the Indian education curriculum, I remember studying a small booklet titled “Moral Science” with beautiful illustrations, which I believe was meant for value lessons. One of my favorite illustrations was a child praying, facing the morning sunrise, his face illuminated by brilliant rays of light extending from the horizon. I loved it, so much so that I kept copying the graphic illustration until I got it to my satisfaction. That is how I remember it so vividly. Even as a child, I was drawn to consider prayer and devotion.

Thus, through my experiences as a student, a student teacher, a teacher, and an educator of future teachers, I have come to value the personal wellbeing of a student—the social-emotional learning and personal values—the affective domain, which must become part of classroom discussion and planning. If a classroom teacher is ignorant of

the affective domain and focuses only on the cognitive aspect of learning, she or he may miss what is happening in a child's life outside the classroom, which can impact classroom learning—positively or negatively. For example, my student teachers reported to me that a fifth-grade girl and her younger brother had come to the school without breakfast. Fortunately, the school served a mid-day meal for all children. The student teachers suspected that the children's parents were drunk the night before and were not awake when it was time for the children to leave for school. It is my utmost priority in education to address the affective dimensions of learning—the fundamental ingredients of love and compassion—from which proper knowledge and skill must flourish. Therefore, for my doctoral work, I decided to focus on methods for building both children's wellbeing and academic progress, and in this study, my hypothesis is that contemplative practices serve as the best method.

In doing self-study, my own life history and professional experiences are readily available to me in a way that no one else's are, making it possible to arrive at a better understanding of the study (Van, 1990, McCallister, 1996). Autobiographical memory and life experience help me connect, understand, and interpret the study deeper and better (Roth, 2005). I tried to be mindful of who I am in this study and to pay close attention to how I connected personal experiences and autobiographical stories to wider social, cultural, and political meanings and understandings (Ellis, & et al., 2011, Rossman & Rallis, 2012). Hence, wherever appropriate and relevant, I incorporated autobiographical or personal history narratives into the analysis of this study.

## **Research Approach**

The research question driving this study is: *What can we observe in the comments, behavior, and products of young student monks, who participate in an integrated and holistic curriculum, about whether and how they bring affective learning from contemplative practices, to bear when learning secular, functional skills and knowledge?*

I decided that the best way to answer this question, as a researcher, was by being part of the whole teaching and learning process. Thus, for this study, I served as the teacher for a class of 20 young monks (aged 12-17), using a holistic curriculum, so that I could observe firsthand their comments, behaviors and products, while also reflecting on my own learning about holistic education as an instructor. Teaching in this context required me to study the curriculum, adopt and develop the teaching and learning materials, participate in planning and teaching classes, and interact with students in their co-curricular and other social and cultural activities outside the classroom settings. In the course of teaching for one full semester (3 ½ months), I observed the way the students' responded to the lessons socially, emotionally, and intellectually. I also observed my own behaviors, reactions and learning during this time. These two data sets—students' comments, behavior and products, along with my own reflections on my teaching and learning—serve as the information I subjectively analyzed, to answer the research question.

Self-study, as a research approach, is appropriate where tenets of autobiographical narratives and personal history approaches support the desired research goal and objectives. In this study, the term *autobiography* is used interchangeably with *life history*

or *personal history*, meaning *personal accounts* (Carter & Doyle, 1996; Bamberg, 2011). Self-study, as a research methodology, is gaining popularity among teacher educators. Over the past decade or so, “a rich theoretical and empirical case for the power of self-study as a reform tool in rethinking how teachers learn to teach” has been established (Dinkelman, 2003, p.7).

Self-study is both *process* and *product*: implementing the study is a process, while writing up the study is the *product* (Ellis, Adams, & Bochner, 2011). The hallmark of this qualitative approach, as Rossman and Rallis (2012) notes, is *learning as we go*—the *emergent experience* of doing and writing research.

### **Definition of Self-study**

Merriam-Webster Online Dictionary defines self-study as “study of oneself—a record of observations from such study. It is “a way for an educator to know, recognize, explore, and act upon his or her practice” (Clarke & Erickson, 2004, p. 59). Moreover, as Samaras & Freese (2009) have discovered, self-study is best defined according to one’s *role, practice, and purpose*. After reviewing how others have defined, I express what it means for my role, practice, and purpose as a researcher.

### **Self-Study Defined by Role**

The roles in teacher self-study include the self in teaching, as teacher, as researcher of one’s teaching, as researcher of teacher education, and as research of self-study (Baird, 2004). “The self-study research genre employs a broad range of qualitative methods, all of which employ narrative in one form or another ... Hence, interpretation and meaning-making, rather than explanation, sit at its core” (Craig, 2009, p. 22).



Interpretation and meaning-making ought to come from within one's own "heart and soul: caring, feeling, passion, and vulnerability" (Ellis, 2009, p. 362). Ellis believes that one cannot use a self-study method such as auto-ethnography without one's heart and soul, as "it is a blend of right brain and left brain activity, heart and mind, as well as culture and self" (p.362). Research in the area of personal narrative and life history, for example, demonstrates the validity and importance of biography in teaching and teacher education, according to Carter and Doyle (1996). My role in this research was as a student, as a student teacher, and as a teacher.

### **Self-Study Defined by Situated Practice:**

The practice in self-study is research, a "critical examination of one's actions and the context of those actions in order to achieve a more conscious mode of professional activity, in contrast to action based on habit, tradition, or impulse" (Samaras, 2002, p. xiii). "Self-study also involves a thoughtful look at texts read, experiences had, people known, and ideas considered. These are investigated for their connections with and relationships to practice as a teacher educator" (Hamilton et al., 1998, p. 236). Self-study is a personal construction but a collaborative approach where, the role of knowledge construction is emphasized through the elements of ongoing inquiry and personal experience (Samaras & Freese, 2009).

Indeed, practice in self-study is research. As I have reflected in my personal philosophy above, it was my critical analysis of how my student teachers taught made me reflect my own teaching. My students went in great detail with procedural steps to organize the classroom activities properly. However, when there was some tell-tale signs of concern children displayed regarding physical and emotional wellness, my students

either did not notice or pay attention to, other than what they were taught to do. In other words, they did not think outside the box to realize what was happening. It was not necessarily their fault but reflects back to how we prepared them. This research is my conscious endeavor to bring some professional awareness and actions.

### **Self-Study Defined by Purpose**

The broader purposes for practicing self-study are (1) *personal renewal*, (2) *professional renewal*, and (3) *program renewal* (Kosnik, et al., 2006). *Personal renewal* is about framing and reframing one's knowledge about teaching and learning within unique contexts. By conducting self-study, one hopes to discover new ways of viewing and understand oneself as a teacher. By asking what one can learn about teaching and what it means for students, self-study aims to help teachers renew professionally; "self-study has immediate utility in teacher and student learning and is an essential vehicle for transforming teaching practice" (Kosnik et al., 2006, p.81). For *program renewal*, self-study can help teachers move from small innovations to programmatic changes, from learning in individual courses to learning at an institutional level (Kosnik et al., 2006).

This study will renew my personal and professional knowledge and practice. This renewed personal and professional knowledge and experience is what I will bring to the education forum, in my capacity as teacher educator where, innovations and programs changes will be made. This is in fact the sole purpose of this study.

### **The Nature of Self-Study**

In this section, I present the characteristics of self-study research compiled by Samaras & Freese (2009) based on content analysis of papers by other self-study

scholars, each followed by my own understanding of what it means and how it applies to this research contextually. The characteristics presented here are in chronological order: (1) open, collaborative and reframed practice; (2) paradoxical processes; (3) a postmodern stance; and (4) multiple and multifaceted methods.

### **Open, Collaborative, and Reframed Practice**

Self-study begins with the teacher/researcher's disposition: he or she must be to *open* to ideas, one's own and others'. This awareness of others' views underscores the crucial role of *collaboration* in self-study, having one or more co-researchers as critical friends to discuss ideas and findings as the research progresses (Samaras & Freese, 2009, Beck & Kosnik, 2014). Through collaboration and dialogue with others, the self-study researcher can "frame and reframe" a problem from various perspectives, helping the self-study researcher think differently about issues and change one's practice accordingly.

As this study revolves around the views on the concept of holistic teaching and learning, especially the inclusion of social-emotional values and feelings, I cannot grasp the essence unless I am open to others and take account of their feelings, ideas, and emotions. Moreover, concept such as spirituality and value differ from person to person, I have to be open to their ideas and beliefs to understand their perspectives. For example, contemplative practice methods and techniques come from ancient Buddhist traditions. While discussing, I do not proselytize or promote Buddhism but the common scientific findings and benefits for all. I am open to any modern or social technique, as long as it serves the common purpose of social-emotional wellbeing and happiness.

## **Paradoxical Processes**

The key construct in self-study is the self and the reflective disposition of an individual. Yet the paradox in self-study is that researchers emphasize collaboration with others. Samaras & Freese (2009) simplify this paradox:

*... although self-study involves an intrapersonal quest to understand one's practice, it is the interpersonal mediation that allows individuals to work within "learning zones" or "communities of expertise where learners co-mediate, negotiate, and socially construct an understanding of a shared task (p.8).*

In other words, self-study is "study of one's own practice and study of one's self" (Beck & Kosnick, 20014, p. 148). Samaras & Freese (2009) reveal yet another paradox: "although self-study involves a private and personal exploration, it is also public" (p. 8).

In my study, my understanding is—one exist merely in relation to others—the phenomena of "dependent origination" in Buddhism. This coincides with Mead's (1982) belief that "the individual mind can exist only in relation to other minds with shared meanings" (p. 5). Therefore, to understand others, one must understand oneself first. In this self-study, while I am studying my own self and practice, the wider goal is to benefit others, in fact the entire sentient beings. My understanding of me is in relation to or in the context of others. For me this is not a paradox but a profound human understanding.

## **A Postmodern Stance**

Self-study research challenges conventional ways of doing research and treats research as a socially and politically justifiable conscious act (Samaras & Freese, 2009, Ellis, Adams, & Bochner, 2011). Self-study is postmodern in the sense that the self is neither divorced from the research process nor from education practice—it is non-linear and outcomes unpredictable. By taking a subjective experiential approach with open

outward social and political fairness, self-study takes into account the mutual process and shared purpose of practice. Its inclusive nature, “encourage[s] practitioners to be researchers and constructors of knowledge” (Samaras & Freese, 2009, p.9).

In this study, while I look into the latest needs and developments in the field of teaching and learning, I am not abandoning the conventional/traditional wisdom and practice totally, it is the amalgamation of both—inclusive and non-linear. As I have mentioned in my introductory chapter that with the approach of modernization in Bhutan, western education system surpassed conventional education traditions. The postmodern conscious act is to make educational research not only socially and politically justifiable but also much more meaningful and compatible with the current time. This is done by not only retaining and reviving some aspects of traditional practices, but by infusing certain principles with modern approach. In this study, the incorporation of contemplative practices into the mainstream educational approach is a good example.

### **Multiple and Multifaceted Methods**

Self-study scholars conduct their research with varied and multidimensional qualitative methods: “[There] is no one way, or correct way, of doing self-study. Rather, how a self-study might be done depends on what is sought to be better understood” (Loughran, 2007, p.15). While some employ autobiographical and personal history narratives, others use memory work and various modes of artistic representations such as visual art, theater, drama, and poetry. For example, Dobson (2010), using samples of her own poetry, shows how the inner voice can be released through self-study, which may not be possible with more conventional forms of research. Since there is no one or correct way of doing self-study, the researcher must choose the methods and tools that

best suit the study. In my study, I use multiple ethnographic methods: curriculum analysis, participant observation, field notes, informal interviews, artifacts of students' learning, and my own self-study reflections as a teacher.

Throughout my research, I also kept in mind Rossman & Rallis's (2012) three interrelated standards: (1) [Is] the study conducted according to norms for acceptable and competent research practice? (2) [Is] the study conducted in ways that honor participants; e.g., is it conducted ethically? And, (3) [Is] the researcher sensitive to the politics of the topic and setting? These standards are at the core of ethical practice, confidentiality, and consent. I am addressing not only education reforms taking place in Bhutan, but integrating affective and cognitive learning as a desired goal in many parts of the world. The context for my research was one where such integration was welcomed and did not present any adverse social or policy concerns. I complied with all procedural and ethical requirements. For volunteering to teach as part of my field research, I signed the Terms of Reference for Lhomon Education and received approval from the Lhomon Society board members.

Before conducting the research, the intent of my study was explained along with the consent form to each of my student participants that their participation was totally voluntary and they may withdraw from any part of the study at any time should there be any inconvenience. Since my students were underage, at the elementary school, their consent form was signed by their guardians in consultation with the head teacher, who was responsible for their overall safety and welfare at the school. Likewise at the institute, each of my students had a senior monk as their adviser or the guardian who signed the consent form on their behalf. I also got the informed consent from the institute

principal, my co-teacher, and three senior teachers who participated in way of sharing information.

### **Research Context**

To answer the research question, I conducted an investigation of a holistic education pilot project, focusing on integrating contemplative practices with secular information, through which I explored the conditions that foster or motivate affective learning. Lho Mon Education (LME), organized a major civil society organization in Bhutan is implementing an innovative Gross National Happiness-aimed curriculum call The *Druk 3020* Curriculum (See Appendix B). It is being implemented at Chokyi Gyatsho Institute (CGI), a monastery in east Bhutan. This holistic curriculum is designed to help students (young monks) become more active in supporting the health and wellbeing of surrounding communities. CGI will test this curriculum over four years, with oversight from the LME coordinator, in cooperation with the principal.

The curriculum itself is a set of 24 comprehensive educational units. The first set of six thematic units (Appendix C) began with the start of spring semester in January, 2013, with 20 young monks, aged 12-17 (See Study Sample section below for more details). While one teacher is employed fulltime to teach this new curriculum, experienced Bhutanese educators from across the academic fields, some even from abroad, come voluntarily to the institute for a period of six weeks to a full semester to support the regular teacher through co-teaching and mentoring. For the summer 2013, I volunteered to co-teach for a three-month semester, June through August.

Doing field research in this setting was appropriate for three reasons. First, the Druk 320 Curriculum not only incorporates GNH principles and values, it uses

contemplative pedagogy (see Appendix A). LME included contemplative pedagogy to address the affective elements of personal wellbeing. Co-teaching some units of this curriculum gave me the opportunity to see how a secular curriculum can be integrated within a monastic institution and, on the other hand, the applicability of Buddhist precepts and techniques for secular education. Second, the opportunity I had to co-teach and live with the monks for three months gave me valuable time and space to interact, participate, and observe almost every aspect of the institute's curricular and co-curricular activities, both inside and outside the classrooms. This was important for in-depth understanding of the context in which the curriculum was implemented. Third, the institute's cordial atmosphere and the love and warmth I received from the entire institute family made my stay there comfortable, and my study worthwhile and enriching. I could not have found a better organization than CGI, which deals with mind and meditation—the contemplative process.

### **Participant Sample**

There were two groups of students included in this study's sample. The first group were 20 young monks, all boys living at CGI, aged from 12-18; I worked with this group almost every day that class was in session during the three months, as I taught them the curriculum units on air and space. Following are some of the information about these students.

Out of twenty students, only four did not complete their fourth or fifth grade, while the other 16 were either in seventh or eighth grade when they left the regular schools. Of the four, three were the youngest in the CGI class (aged twelve, thirteen, and fifteen), while one of them was the eldest at eighteen years old. He left school much



earlier and has been doing some odd jobs. He came to CGI with a group as a contract worker to paint the new buildings being built. While there, the activities that were taking place at CGI impressed him. When CGI was recruiting new students as part of the LME Pilot Project for the new curriculum, he decided to join the group. He is one of the twenty recruits, the first cohort for the new curriculum.

One of them, the youngest one, I fondly called by his nickname Churkie which he did not mind. He left Rekhey Elementary School (RES) the school in which I asked the sixth grade class to participate in two lessons, when he was in the fourth grade. I was curious to know what could be some of the reasons Churkie left RES. In one of my preliminary visits for the project, I casually asked the principal there how Churkie was as a student. The principal and one of the teachers who taught him told me that he was fairly good in studies, although he was a bit shy and withdrawn. He came from a village about three hours walk from the school. As the school did not provide boarding facilities, he lived with one of his relatives in a village a few miles away. Some students walked several miles from those villages to the school, and Churkie was one of them. He was either not very comfortable at his relative's place or might have been bullied in schools, or it could be that he found CGI more attractive. I was tempted to ask Churkie but I did not want to take him to his past experience as he is now one of the adorable students at the institute—happy, cheerful, and intelligent. There could be similar reasons why some of his other friends left the regular schools to join the monastery which I did not get to ask for similar reasons.

The second group of students was Churkie's classmates I just mentioned in fourth grade before he left RES. They were 10 boys and 4 girls, now in sixth grade. The reason

I chose this group was that they were Churkie's classmates and the school is in close proximity to CGI. Second, they are of similar age range (11-17) as that of CGI group. Moreover, the friendship between these two groups still existed, and the mere fact that I was Churkie's teacher at the institute made my visit to the school much easier and cordial. In order not to disrupt their regular classes, I chose to visit the RES school on Wednesday afternoons, which is when the school has club activities, where students get to do what they like such as dance, music, arts and crafts, games, and the like.

I talked to the school principal about my project and asked him to allow me to teach a few Wednesday afternoon sessions with the sixth graders. Since my project was on creative drawing and lettering techniques, I wanted to make it part of the school club activities. I was happy to discover that arts and crafts were one of the popular clubs at the school, and so my project fit very well. I attended four consecutive Wednesdays spread over one month. The first two Wednesdays, I spent familiarizing myself with what the students were doing in general, such as knitting, drawing, and clay works. On the last two Wednesdays, I organized the creative drawing and lettering skill exercise for my project.

The CGI students lived at the institute, while RES students lived at home and walked to and from the school each day. The CGI students attended classes for six days a week, eight hours each day, for a total of 48 hours per week, excluding the general prayer sessions they attended and some free study time of their own, while RES students attended five and half days a week, eight hours Monday-Friday and five hours Saturday for a total of 45 hours per week, excluding the time they spend doing homework at home. The students at CGI studied the Druk 3020 curriculum, while RES students studied the

national curriculum, which includes English, Social Studies, Math, Science, and Dzongkha (Bhutanese National Language). The number of months for an academic year for both the groups is about same, which is roughly eight months, February through December, with summer and winter breaks in between. The major difference between these two groups is mode of assessment. RES follows the national standardized test as the main mode of assessment while CGI's mode of assessment is project-based continuous assessment.

The third group of participants in this study was my co-teacher, the institute principal, and one of the senior monks with whom I consulted on the Dharma lessons as he was involved in designing the new curriculum. While I had casual conversations with most of the senior teachers at the institute over the dinner table, I got specific information from these three participants. I worked with my co-teacher throughout planning, designing, and teaching. I consulted the principal and the senior teacher only for some specific information and clarifications.

### **Research Instruments**

To answer the research question, I employed multiple data collection methods, including:

1. Curriculum examination;
2. Participant observation and field notes;
3. Informal conversational Interviews;
4. Student products (artifacts of learning);
5. Student portfolio; and
6. Self-study reflections as a teacher.

## Curriculum Examination

Educational documents were the first source of data. The documents for the field research included mainly the overall curriculum, specific lesson plans, and supplementary materials like handouts and booklets. The curriculum consisted of a curriculum framework and unit plan guide. I analyzed these documents with two purposes in mind:

First, I examined to determine the overall holistic nature of the curriculum, specifically the inclusiveness and the connectedness between subjects and aspects of learning such as secular information with contemplative principles, cognitive with affective. The new curriculum, designed to be implemented over a period of four years, used thematic units organized into four levels. The theme for the first year (Level One) is *Basic Elements of Being*, and it has six units or topics for discussion. In each thematic unit of the curriculum, there is the *Dharma Link*<sup>18</sup>, the contemplative aspect of the lesson (See Appendix C).

Second, I studied the curriculum as a teacher, as part of my self-study, to understand how various aspects of Dharma concepts and skills can be incorporated contemplatively to enlighten secular concepts such as air and space, creativity, and problem solving. Since there was no specific order for teaching the thematic units, I chose to co-teach *Air and Space*, the last thematic unit in *Level One* during my three months of teaching at CGI (See Appendix D).

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<sup>18</sup> In Buddhist teachings, realities are perceived in terms of the five basic *elements*: Earth, Water, Fire, Air, and Space. Each element is represented by a female Buddha *Khandroma* (known as *Dakini* in Sanskrit) a term generally translated as *space-goer*, *celestial lady*, or *cloud fairy*. *Damtsik Drolma*, also known as *Green Tara* represents the purity of the *Air* element. From a Buddhist point of view, living a good life, a peaceful life has to have this spiritual dimension—the knowledge, respect, and care for these celestial beings and the essence of all elements—the entirety of nature.

In lesson planning, while the general overview is in the curriculum frame and map (Appendix B), I was guided by the unit guide for specific details of each lesson. I used the *Knowing*, *Understanding*, and *Doing* templates and followed the *Lesson Planning Checklist* provided. While planning project based learning, the key was to define the project that is relevant not just to the teacher but to the students, how it would impact them in their world, for which supplementary materials such as handouts, booklets, and references were provided but not limited to those, any relevant materials could be used creatively. For example, I found the article *Can Climate Change Make Us Sicker* from Time Magazine by Bryan Walsh very useful while discussing *Global Warming*.

Before teaching each lesson, I examined the lessons on dharma links specifically to investigate the dharma themes and principles and plan the general class discussion focused on these themes and principles. The dharma aspect of contemplating learning is understood as engaging intellectually, physically, socially-emotionally (mind, body, and spirit) in almost everything we do. Essentially, the curriculum incorporates all forms of arts and outdoor activities to cultivate contemplative learning. On my part, I engaged students in doing arts and crafts and nature studies to experience contemplatively, which ended up creating a “Nature Corner” beside one of their classrooms. The nature study was useful in illustrating some of the key concepts on global warming lessons.

### **Participant Observation and Field Notes**

While the overall aim of teaching the lessons was to meet the unit objectives, I paid extra attention to how students reacted to the contemplative aspect of dharma lessons as to whether there was evidence of it influencing students’ consciousness and if so, how the dharma message translated into action as a result. To hear students’ ideas

about the dharma link, I initiated prompts to stimulate and get them to share more than in regular classes. Occasionally, I organized classroom sessions to end with open-ended discussions as a “prompt” to have students talk openly about the dharma message that day. One such discussion was on the *heart sutra* mantra.

*Dharma Lesson Plan One* (Appendix E) instructs students to memorize the heart sutra and recite it as a group, which is part of the beginning of every class in that unit. All students may or may not memorize the whole sutra but they do know the short mantra by heart which reads: *Gate Gate Paragate Parasamgate Bodhi Svaha* (*Go, go! Go all the way to the other shore of the ocean of suffering*), just before ending the heart sutra. Buddhists consider this as one of the most profound mantras. Its in-depth understanding and implications may depend on how individuals perceive it. The Vietnamese Zen master Hanh (2009,) explains this mantra as follows:

Gate means gone. Gone from suffering to the liberation of suffering. Gone from forgetfulness to mindfulness. Gone from duality into non-duality. Gate gate means gone, gone. Paragate means gone all the way to the other shore. So this mantra is said in a very strong way. Gone, gone, gone all the way over. In Parasamgate, *sam* means everyone, the sangha, the entire community of beings. Everyone gone over to the other shore. Bodhi is the light inside, enlightenment, or awakening. You see it and the vision of reality liberates you. And *svaha* is a cry of joy or excitement, like “Welcome!” or “Hallelujah!” Gone, gone, gone all the way over, everyone gone to the other shore, enlightenment, svaha! That is what the Bodhisattva uttered. When we listen to this mantra, we should bring ourselves into that state of attention, of concentration, so that we can receive the strength emanated by Avalokitesvara Bodhisattva. We do not recite the Heart sutra like singing a song, or with our intellect alone. If you practice the meditation on emptiness, if you penetrate the nature of inter-being with all your heart, your body, and your mind, you will realize a state that is quite concentrated. If you say the mantra then, with all your being, the mantra will have power and you will be able to have real communication, real communion with Avalokitesvara and you will be able to transform yourself in the direction of enlightenment. This text is not just for chanting, or to be put on an altar for

worship. It is given to us as a tool to work for our liberation, for the liberation of all beings. It is like a tool for farming, given to us so that we may farm. This is the gift of Avalikitesvara<sup>19</sup> (pp. 43-44)<sup>20</sup>

The general understanding for reciting the heart sutra at the beginning of any project or session is to clear the path with concentrative focus and prevent potential obstacles such as mental distractions, unforeseen errors, misgivings, and related hindrance to the task at hand. I wanted to find out what students make of this mantra in relation to what they do—some basic perceptions as to why they recite heart sutra. A brief summary of the extended conversation follows.

One of them<sup>21</sup> raises his hand and says, “If we are crossing a big river, everyone together should get to the other shore.” He just said this one line and stopped with no further explanation. I was surprised as to why he used the river crossing analogy. The analogy often used is the “ocean of suffering” and not the “river.” I was not sure what he really meant by that. I asked if others could help explain that phrase. The next one says, “As a sangha [learning community], we have to make sure everyone gets to the other shore and not to think of just the individual safety.” This prompted me to ask, what is it that is so important to be aware of as a group to get to the other shore safely. The answer

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<sup>19</sup> As an embodiment of compassion, Avalokitesvara help us liberate ourselves from fear. This is the heart of *Prajna Paramita* (Heart Sutra in Sanskrit). *Prajna* means wisdom, insight, or knowledge. *Paramita* means perfection, transcendent. It means to transcend our ordinary, self-centered state of being, suffering. *Prajna Paramita* therefore means the wisdom, insight, or knowledge that has the power and the capacity to get all the way to the other shore from the ocean of suffering. As such, the perfection of wisdom (*Prajna Paramita*) is to liberate from the ocean of suffering—བློ་བཟོ་ལས་འགོ་བ་སྒྲེབ་—transcending sea of samsara to reach the shore of Buddhahood (Hanh, 2009, Ohler, n. d).

<sup>20</sup> Recommended for Dharma reading, Dharma lesson plan one.

<sup>21</sup> From personal note: This boy often rushes to answer without any hesitation whether the answer is right or wrong. He is one of the lively but the most talkative ones in the class. I made a personal note to remind myself not to let him dominate the class whenever I threw a general question to the whole class.

to this question did not come right away. After looking at each other for a while, the eldest<sup>22</sup> one in the class spoke—“To be mindful of oneself and of others.” He said, “If not mindful, བར་ཆད་ [any obstacle that obstructs progress] will occur.” Barely before completing this boy’s last words the first boy jumps in again and says, “Yes! If we are not mindful, (བར་ཆད་) [some negative consequences] will occur. Forget about others, one will not be able to save oneself!” My analysis of this discussion is in the next chapter.

To collect data about their actions, possibly related to the dharma principles, I followed students and interacted with them throughout their daily activities: dining, playing, gardening, walking, and other co-curricular activities. By shadowing and being with students and teachers throughout those activities, I got not only to hear but see as well the dharma practice in action in various activities in the institute. I wrote detailed field notes on students’ behavior, comments, and actions inside and outside of the classrooms. Initially, I thought of focusing my notes on specific observations, but I realized I was missing other interesting, unexpected things happening. I started free writing anything that caught my attention and then pick the ones matching themes and categories I wanted to elaborate on.

### **Informal Conversational Interviews**

My interviews were ongoing conversations, what Rossman and Rallis (2012) call *dialogic or informal conversational interviews*, mostly with my co-teacher and students. I had some in-depth conversation with the CGI principle and one of the senior monks only on specific topics for clarifications.

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<sup>22</sup> Personal note: This boy needs extra help in speaking and writing English. He doesn’t speak much but attentive and maintains his cool smiling most of the time.



One of the main conversational interviews I had was with the CGI principal, the follow-up of the talk he gave on the *Air Dakini, Damtsik Drolma*. This was important because, Damtsik Drolma is the dharma link to the thematic unit on Air and Space we were teaching. Only senior monks are qualified to give in-depth significance of the dharma aspect of the curriculum, so I invited the principal to talk to the students about Damtsik Drolma and its significance with regard to Air and space. This follow up conversation with the principal I have summarized in tabular form presented in the next chapter *Table-3*. The other important conversation I had was with one of the senior monks who helped design the dharma links in the Druk 320 curriculum. One of the recommended texts related to the unit on Air and Space was, *Healing with form, energy and light: The five elements in Tibetan Shamanism, Tantra, and Dzogchen* by Tenzin Wangyal Rinpoche. I had some specific questions on this text and the heart sutra which the senior monk helped clarify some of the deeper significance and implications. I have incorporated some information from this text along with some explanations I got in my discussion on Air and space in the next chapter.

I have not mentioned my co-teacher in this conversation list specifically because; he is involved in every bit of each lesson planning, teaching, and analysis. His views and ideas are inclusive by default in most of my discussions, especially on classroom planning, designing, and implementation. My conversations with students were part of classroom discussions such as the one I just discussed above, especially on open ended questions I initiated once in a while to encourage them to share more than in regular discussions, inside and outside the classroom. One of my strategies was to become part of the institute family and be with students throughout their daily activities such as

outdoor games, gardening, nature-walks, and community social work. Some of the conversations provoked during those events are illustrated in some of the discussions in the next chapter.

In order to keep these conversational interviews and discussions as natural as possible, I did not audio or videotape them. Sometimes, setting a tape or showing a microphone gets formal and lose the natural flow of conversations. I rather engaged in the dialogues or conversations comfortably, and then afterwards, engaged in to elaborate as much as possible the short points I noted during the conversation into my field notes. Therefore, any quotes presented in the findings section represent my best memory of what the interviewees actually said.

### **Student Products (artifacts of learning)**

One of the guiding principles of *Lho Mon Education* curriculum framework for CGI is teaching with and through the arts: Story, dance, visual art, music and drama. Engaging in these art forms stimulate imagination and provide opportunities for exploration and creativity and help students make a personal connection to the material studied. On specific days, evening hours are scheduled for such enrichment classes. I introduced arts and crafts generally to foster a sense of aesthetic beauty through creative activities such as drawing, painting, sketching, and embroidery. These activities involve problem solving skills as well. Since the contemplative skills of *Focused-Attention* (FA) and *Open-Monitoring* (OM) are used by researchers to test creativity and problem solving skills, I decided to take this opportunity to see if my CGI students (contemplative learners) fared any better than RES students (non-contemplative learners) in creativity and problem solving exercises

Students did not practice contemplative skills specifically for these two particular activities, other than the basic steps and procedures. My intention was to see if CGI students were able to use their contemplative skills as and when the situation demanded, without having to facilitate them at that point, since this is how contemplative skills should operate naturally. My hypothesis was that, if CGI students' drawings are different, the contemplative skills they had been practicing would have played a role. For RES students, they would have used primarily their general knowledge and skills to do the job.

### **Open Monitoring: A Creativity Exercise**

For CGI students, this activity was carried out during one of the morning classes, whereas for RES students, this activity was carried out in the afternoon, during one of their weekly club times. I informed students about this activity and they agreed that they would participate in the activity. The drawing instruction was:

*As you have agreed, today you are going to do a very interesting drawing for me. I have a very beautiful picture of a Caterpillar that one of your friends spotted.*

I projected the PowerPoint picture on the wall.

*First look very carefully for a while. What does the caterpillar resemble or remind you of? After reflecting, visualizing, and thinking of visual images from your experiences, draw one that resonates most. We will use both periods, so you need not hurry. We will have a ten-minute break after the first period. You can give the drawing to me whenever you are done.*

At CGI, I conducted this activity in the morning. Whereas for RES students, they had only the club time to do this, which was three periods of 45 minutes each in the afternoon. I decided to use the first two periods of RES, which was 90 minutes. With a 10-minute break in between, the actual drawing time was 80 minutes. I gave CGI

students 80 minutes as well. While the students were drawing, I did not walk around to see how they were doing or interfere in any other way but gave them complete privacy.

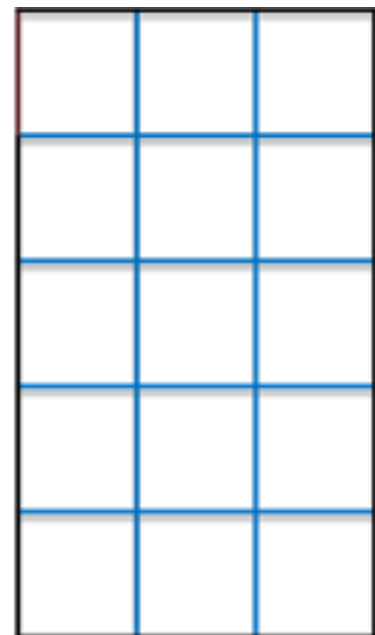
When I first saw the caterpillar, the diamond pattern on its back immediately reminded me of the Bhutanese garment design motifs Bhutanese women incorporate in their weaving. I was interested to see whether the caterpillar triggered similar experiences for students. Implied in this question is divergent thinking, usually practiced through mindfulness (open monitoring) meditation. I was interested to see whether students were able to switch their visual perspective to generate new responses to the given picture. The focus is on the ability to deviate the mind from the given object in terms of connecting with a wide range of possible themes from one's vast life experiences, the kind of process exercised in mindfulness meditation. The theme one chose in the drawing would indicate that.

#### **Focused Attention: A Problem Solving Exercise**

For CGI students this exercise was carried out three days after the first drawing activity, while for RES students, it was during their following club time, a week after the first drawing activity. There was no other reason for this timing other than the availability of time and convenience. I followed the same procedure as the creative drawing except the exercise was different.

This exercise involves a great deal of focused attention to bring to mind any standard block letter or

**Figure 4 : 15 Square Grid**



number, and then figure out how that shape take place on the 15-square grid (Figure 4). Like a jigsaw puzzle, any block letter or a number fit squarely on to the 15-square grid. It is a matter of visualizing the figure on the grid and once the shape is figured out, the edges are curved and the diagonal lines drawn accordingly. I demonstrated how it should be done with difficult letters **G** and **K** and let them figure out how to do it with 10 more letters of their choice. A worksheet with grids drawn was handed to each student and once completed, they handed it back to me.

The straight forward assessment of this activity is obviously to see whether students draw the letters accurately, as block letters using the background grid lines. I also wanted to understand the role of sustained focus attention, imagination/visualization, and above all, patience. These disciplines are cultivated and heightened through contemplative practices. The very purpose of this comparative study between these two groups of students was to see whether these disciplines appear to be true in influencing one's task. The result is presented in the next chapter.

### **Student Portfolio**

It is a well-established practice in CGI class sessions that, during or after every lesson, students keep reflective notes on what was interesting about the concepts, skills, and procedural steps they learned and what they did not understand well. Students were encouraged as well to reflect on how they felt about the lesson overall—good, bad, sad, disturbing, encouraging, and so forth. They put these reflective notes in the lesson portfolio they maintain. Before completing a topic, my co-teacher and I checked each of these notes. That gave us a sense of how the students were doing. If there was a major problem, we brought back the points to the class to discuss, and if the problem was minor

with some particular students, we helped one-on-one during the enrichment classes. These student portfolios were a good source of my research data on some specific observations.

### **Self-study Reflections as a Teacher**

The process of self-reflection came to me early on. This, I believe, is from my appreciation of art and nature, which is itself contemplation, a reflective process. While I was at the college of education, I went to great lengths to create my own space of beauty and tranquility. What you see in *Figure-5* below is a *Gazebo* that was in the front yard of my quarter at the college, created with my own hands and maintained myself. I wrote an article about this gazebo, which later on turned out to be the opening chapter of my Master's Thesis. The article was about what the gazebo meant to me as an object of art and a setting for self-reflection. Those reflections got to do with me and what I do:

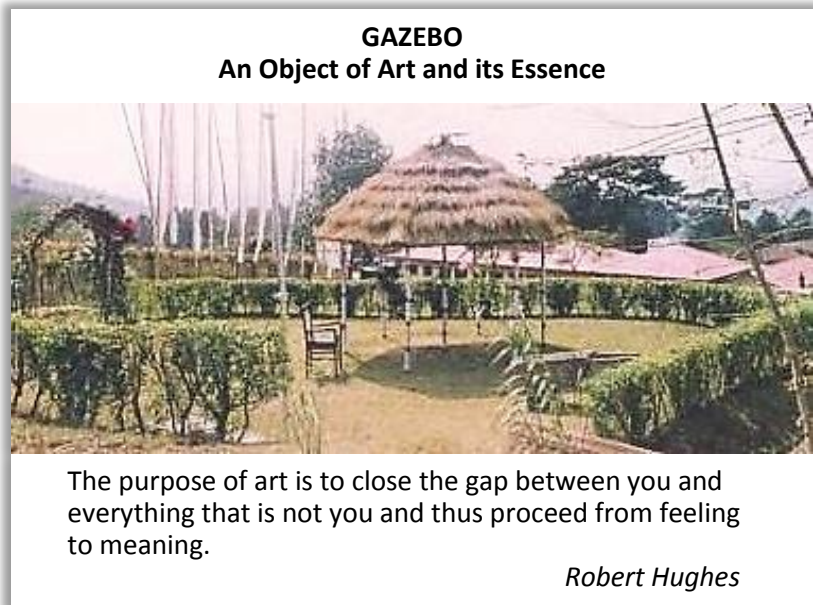
*There are, of course, many degrees of feeling and many modes of expressing feelings. The process of expression is complex. I think in order to proceed from feeling to meaning; we have to entertain our feelings in one form or other. I use my gazebo as a vantage point to feel what I feel and to reflect on those feelings. These are crucial events through which I experience my life or think about my life. This has some influence on how I look at others' lives as well, especially the students I teach (Gyeltshen,1999, p.3)*

There are no rules about how many times a day I contemplate and how long. I follow the ebb and flow of daily activities. Generally, I reflect a while before going to bed, to take stock of what occurred during the day, and after waking up to be mindful or aware of what is coming, especially when there are lists of things to do. It is always good to meditate, anytime anywhere. For example, whenever I travel by bus, even if it is a

short ride I meditate. Even amidst crowd, one can be alone. Any conscious changes I bring to myself or my profession are through contemplation.

Contemplative practices were part of my study. It takes certain discipline to see overtly as well as covertly about certain events. Unlike many other institutions, CGI is a very unique and complex organization

**Figure 5: Art and Nature as a Reflective Process**



in terms of the new curriculum implementation, as my students were studying the new curriculum in tandem with the regular monastic activities. In addition to classroom teaching and learning, living and eating with them, and participating in their other monastic activities, such as prayers and spiritual rituals gave me a much broader venue to explore. I used freewriting for my reflective notes in order not to miss the overall event. What I realized later on, in organizing those notes to form certain themes and categories, many of those notes did not fit into the scope of this study. Thus, I learned that staying connected to the themes framing my study was difficult. The contemplative process of when and how much to employ open monitoring and focused attention methods became that much more important in self-study research method as well.

## **Analysis Plan**

Analysis began from the moment I conceptualized my study and framed the research question. Specifically, I followed Rossman and Rallis's (2012) *foreshadowing* scheme. They state that the conceptual framework, the research question, the research strategy and design all provide preliminary clues or indications of what might happen next. Thus, I anticipated asking specific questions of the students and other participants during my study. As the study continued, I followed Rossman and Rallis's advice in keeping the research question in mind, remembering what I was trying to learn, and staying connected to the qualitative genre framing my study.

The conceptual framework around which I analyzed the data I collected is shown below in *Table-1*. In order to answer the research question (*What can we observe in the comments, behavior, and products of young student monks who participate in an integrated and holistic curriculum about whether and how they bring affective learning from contemplative practices to bear when learning secular and functional skills and knowledge?*), I used the following processes with the data I collected, which included (1) my notes about the Druk 3020 curriculum and thematic unit on air and space, including my notes about the lessons pertaining to the unit's dharma link; (2) my field notes from participant observation of students' comments and behaviors inside and outside of classes during discussions and conversations; (3) my notes from informal conversational interviews with the CGI principal, senior monk, co-teacher and students; (4) the learning products (creative drawings and problem solving worksheet) of both the CGI and the RES students; and (5) my self-study reflections on my own teaching.



**Table 1 : Conceptual Framework**

<b><u>Holistic Education</u></b>	
<b><u>Affective Learning</u></b> <b>Essence:</b> Spiritual <b>Focus:</b> Social-emotional learning, creativity, attention, problem solving <b>Method:</b> Contemplative practices <b>Subject:</b> Spiritual dharma philosophies and practices	<b><u>Cognitive Learning</u></b> <b>Essence:</b> Secular <b>Focus:</b> Functional knowledge and skills <b>Method:</b> Reading and experimentation <b>Subject:</b> Math, science, technology, social studies, health and physical education

First, I read and re-read my field notes and reflections from all sources of data to look for specific instances of students' comments or students' behaviors that indicated either (a) socio-emotional learning, (b) creativity, (c) attention, or (d) problem-solving, either inside or outside of the class. I marked these instances as either comment or behavior (or both) and as one of the types of learning (a, b, c or d) likely to emerge from contemplative practices. I then re-read my field notes from participant observation and informal interviews with the goal of finding and marking instances of students demonstrating progress towards functional skills as stated in the objectives of the Druk 3020 thematic units on air and space. For example, the thematic unit on air has a functional (secular) objective of understanding:

- Air and space concepts and related principles such as earth's gravity—how it pulls the air to the planet's surface, leading to some ideas about air travel and space exploration, a glimpse at its future for further exploration.
- Air and its properties, pollution, its causes and effects on our environment and solutions on how we can combat this problem together.

- Climate change and the greenhouse effect—how an individual person, an event, a product, or an organization contribute greenhouse gas—know one’s carbon footprint and responsibility.

When I found any student comments or behaviors indicating such functional understanding, I marked that in my field notes.

Next, I looked for overlap in the marked field notes between evidence of affective learning from contemplative practices (socio-emotional learning, etc.) in students’ comments/behaviors and evidence of student progress in cognitive learning (functional knowledge about air and/or space). Where I found overlap, I then created a narrative story explaining this overlap, in which I also provided a description of the contemplative practice (spiritual dharma philosophies and practices) that seemed likely to be related to such overlap in affective and cognitive learning. If there were related comments in my self-reflections as a teacher that highlighted or supported the overlap or connection between contemplative practice and student functional knowledge learning, I added those reflections.

Finally, I did a separate analysis of the students’ products (artifacts of learning) by looking for and marking evidence of *creativity* (in drawings prompted by the caterpillar photo) and evidence of *problem-solving* skills (in the squares grid of letters and numbers). The criterion for creativity was primarily whether the student had diverged in his/her drawing from simply copying the image of the photographed caterpillar to drawing another object that was not the caterpillar. The criterion for problem-solving was to see whether the students were able to bring the visualized shape into the grid which entailed a great deal of patience and focused attention. I then compared the products done by the CGI students and the RES students to see whether there were

differences, by student group, in creativity and problem-solving skills according to the criteria. I then returned to see how these meditation and/or mindfulness training activities might have contributed to or explain any differences in creativity and problem-solving skills between the two groups of students.

### **Limitations**

According to Feldman (2003), we can increase the validity of self-studies “by paying attention to and making public the ways that we construct our representations of our research” (p. 27). He suggests the following ways to do so:

- Provide a clear and detailed description of how we collect data and make explicit what counts as data in our work. That is, either within the text itself or as an appendix, provide the details of the research methods used.
- Provide clear and detailed descriptions of how we constructed the representation from our data.
- Extend triangulation beyond multiple sources of data to include explorations of multiple ways to represent the same self-study.
- Provide evidence of the value of the changes in our ways of being teacher educators (pp.27-28).

To make this research valid, I have complied with Feldman’s (2003) suggestions. In the previous sections, I provided a detailed description of the five data collection methods and the process I used for collecting and storing data. In the analysis section, I gave a detailed account of how I analyzed data from each of the methods, using my conceptual framework, and also how I looked for data points from each data set that would support or “triangulate” the data. I had sufficient time in the context and with the participants, and I used the self-study reflections on my own teaching as a way to understand my role as a teacher (“changes in [my] ways of being [a] teacher educator”).

However, despite these efforts to ensure that the findings from this study are valid, there are some limitations. First, I did not have the benefit of audio or video tape recordings of students in the classroom or of informal interviews with students, teachers or principal, so the data in my field notes may suffer from lapses in my own memory. Second, when comparing student artifacts of learning between the two groups of students, there are observed differences (different schools, different ages, different genders, different exposure to contemplative practices etc.) and unobserved differences (different socio-economic status, different motivations, different educational backgrounds, etc.) that may explain as well or better the differences in their learning products. Third, my beliefs about the value of contemplative practice, coming in to this study, may bias my perspectives on whether and to what extent CGI students are bringing socio-emotional learning, creativity, problem-solving, and attention skills to bear when learning functional skills. Fourth, I did not get as much time I would have spent with RES students prior to the drawing and lettering exercise I gave. Though I did have some familiarization time with them, it was not sufficient to get to that level of frank and open relationship I had with CGI students. This might have had some impact in terms of having a very free and cordial atmosphere to process the kind of thinking focusing the given exercise demanded.

## CHAPTER 4

### RESEARCH FINDINGS

#### Introduction

*True freedom only comes when one is no longer enslaved on an inner level by the emotion and desire and on an external level by ignorance.*

Khyentse Rinpoche (LME)

The purpose of this study is to understand how affective dimensions of learning influence cognitive dimensions. My focus is how students respond to this integration of affective and cognitive learning. How do the spiritually oriented contemplative techniques found in Buddhist education influence cognitive learning in *Air and Space*, the thematic unit I co-taught, as observed in students' comments, behaviors and products?

In this chapter, I first describe the actual “intervention”, the typical integrated lesson including contemplative practices and instruction on Air and Space. Then, using my conceptual framework, I present the data I collected about the students' responses to these integrated lessons, based on my observations of their comments, behaviors and products. Finally, I present my perceptions emerging from my self-study notes about teaching integrated lessons in a holistic curriculum.

#### Educational Intervention

##### **Typical Class Session Using Integrated Curriculum**

The traditional modes of contemplative teaching and learning at Chokyi Gyatso Institute (CGI) consist of three phases—*transitional (hearing)*, *transactional (contemplating)*, and *transformational (meditating)*. These three phases are aligned with Wiggins and McTighe's (2005) KUD method, in which teachers develop learning

objectives and identify what their students will *Know* (K), *Understand* (U), and *Do* (D), by the end of a unit or a lesson. Further, this method is attuned with Bloom's Taxonomy.

The usual pattern for each day's classes I followed at CGI was as follows:

1. Before the class session: Meditation on the *Four Immeasurables*.
2. Beginning of class session: *Heart Sutra* recitation followed by short meditation.
3. Middle section of class session: Integrated instruction on key topics—*Air and space concepts and related principles, air and its properties, pollution and its causes and effects, climate change and the greenhouse effect*.
4. Closing of class session: *Dedication prayers*.

The first, second and fourth of these activities are solely related to contemplative practices—the spiritual and affective learning in the curriculum. The third activity focuses on secular information and considering how Buddhist spiritual understanding about the natural elements impacts scientific explanations of air and space. In the sections below, I describe first the contemplative practices “bookending” each lesson, followed by a description of instruction about air and space that integrated secular with spiritual knowledge.

### **Before the Class Session**

Before the onset of class sessions, one of the meditations practiced other than the heart sutra recitation was the *four immeasurables* to cultivate loving kindness, compassion, appreciative joy, and equanimity. In view of the fact that this meditation prayer is dedicated to all sentient beings, the opening phrase “*may all sentient beings...*” in each line is to eliminate the thought of ill will, jealousy, and self-centeredness. The concepts introduced through the *heart sutra*, such as *impermanence* and *interdependence* are for the same reason—it evokes compassion—the very understanding that everything is impermanent, interdependent, and that there is no such thing as a whole. In the words

of Rimpoche<sup>23</sup>, “this very understanding is not only wisdom, it is empathy,” the affective aspect of knowledge.

### **Beginning of Class Session**

Each class began with the recitation of the *Heart Sutra*, followed by a few minutes of meditation. The history of heart sutra, its significance, and how it came to be translated in many languages is discussed in Unit Two, *Dharma Lesson Plan One* (Appendix F). Heart Sutra is, in fact, the core teaching of Buddhism and it is considered precious. It can be analyzed spiritually as well as rationally. I had some in-depth conversation on heart sutra with one of the senior monks who was assigned to help with the new curriculum I was teaching:

*We may not see the benefits directly from reciting Heart Sutra nor should we search for benefits. It is the feeling or the sense of meaning one derives each time the Heart Sutra is recited—the feeling that he or she have understood a little bit more of its meaning and helps the wisdom of one’s own nature to grow. The other reason for reciting Heart Sutra is to clear obstacles from reaching one’s goal. We can say that chanting the Sutra can assist us get into the right frame of mind, especially when one is preparing for an extended period of working on some complex task. Spiritually, reciting heart sutra in itself is a form of meditation, if done with the proper frame of mind. It is an “external expression” of our commitment to the Buddhist principles and practices.*

The core teaching from Heart Sutra is the concept of “emptiness.” Emptiness is associated with “interdependence” and “impermanence.” Interdependence, impermanence, and emptiness are the basis of all dharma teaching and the nature of reality from the Buddhist point of view. The continuation of the senior monk’s view follows:

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<sup>23</sup> Dzongsar Khyentse Rimpoche, the founder of Chokyi Gatsho Institute

*Along with the Heart Sutra recitation, one must contemplate emptiness in everyday things. It helps in developing one's own nature and the nature of all things in and around us. Knowing the basic concept of emptiness is good because it liberates us from grasping and clinging to something, often out of sheer ignorance. When analyzed properly, things are not always as they seem to appear—it is the imaginations or the imagined optical illusions that plays trick on us. If we are able to burst those illusions, nothing would have actually happened. We fear when we are not able to see things as they really are.*

He illustrates his point with the analogy of a “rope” mistaken for a “snake”, often quoted in Buddhist teachings:

*When we don't see things properly, we impose our assumption on what it appears to be. For example, a coil of rope in the dark can be mistaken for a snake or any other similar creepy-crawly creature. And a sensation of fear or nervous agitation it causes is from not knowing the reality of that object. The only way to get rid of that fear is by shining a light on it. When one sees it is only a rope, the appearance of the snake dissolves. Likewise, the only way to dissolve ignorance and delusions is to cultivate wisdom by reflecting on the nature of things such as interdependence, impermanence, and emptiness.*

After the heart sutra recitation, students take a few minutes to contemplate. What do they contemplate? Contemplative practices, in general, are meant to bring focus and develop deep concentration to calm the mind from distractions as well as to be mindful of what is happening in and around self. In my classes, I guided students to do the same—to be attentive and bring focus on the task at hand, and be mindful and analytical in processing information. Ultimately, through contemplation, students were encouraged to practice *bodhicitta* (compassionate mind for the wellbeing of others), which we all tried by complying with the act of the *paramitas*.

Typically, two common techniques are employed for contemplative practices—*concentration meditation* and *mindfulness meditation* (as reviewed in Chapter Two). For calming, students practice *Shamatha* meditation, which is single-pointed deep



concentration, devoid of sensory awareness or mental flow, usually focused on breathing. According to Thurman (2006), this state of calmness, single-pointed and deep concentration “produce[s] marked physical effects and equip[s] the mind with fitness and fluency in executing whatever tasks it addresses” (p. 1766). The mind is let go, as freely as possible, to go wherever it pleases without control or judgment. Only when the mind is absolutely free may one see what one normally does not see because of personal agendas, priorities, and preconceived notions. Once these techniques are mastered, it becomes easier to contemplate subjects of interest.

Although Shamatha does empower the mind, and there are numerous health benefits, by itself it does not produce positive or negative evolutionary transformation, according to Thurman. Therefore, *Vipashyana*—seeing-through or insight meditation is employed for transformation: “They range from basic scanning mindfulness meditations, through critically penetrating insight meditations, up to imaginatively creative visualizing meditations. They are considered most important in psychological, intellectual, and spiritual development” (Thurman, 2006, p.1766).

Thus, at CGI, beyond the usual Shamatha meditation, the students also practice *Bodhicitta* motivations. With regard to bodhicitta, there are *Three Refuges* to seek, *Four Reliance* principles to rely on, *Four Immeasurables* to think about, and *Six Paramitas* also known as the *Six Perfections* to perfect. These are discussed in *Dharma Lesson Plan-3* (Appendix F). In the *Three Refuges (Buddha, Dharma, and Sangha*, also known as three jewels), Buddha is the personification of merit and wisdom, the awakened one. Taking refuge in him is to awaken the Buddha nature that is within each individual. Taking refuge in the Dharma, the teachings of the Buddha, is to follow his path to the

ultimate truth and reality, bliss and freedom. Taking refuge in the Sangha is for friendship, to help and support each other as a community of practitioners. This refuge prayer is as follows:

*I take refuge until I am enlightened  
In the Buddhas, the Dharma and the Sangha.  
Through the merit I create by practicing giving and the other perfections  
May I attain Buddhahood for the sake of all sentient beings (Rinpoche, 2009).*

The Four Reliances (also known as the Four Reliables) are guidelines for the students who follow Buddha Dharma to authenticate what they learn. The wisdom—*Prajna Paramita*—is fundamentally pure, clear, and tranquil. Bound by knowledge and affliction, the individuals can be faulty and so falter the wording of the sutra. Therefore, the teacher must be examined to begin with in the light of the four reliances taught by the master teacher the Buddha:

*Rely on the message of the teacher, not on his personality;  
Rely on the meaning, not just on the words;  
Rely on the real meaning, not on the provisional one;  
Rely on your wisdom mind, not on your ordinary, judgmental mind.*  
(Rinpoche, 2007, p. 46.)

The *Four Immeasurables*—loving kindness, compassion, joy, and equanimity—are the four causes or sources of human sanity, according to Buddha, without which the human mind is constantly trapped in the cyclic existence, an unending game of hope and fear. Cultivating the four immeasurables, therefore, keeps the mind sane. The four immeasurable thoughts are as follow:

*May all sentient beings have happiness and the causes of happiness;  
May all sentient beings be free from suffering and the causes of suffering;  
May all sentient beings never be separated from the happiness that knows no*

*suffering;*

*May all sentient beings live in equanimity, free from attachment and aversion.*

(Rinpoche, 2009, Khandro, 2013)

The *Six Paramitas* or the *Six Perfections* are the innate human nature, which is gloriously virtuous and transcendent. Because of circumstantial greed, delusion, and karmic tendencies, those innate qualities have become blurred and obscured, the result of which is suffering. In order to transcend from this sea of suffering to the other shore, the potential qualities of human nature must be perfected. Following are the six perfections that allow one to get to the shore of Buddhahood:

1. The Perfection of Giving
2. The Perfection of Ethics
3. The Perfection of Patience
4. The Perfection of Diligence
5. The Perfection of Meditative Concentration
6. The Perfection of Wisdom

For a serious practitioner, these perfections entail taking certain vows. How are these perfections practiced in regular classrooms? In Dharma lesson plan 3 (Appendix F), we conducted the following discussion:

1. Which is the most difficult perfection to apply?
2. Which do you think would be easier to apply?
3. What stops you from applying the paramitas? How can you clear those obstacles away?
4. What negative attitudes, views, or actions are the paramitas a remedy for?
5. Can you identify someone who fully embodies at least one of the paramitas?
6. Could a paramita such as generosity solve all problems by itself?
7. Why is wisdom so important? Couldn't one escape suffering with only perfect discipline and ethics?

In addition to these types of discussions, my co-teacher and I also instructed the students in how to enact the paramitras during classroom activities. For example, the

new integrated classrooms meant for the young student monks were not fully ready in terms of adequate furniture and other resources. The need to practice the first paramita *generosity* became both necessary and useful. Students were reminded and encouraged to practice generosity in sharing, not only the common property but also personal classroom items such as their geometry box, ruling-scale, pencil eraser, and so on. Not every student had all of these classroom tools. As long as some students had one item or the other, the mutual understanding was to make it available for others as well. By lending and borrowing resources without any indifference, we were able to managed classroom activities fairly well.

Giving affective protection and understanding was also important. In order to practice the first paramita sincerely, the second paramita—*moral ethics and self-discipline*, must come naturally. The opportunity to test these paramitas comes in various forms almost in every situation. For example, Dewathang, where CGI is located gets very hot and humid in summer. Moreover, the classrooms were not ready with proper furniture and cooling systems. Often, in such situations students tend to get restless and agitated easily. We reminded Students to abstain from displaying displeasure and mood swings as it affects others as well. To overcome some of these physical discomforts, we reminded students to practice the third paramita—*patience*, by focusing on the merits they would reap from gaining knowledge. Not only reminding students, but also practicing ourselves wherever possible, do impact student behavior. Despite some of the hardships they faced, I did not hear any complaint from the students during my entire time with students.

For the fourth paramita, *enthusiastic effort*, we encouraged students to make it a joyful endeavor by reflecting on the merits of the activities given. Just as the second paramita (*moral ethics* and *self-discipline*) has to come naturally in order to practice effectively the first paramita (*generosity*), the fifth paramita, *meditative concentration*, has to come naturally to practice the fourth paramita. While discussing the issues on the unit topics climate change and greenhouse effects, some students could not answer well, especially on concept questions. I had to use extra props such as charts and graphic representations to explain. These required meditative concentration, one of the skills students were familiar with, a crucial factor in any serious learning. The practices of all these paramitas are in fact the manifestations of *wisdom*, the final paramita, which students are expected to use judiciously at all times in making every decision.

Bringing the practice of the paramitas into the classroom in this manner fits in very well with the concept of holistic education.

### **Closing of Class Session**

Once the main class activity was over, the class did not disperse immediately. Instead, they recited a short beneficial dedication prayer. Stated in Dharma teachings, the most important aspect of any good activity is to generate merit. Merit is the natural energy or positive life force that keeps us going, helping us overcome negativities. No matter how much merit one accumulates through virtuous activities, it can be destroyed in an instant of anger. Even pride, such as boasting, can destroy one's virtue. Therefore, for any virtuous act, merit is dedicated for the wellbeing of all sentient beings. Just as even a single drop of water dropped into the ocean remains as long as the ocean remains, any merit directed to the supreme enlightenment for all beings remains until the ultimate

aim of this dedication is attained. The following dedication prayer is sublime and profound, and it was recited before closing each class session at CGI:

*By this beneficial activity may we obtain omniscience.  
Let the harmful enemies (greed, anger, delusion) be vanquished,  
Tossed about helplessly by the waves of birth, aging, & death,  
May all beings be liberated from this ocean of existence.  
O sublime, precious bodhicitta:  
May it arise in those in whom it has not arisen;  
May it never decline where it has arisen;  
May it go on increasing, further and further!*<sup>24</sup> (Lama, 2004, p. 44)

Motivation is generated by the conviction that the heart sutra clears the obstacles and then takes refuge in the three jewels. There are directions about relying on the *four reliance principles* with the compassion of the *four immeasurables*. These, attuned with the *six paramitas*, set the stage conducive to learning with the right tone and attitude. With all these done, the merit is dedicated for the wellbeing of all, which is a selfless and virtuous thought. These contemplative practices of various meditations and recitation are intended to support overall mental and social discipline, which ultimately enhances academic learning.

### **Middle of Class Session: Teaching Secular Subjects**

At CGI, my co-teacher and I incorporated contemplative practices and principles into the series of lessons on the thematic unit *Air and Space* we planned and taught. We designed this unit to help students understand the preciousness of air in our environment, and to help develop the moral sense of appreciation and respect for its unconditional role in sustaining all forms of life on earth. The main focus was to discuss how carelessly this

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<sup>24</sup> Composed by Nagarjuna in second century. He is one of the most important Buddhist philosophers after Gautama Buddha. He is also credited with developing the philosophy of the *Prajna Paramita*.

precious commodity in nature is being abused and the consequences we face for not reducing pollution and carbon emissions. (Please refer *Appendix D* for details.)

We designed specific lessons on emerging topics such as air and its properties, impacts of air pollution, the greenhouse effect and climate change, carbon footprint, and individuals' responsibilities for each of these. In each lesson, we aimed to move through learning processes of *transition*, *transaction*, and *transformation*<sup>25</sup>. While transformation is not possible in every lesson, we made efforts to ensure there was proper transition and transaction in every lesson toward eventual transformation.

In *transitional* learning, students need to *know* and *understand* (Wiggins and McTighe, 2005), or what Bloom calls *knowledge* and *comprehension*, the first and second levels in his hierarchy of learning. In Bloom's terminology, this type of learning requires students to be able to *identify*, *describe*, *name*, *label*, *recognize*, *follow*, *paraphrase*, and *summarize*. Therefore, we instructed the students to listen and *hear* what we had to say, make notes about what was confusing, and ask questions. For example, while discussing *global warming*, we used video clips, photographs, and articles such as *Can Climate Change Make Us Sicker* by Bryan Walsh<sup>26</sup>, in addition to textbooks, to present the concept, causes, and consequences. We instructed students, while watching the video clips, to write down the important and interesting points. After this brainstorming session, we gave the article to students and asked them to paraphrase the key points and summarize it in the group. To understand how increased levels of carbon dioxide and other pollutants cause the gradual increase in the overall temperature of the earth's

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<sup>25</sup> These three learning activities are mirrored in Hart's (2004) exercise of *passive listening*, *active listening*, and *deep listening*, and from Bloom's hierarchy of learning, a continuum from simple to complex and concrete to abstract.

<sup>26</sup> Availed from <http://content.time.com/time/health/article/0,8599,1728139,00.html>

atmosphere, we watched documentaries and did some basic experiments, such as how a clean sheet of paper becomes tainted with various pollutants in the air.

Such skills of attention are important but do not amount to *transactional learning* (Hart, 2004). *Transactional learning*, in Bloom's terms, includes outcomes such as students' ability to *apply, analyze, and evaluate*. In our lessons, we asked students to compare and contrast, distinguish, integrate, outline, test, judge, and justify new knowledge and understanding the cause and effect of global warming and its consequences, such as temperature increases, rising sea levels, intense cyclones, and increased incidence of diseases. At this *transactional* phase, we wanted students to listen deeply, reflect and contemplate the direct relationship between each individual and the natural environment, and how each one of us is responsible for causing or preventing harm. We found "carbon footprint" to be a very appropriate concept. As recommended in the syllabus, we discussed the impact of local coal mining, trans-boundary pollution, engine oil change, cigarette smoking, and local air quality. To get a sense of its impact and firsthand information from concerned people, we made field trips to the adjacent border town with India and to mining areas and car repair shops, where students interviewed supervisors, mechanic experts, and other workers to study how exhaust fumes from motor engines pollute the surrounding area. We also visited unspoiled natural riverbeds and woods to emphasize the contrast.

While reflection is essentially a generic term for intellectual activity, contemplation is intellectual as well as affective. Reflective contemplation stressed at this *transactional phase* is to engage in exploring experiences in order to lead to new understandings, appreciation, and concerns (Mezirow (1990). Since understanding is



followed by action, any wholesome action has to spring from pure understanding, and such understanding involves deep reflection or *meditation*, seeing through problems imaginatively and creatively for novel ideas and solutions, a genuine *self-transformation*.

One of the activities we did in this regard was to meditate on what each individual can do, however small, to reduce carbon footprint associated with daily activities in their lives, such as greenhouse gas emissions. The actions to be taken were not a one-day or temporary activity but a sustained change of behavior that they can maintain as part of their lifelong healthy living practices. Students were instructed to meditate on the impacts their actions could have on the natural environment and connected forms of life, and then make a pledge that they would truly carryout individually or collectively to reduce carbon footprint. We were able to follow through some of what they pledged to do such as *reduce*, *reuse*, and *recycle* waste, an awareness lesson they had early in the semester. My co-teacher had noticed drastic reduction in Pepsi and Coca-Cola consumption after the pledge was made and the plastic bottles were not to be seen anywhere in the institute campus. The bottles were collected and either reused or taken for recycles. This was one of genuine transformational changes noticed.

For Dharma topics linked to the thematic units, we consulted the senior monks at the institute for their input. A monk would come to the class as a guest speaker or might help prepare the material on specific dharma topics. While I was co-teaching the unit on *Air and Space*, the head monk was invited to speak on the *Air Dakini* associated with Air and Space. I also consulted on other topics, such as the obstacles and levels of spiritual practice in relation to the Air Dakini.

### **Teacher's Role**

Mentoring and modeling is an essential aspect of the Lho Mon Education process, which I fully incorporated in the implementation of the unit on Air and Space. I was not only mentoring and guiding students one-on-one, I was also helping them as learning companions (a non-authoritative pedagogical agent) to help recognize their own expertise and experience (Chou et al., 2003). As a learning companion, one of my priorities was how to help learners become aware and critical of their own and others' assumptions, to become transformative learners, as Mezirow (1997) recommends.

I started the arts and crafts as one of the enrichment classes. Since it was my initiative, I procured all the necessary materials at my own expense. I was very generous with my time as well for the students. The arts and craft classes that I conducted after the regular class sessions often went on until late in the evenings. Whether in the main class sessions, or in the enrichment activities, I tried to make students feel comfortable to share their feelings and ideas as openly and freely as possible. Students were comfortable calling each other by their nicknames. For example, I too used to call one of the youngest students by his nickname *Churki*, given by his friends because of his cheerful and playful nature. While students would not call me by any nickname, they were not hesitant to pull my leg sometimes and have fun.

### **Assessment**

One distinctive feature of this integrated curriculum approach was the type of assessment used. Unlike regular schools, CGI students were not stressed with standardized tests. Periodically, as part of short class exercises, I gave paper-and pencil

tests, but I assessed students' knowledge about the unit I taught formatively through hands-on exercises such as group work presentations, one-on-one conversations, and the process of reflective note keeping on each lesson discussed.

Note keeping was one of the important built-in features of classroom discussion at CGI. Students kept notes on each lesson being discussed as to what was interesting, insightful, confusing, difficult, and so forth regarding any aspect of lesson development—procedural steps, skills, themes and concepts. Overall, how they felt about each lesson was also important. If students raised some of those observations during the class, it got discussed. If not, they put their notes into the lesson portfolio they maintained. My co-teacher and I checked each of these notes on a regular basis, especially before wrapping up a major theme or topic. This helped us determine whether certain aspects of the lesson needed further discussion as a whole or individually before heading to the next topic.

Overall, this portfolio assessment was determined by criterion-referenced measures (See Table 2)—the essential criteria for the student task and appropriate levels of performance for each criterion. That is, a student's aptitude on a task was determined by matching the student's performance against a set of criteria to determine the degree to which the student's performance meets the criteria for the task.

**Table 2 : Portfolio Assessment Rubric**

	<b>Unsatisfactory (1 pt.)</b>	<b>In Progress (2 pts.)</b>	<b>Proficient (3 pts.)</b>	<b>Exemplary (4 pts.)</b>
<b>Portfolio elements (1, 25%)</b>	Portfolio addresses fewer than 80% of the required elements discussed in the class.	Portfolio addresses at least 80% of the required elements discussed in the class.	Portfolio addresses at least 95% of the required elements discussed in the class.	Portfolio addresses all elements (100%) discussed in the class at a high level of professionalism.

<b>Conceptual Artifacts (1, 25%)</b>	Artifacts selected don't illustrate clear understanding of Concepts and <i>principles</i> discussed	Artifacts selected illustrate some understanding of Concepts and <i>principles</i> discussed	Artifacts selected illustrate much understanding of Concepts and <i>principles</i> discussed	Artifacts selected illustrate <i>clear</i> & concise grasp of <i>concepts</i> and <i>principles</i> discussed
<b>Discussion Notes (1, 25%)</b>	No proper discussion notes—no issues raised, no critical questions asked.	Discussion notes with some evidence of issues raised and questions asked.	Proper summary notes of most discussions with lot of issues raised and critical questions asked.	Proper, well organized notes of every discussion with lot of issues raised and critical questions asked.
<b>Portfolio materials Organization (1, 25%)</b>	Portfolio portrays little or no evidence of ability to organize material and to respond in a thoughtful, critical manner.	Portfolio portrays some limited evidence of ability to organize material and to respond in a thoughtful, critical manner.	Portfolio portrays adequate evidence of ability to organize material and to respond in a thoughtful, critical manner.	Portfolio portrays exceptional evidence of ability to organize material and to respond in a thoughtful, critical manner.

### **Outcomes of Integrating Affective and Cognitive Learning**

#### **Increased attention**

As a student teacher myself, and later as a lecturer helping student teachers teach in their field practicum, one of the toughest jobs in the classroom was gaining student attention before giving lesson instructions. Especially with young children, one of the common methods my students often used was making children fold their arms. This helped them refrain from pushing, pulling, grabbing classroom objects or elbowing each other, but one would never get their full attention. This is true for any age, as adults can be distracted with their cell phone in their pocket and laptop in front of them: they may be facing the teacher, but with their face half buried behind their laptop, one can never tell where their attention is. As a Teaching Assistant for *Introduction to International Education* at the University of Massachusetts, Amherst, I often wondered whether silence, in response to a question the instructor asked, was because the student did not

know the answer or because the student had not been paying full attention to the discussion or lecture. However, to be mindful of one's own attitude is one of the key outcomes of contemplative practices. That is why, through her contemplative pedagogy, Nelson (2006) strives to teach not technique but attitude, because asking for a few moments of silence before beginning any task is crucial, to listen "to" and to listen "for" (Nelson, 2006).

Even though my students at CGI were neither children nor adults with cell phones and computers, they were full of energy and movement at the start of class. In our classes there, my co-instructor and I employed two basic practices of meditation: Single-pointed, deep concentration meditation and seeing-through, mindfulness meditation. Concentration meditation is exercised to calm the mind and bring it from habitual wandering and distraction to the present moment, hopefully helping students to be fully aware of the task at hand and pay total attention. In addition to the contemplative practices at the beginning of class, the few moments of silence before beginning a session is the best attention-gaining technique I have come to know. Once attuned to this practice, all it takes is a single strike on the singing bowl or a snap of a finger to calm down the hustle and bustle of the students. The well-synchronized total silence in itself is an experience.

However, I cannot claim that the holistic, integrated affective and secular curriculum and lessons we offered is the sole reason for the improved attention of the students with whom I worked. Perhaps it is due to the lifestyle of being a monk, which requires regular meditation throughout the day, or perhaps it is due to the habits and discipline taught by the senior monks. In any case, I noticed the students calming and

paying close attention in the very first classroom session I attended in CGI, before I had begun as a teacher there. The usual instruction to “put things away for now, fold your arms, and listen to me carefully” was not needed, as the young monks instantly quieted when meditation began and stayed quiet for the beginning of the lesson.

When I began to teach, I made note of whether students’ attention after the meditation and silence starting each lesson continued on through the rest of the lesson. In this regard, I came to realize, it is not important whether students’ attention continues constantly, but the ability to shift the focus on to the directed task promptly and sustain that focus on to that task. For example, compared to RES students, CGI students were noisy and as disruptive physically when not given any task. Physically to me, RES students appeared more disciplined. It could be that they were not as comfortable with me as CGI students did. The difference in terms of focused attention sustenance was noticed while engaged at work. This is discussed further in the problem solving section little later.

### **Socio-emotional learning**

In Chapter Two, I cited research indicating that contemplative practices such as meditation and mindfulness training can support affective development and build students’ socio-emotional learning. The purpose of the meditative prayer the *heart sutra* at the beginning of a session is to generate the motivation and the conviction to clear potential obstacles from conducting one’s activities, such as mental distractions, and bring concentrative focus on one’s task at hand. What, from their *comments* in class, did the students learn from the heart sutra that may be evidence of their socio-emotional learning?

During one class, when I asked the meaning and implications of the short mantra *Go, go! Go all the way to the other shore off the ocean of suffering*, which all of them know by heart, a student raised his hand to answer. In my teaching journal, I had noted that this student often rushed to answer without any hesitation about whether the answer was right or wrong. He was one of the lively and most talkative students in the class. I had made a personal note to remind myself not to let him dominate the class whenever I threw a general question to the whole class. However, I called upon him, and he responded by saying, “If we are crossing a big river, everyone together should get to the other shore.” He said only this one line and stopped with no further explanation. I was surprised as to why he used the river in his statement, because the analogy often used is the “ocean of suffering” and not the “river.” I was not sure what he really meant by that. I asked if others could help explain that phrase. Another student said, “As a sangha [learning community], we have to make sure everyone gets to the other shore and not to think of just individual safety.” This prompted me to ask: “what is it that is so important to be aware of as a group to get to the other shore safely?” The answer to this question did not come immediately. After looking at each other for a while, the eldest<sup>27</sup> student in the class spoke: “To be mindful of oneself and of others. If not mindful, བར་ཆད་ [any obstacle that obstructs progress] will occur.” Almost before he had finished speaking, the first student jumped in again and said, “Yes! If we are not mindful, (བར་ཆད་) [some negative consequences] will occur. Forget about others; one will not be able to save oneself!”

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<sup>27</sup> Personal note: This boy needs extra help in speaking and writing English. He doesn’t speak much but is attentive and smiles most of the time.

This discussion reveals to me a sense of communal integrity and trust, and that trust is spiritually motivated by the sutra, according to their comments. Such a communal spirit ties in as well to the *bodhicitta* motivation—compassionate mind for the wellbeing of others—cultivated through the *four immeasurable* prayers that are also conducted at the beginning of the lessons. When there is this sense of interdependency and communal integrity, there is the sense of safety, openness, and trust. This coincides with one of CGI’s visions, which is the hope that, as connected individuals, students will possess a deep understanding of interdependence and relate well with others. Although, again, feelings of trust and community could stem from other aspects of these young monks’ lives, or from lessons they are taught outside of the classroom. However, because their comments happened during our classroom lesson in response to my question about the lessons of the heart sutra, and with some thought by the students, as evidenced by their silent thinking about the importance of helping one another, I conclude that this contemplative practice is connected to socio-emotional learning about the value of supporting others in their work and efforts.

This sense of interdependence is visible as well in their *behaviors*, in what they do as a community. As I have mentioned in my discussion on the practice of the *paramitas* in the classroom, the sense of mutual respect for each other was quite visible in sharing personal items in the classrooms. “Cooperation and not competition” was also one of the themes of classroom practice, and that classroom cooperation was genuinely motivated. For example, one of the boys I have specifically mentioned in my summary of the first two weeks of field experience (Appendix H), he was not assigned to do what he did. Whenever it was humid and dampness in the classroom, he would walk in with the *Sang*



*Phob* (incense burner) he created and swing around the burning incense to purify the room. This was purely his initiative to make the classroom comfortable for everyone. Likewise, there were few other students who made sure everyone's slippers were properly placed outside the classroom, so that they will not have to hunt for it when they came out. This was in contrast to earlier stories where some would purposely displace the slippers to make owners hunt for it. However small, some of these positive behavioral changes were noticed after some of the dharma related social-emotional discussions.

### **Creativity**

As I have mentioned in *Chapter Three on Student Products* section, "One of the guiding principles of *Lho Mon Education* curriculum framework for CGI is, teaching with and through the arts: Story, dance, visual art, music and drama". In view of this guiding principle, I introduced arts and crafts, generally to foster sense of aesthetic beauty through creative activities such as drawing, painting, sketching, and embroidery. One of the activities that provoked quite an excitement was the following.

Following one of the recommended textbooks *The Private Eye: (5X) looking/thinking by analogy* by Ruef (1998), we decided to *get smart!* by looking closely at the natural surroundings. We asked ourselves why some trees, plants, flowers, and insects are so unique. These lessons were geared to move students towards answering not only the unit on *Air and Space's* essential questions, but also to become reflective, critical, and creative learners. To that end, we set up a series of interdisciplinary activities such as arts and crafts, nature study, gardening, and games such as kite flying.

One fine afternoon, while working outside, one of the students spotted a beautiful caterpillar. Since we were careful not to disturb or harm any bug or insect while

**Figure 6 : Caterpillar**



studying, we all went closer to look and took pictures (Figure 7). Indeed, this caterpillar was strikingly colorful and unique. I have seen similar caterpillars but not with diamond patterns on its back as in this picture. This instantly reminded me of Bhutanese hand-woven garment design motifs, the designs and colors of which are inspirations from nature. I considered Greenberg and associate's (2012) findings that “meditators outperformed non-meditators in tasks such as verbal fluency, and visual perspective switching, in the respect of exhibiting an improved ability to generate varied responses to the same stimuli following mindfulness practice” (p. 6). I decided to use an activity to see if CGI students (contemplative learners) fared any better than non-contemplative learners (RES students). The non-contemplative learners were a group of 14 children about similar age group (10 boys and 4 girls) from one of the nearby elementary schools (RES—Rekhey Elementary School).

In this particular activity, I investigated one aspect of creativity and that is the ability to generate new responses to the given stimuli. Although it is implied in the drawing instructions, I did not facilitate any contemplative practice or skills with this specific exercise, in either group of students. If CGI students' drawings were different, the contemplative skills they have been practicing could have played a role in generating new responses, which was my hypothesis. Contemplative skill such as *open monitoring* is believed to enhance creativity. For RES students, they would have used primarily general skills to do the task, unless they had specific experiences that influenced the drawing. I could then compare the drawings of CGI students with those of RES students to see how well students switched their visual perspective to generate new responses to the picture.

Based on student preference and time flexibility at CGI, I conducted this activity in the morning during a regular class session, about five weeks after I started teaching these students. For RES students, the only time available for this activity was during their weekly club time, which was in the afternoon. I used the first two periods of RES club time, which was 90 minutes. With 10 minutes break in between, the actual duration for the activity was roughly 80 minutes. This time duration and instructions were followed exactly the same for both the groups. I posted the picture of the caterpillar, and made the following statement to students:

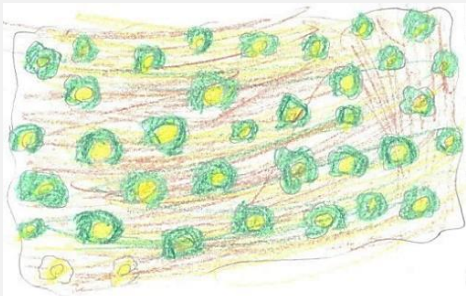
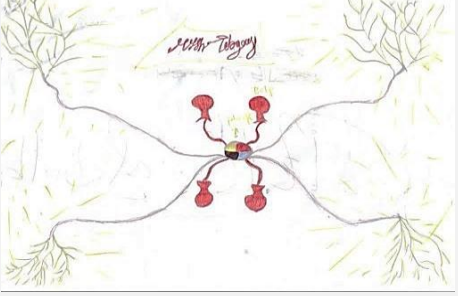
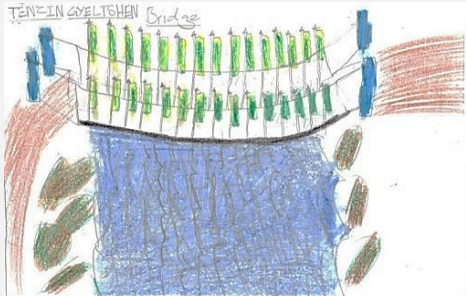
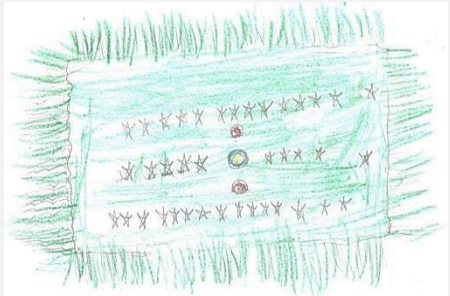
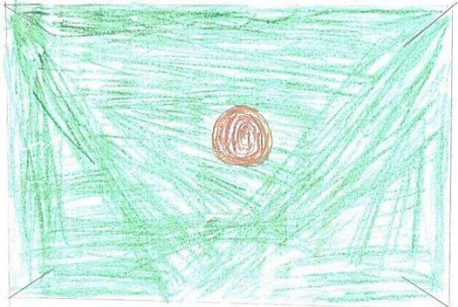

*First, look at the picture very carefully for a few minutes. What does the caterpillar resemble or remind you of? After reflecting, visualizing, and thinking of images from your experiences, draw the image that resonates most.*

Other than this basic instruction, I did not set any rules. This was individual work, but I did not discourage some talking to each other, nor did I walk around to see

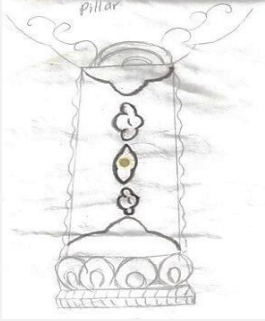



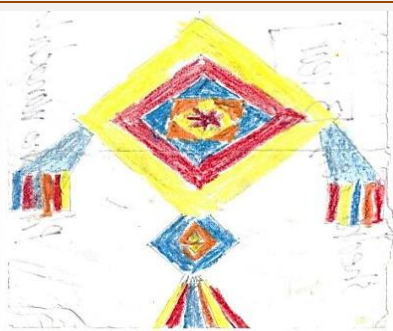
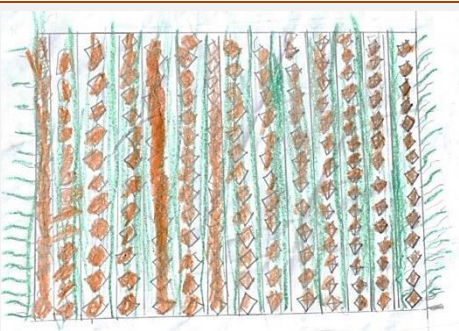


how they were doing. I wanted them to complete the drawing without any hindrance. Once the student was done with the drawing, the student gave me their drawing individually. I did not show the drawing to the class or anybody during the session.





Here are the drawings that the 18 CGI students created:

**Table 3 : Drawings from CGI Students (continued on to next page)**

	
<b>Student 1: <i>Cabbage Garden</i></b>	<b>Student 2: <i>Light Bulbs</i></b>
	
<b>Student 3: <i>Bridge</i></b>	<b>Student 4: <i>No Title</i></b>
	
<b>Student 5: <i>Socer Ground</i></b>	<b>Student 6: <i>Pillow</i></b>



	
<p><b>Student 7: Pillar</b></p>	<p><b>Student 8: Bus</b></p>
	
<p><b>Student 9: Kite</b></p>	<p><b>Student 10: Butterfly</b></p>
	
<p><b>Student 11: Kite</b></p>	<p><b>Student 12: Kira (Lady's Garment)</b></p>
	
<p><b>Student 13: Cucumber</b></p>	<p><b>Student 14: Rope</b></p>

	
<b>Student 15: <i>Hand Bag</i></b>	<b>Student 16: <i>Flag</i></b>
	
<b>Student 17: <i>No Title</i></b>	<b>Student 18: <i>Rainbow</i></b>

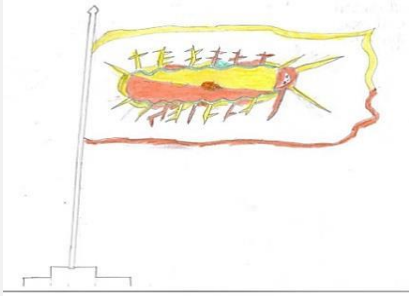
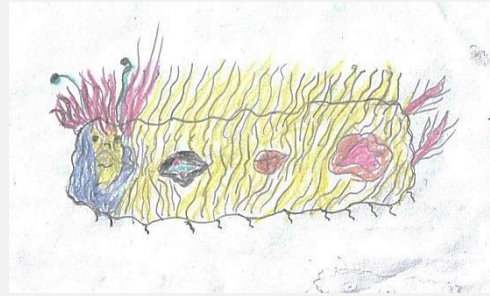

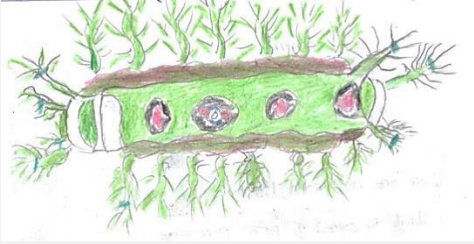



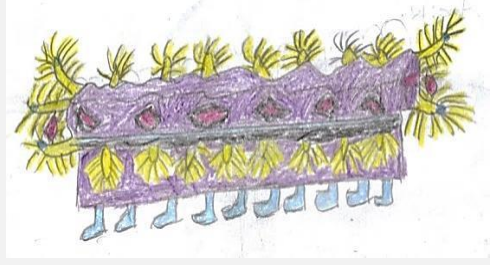
My assessment of these drawings is not the general composition of art elements such as color, tone, or texture. The focus is on the *exploration* of new ideas—the themes resonating from the given picture. I was looking specifically for new responses or the theme students generated from the given picture graphically.

Two of the drawings reveal that the caterpillar picture led two students to draw a kite. The visual connection it has triggered is the diamond shape patterns on the caterpillar to that of the shape of the kite. This visual inspiration seems to have come from the kite flying activity my co-teacher and I conducted while we were on the topic *Wind Power* in the unit on *Air and Space*. While the diamond pattern on the caterpillar seemed to be the main feature that captivated most students, the themes it sparked were

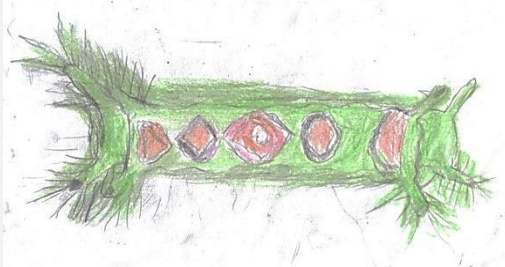



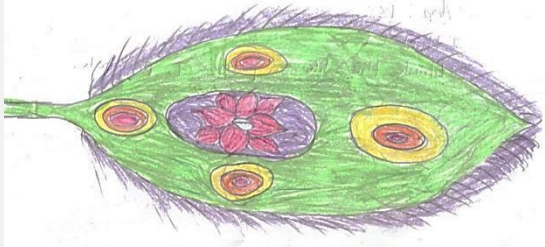
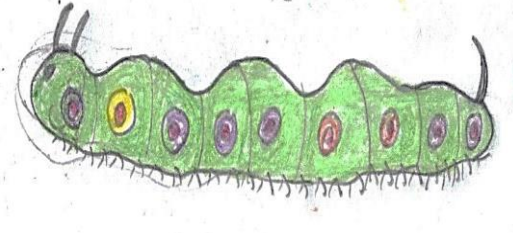
all different. This suggests that these students' visual perspective switching skill in generating new themes was in fact very good.

Here are the drawings from the 14 RES students who participated:

**Table 4 : Drawings from RES Students (continued on to next page)**

	
<b>Student 1: <i>Flag</i></b>	<b>Student 2: <i>Porcupine</i></b>
	
<b>Student 3: <i>Peacock Feather</i></b>	<b>Student 4: <i>Porcupine</i></b>
	
<b>Student 5: <i>Caterpillar</i></b>	<b>Student 6: <i>No Title</i></b>
	
<b>Student 7: <i>No Title</i></b>	<b>Student 8: <i>No Title</i></b>



	
<b>Student 9: No Title</b>	<b>Student 10: No Title</b>
	
<b>Student 11: Caterpillar</b>	<b>Student 12: No Title</b>
	
<b>Student 13: Peacock Feather</b>	<b>Student 14: No Title</b>

Generally, as are the CGI drawings, all these drawings appear creative and skillful, in terms of the composition of color, tone, and texture. However, coming to the focus on *theme exploration*, there is not much variation in this group. Two themes appear common in both the groups: the representation of a flag and motor vehicle. CGI student 16 and RES student 1 have given the title of their drawing as *flag*. While RES students 6 and 12 have not given their drawings a title, their graphic representation is about a vehicle, just as CGI student 8 who has given the title of his drawing as *bus*. At least these two common themes across suggest that both the groups have the same



potential ability to reflect and response. The difference seems to be in processing visual image, in terms of perspective switching.

Although the attempt is clear, most RES students did not deviate from the given picture much, such as in student drawing 2, 4, 5, 7, 8, 9, 10, 11, and 14, to capture clearly the visual resonance in their mind. Drawings 2 and 4 look different but the title is the same (*porcupine*), as in drawing 3 and 11 (*peacock*), and drawing 5 and 11 (*caterpillar*). Drawings 7 and 8 have no title but they look similar. Drawing 3 and 11 are from two girls sitting side by side. They tried to draw differently, but the same theme suggests that one copied from the other. Since I did not mention in my instruction that copying was or was not allowed, they took the liberty to copy. This could be one of the reasons that RES students were not able to direct or monitor their mind freely and openly to come to certain visual discrimination of their own.

In contrast, each of the CGI students' graphic representation is different from each other. These findings, therefore, support and do not negate Greenberg and associate's (2012) theory that meditators outperformed non-meditators in tasks such as visual perspective switching to generate varied and new responses to a given stimuli.

### **Problem-Solving**

In our lesson on global warming, my co-teacher and I facilitated a process analysis: a bottom-up method to understand the environmental impacts of individual actions from cradle to grave (Wiedmann and Minx, 2008). In the unit *Air and space*, we tried to help students understand the importance of air to sustain all living beings, develop a sense of appreciation for the need to maintain clean air, identify some of the

harmful effects of pollution, and realize the importance of environmental protection. We asked that students reflect and contemplate the direct relationship of each individual with the natural environment and how each one of us is directly or indirectly responsible for causing harm. We found the concept of *carbon footprint* appropriate, and we discussed the impact of local coal mining, trans-boundary pollution, engine oil change, cigarette smoking, and local air quality. We expected that the field trips to towns, car repair shops, and mines on the Indian border would help the students understand this key concept of carbon footprint.

Students' comments indicated that these field trips helped them connect the classroom lessons with real life. While observing a man on the street smoking, a student remarked to me:

*Sir<sup>28</sup>, the smoke he is sending into the air will harm the heavenly Goddesses—right? And he should not be spitting onto the ground too! No Sir?<sup>29</sup> It will not only kill the insects, I am sure it will annoy the ལྷ<sup>30</sup> if it is living nearby.*

I reflected that the sight of the man smoking reminded this student of lessons and discussions about the harm smoke can cause to the environment, but he connected this smoke directly to his spiritual point of view. Although a small amount of smoke could not individually harm the environment, this student's perception of harm arose from his spiritual point of view as introduced during discussions of spiritual matters during class sessions as organized around an integrated, holistic curriculum.

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<sup>28</sup> How students address a male teacher in Bhutan.

<sup>29</sup> No Sir means the same as saying—right? The man was spitting onto the ground every after two or three puffs.

<sup>30</sup> ལྷ pronounced as Lhu, a mystical serpent beings known as *Naga Goddesses* living in woods, rocks, creeks, and even in oceans. *Lhus* play an important part in Bhutanese mythologies and fairy tales.

After visiting the local coal mine and trans-boundary pollution sites, and hearing from the mechanical experts about the diesel and petrol fuel used in the motor engines, sending exhaust fumes into the air, my co-teacher and I designed an activity to help students meditate on what individuals can do, however small, to reduce carbon footprint associated with daily activities in our lives, such as greenhouse gas emissions. Along the lines of the popular maxim “*think globally, act locally*,” we asked students, as a final activity for students in this unit on global warming, to think critically and reflectively about what each individual can do, however small, to reduce carbon footprint associated with daily activities in their lives, such as greenhouse gas emissions. These actions were not intended to be a one-day or temporary activity but a sustained change of behavior that they can maintain as part of their lifelong healthy living practices. We instructed students to meditate on the impacts their actions could have on the natural environment and connected forms of life.

After reflection, each student contributed to their group list some well-defined pledges and steps for combating greenhouse gas emissions and for protecting the environment. For example, students contributed *comments* such as:

- *Get active:* Talk to your friends, neighbors, and write to your politicians about climate change and insist them to pass the law and make sure it is followed.
- *Shop locally:* Buy food locally from your farm shops and try to avoid imported goods, and encourage others to do same.
- *Solar energy is free:* See if you can get your parents, friends, and neighbors interested in free solar energy.

From the entire group’s list, the class then came to consensus on ten pledges as the final list, wrote them on large chart paper in bold letters, and displayed them on the classroom wall. Each student chose from this final pledge list one or more actions to take

individually or collectively. For example, to help improve the air, each one of us made a pledge to reduce fuel consumption by carpooling, taking the bus, riding a bike, or walking when and wherever possible. The purpose of displaying the list in bold letters was to be reminded of the pledges each committed to do while at the institute and make it a habit to carry them out at all times.

As an example of *behavior* change, one of the pledges from the list that all students committed to carry out collectively was to prioritize the “zero waste” activities they had been conducting since the lesson they had in the beginning of the semester—*reduce, reuse, and recycle* waste. That session was specifically on how to reuse waste, for which various examples such as how to make a *T-Shirt Bag*, *Umbrella Cushion*, and *Plastic Broom* were demonstrated.

The very next day I saw at least half a dozen of the students carrying the t-shirt bag they made out of their old t-shirts. They found this idea handy as many of them had old unused t-shirts. The t-shirt bags became handy for carrying plates and cups to the dining hall and other play items during the breaks. Some used their t-shirt bags for carrying classroom materials as well.

One boy didn’t just want to follow the ideas demonstrated in the class. Instead, he demonstrated his own innovation. When the rest were working on the ideas just demonstrated, he walked to a heap of broken electrical appliances and picked out part of a broken fan. I saw him hammering hard with a piece of plank

to pin nails, since he had no proper tool whatsoever. Then, he walked into the classroom using this item as a *Sang Phob* (incense burner)<sup>31</sup>.

The pledge activity was noteworthy. The students' overall zero waste management effort at the institute was acknowledged by the local public; national television featured the news of the students' exemplary undertaking on one of their discussion forums. In addition, my notes indicate a conversation with my co-teacher, who noticed a drastic reduction in Pepsi and Coca-Cola consumption, especially by the young students, after they were briefed on food safety and environmental protection measures<sup>32</sup>.

I also observed changes in student *behavior* related to the idea from one of the class readings: "Imagine how much better off our environment and our cholesterol levels might be if more of us biked to work rather than drove." I had noticed when I first arrived at CGI that students rarely used the old trail from the institute leading directly to the local market below, since a motor road had been constructed from the main highway to the institute. Instead of the trail, students took the dirt road to the highway where the chance of getting a ride was good. After the global warming unit, I observed that some students made a conscious effort to use the old trail to get to the market or to the hospital. Now, taking the walk for health and environmental reasons has become a common practice at the institute, suggesting they became more mindful of what was discussed in their pledge regarding walking or biking as much as possible.

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<sup>31</sup> From my summary of first two weeks of field experience notes. See *Appendix-D* for details.

<sup>32</sup> This briefing resulted from an awareness campaign initiated by *Samdrup Jongkhar Initiative*, which was once a part of CGI, but now has grown into its own separate entity

In addition to students' *comments* and *behaviors*, I also wanted to see whether contemplative practice influenced students' problem solving skills by looking at *products* they created. The contemplative skill required for this type of exercise is *concentration meditation* or *focused attention*. The hypothesis here is that the deeper the meditation, the better the focused attention and its impact on the job at hand, and thus the more easily or richly a student might solve a problem. Therefore, I asked both my CGI students and the sixth-grade students at the Rikhey Elementary School (RES) to participate in an activity that required them to figure out how to draw letters using grid lines of fifteen squares as detailed in *chapter three* in *student product* section.

Using this activity as a test of problem-solving skills arose naturally. My students had decided to make one of the retaining walls outside the classroom into a nature corner. They had already planted some flowers and orchids. To mark the place, they wanted to write "NATURE CORNER" in big bold letters. They estimated drawing the letters well would be a full-day job. I volunteered to show the students how to do it within a minimal time. However, before I showed them how to make letters using the grid, I asked them to try a lettering project in class. In this way, I could test their problem solving skills as contemplative learners.

I discovered this letter drawing activity while in one of the teacher education colleges in Bhutan where I was teaching. The goal is to draw a letter, using the grid, so that each letter drawn is a uniform size (equal length and width), which is difficult to do freehand. To solve the problem, a student must figure out how to draw any letter on the grid (See *Figure 4* in *Chapter Three*). The different squares allow one to trace the letter

outlines by curving the corner edges, drawing the diagonals, erasing unwanted lines accordingly until the letter or number looks just right.

For example, one can draw the letter **O**, which is easy to visualize, simply by not using the middle three squares and curving the outer four corner edges. For **H**, one would draw the letter by leaving blank the two middle squares from the top and bottom. For **E**, one would draw the letter by not using the two squares each from the right column that alternate between the three horizontal rows. Solving the problem of how to draw each letter or number requires bringing into focus the image or the shape of each letter against the grids. The key here is to maintain focus to bring into mind (visualization), the shape of any given letter, which requires tremendous patience.

When I had asked students at the teacher's college to do this task, I noticed that letters such as **G**, **K**, **S**, and **W** were harder for students to figure out, because they require more mental work than others to get right. For example, to construct **K**, one must be able to visualize on the given grids the exact points from where to extend the tilt or the angle lines. Those students who did the lettering styles neat and prominent were usually the ones who showed keen interest and spent more time refining the still. This was also evident from the amount of finished work each filed in their portfolios.

I carried out this lettering exercise with the two groups of students using exactly the same manner, time, and duration as is the creative drawing activity. For CGI students this exercise was carried out three days after the first drawing activity, while for RES students, it was during their following club time, a week after the first drawing activity. There was no other reason for this timing other than the availability of time and convenience.

Here is how I facilitated the letter/numbering drawing problem-solving activity:

1. Before the lesson, I printed out a set of enlarged uppercase regular Arial font letters and numbers, since sans serif letters and numbers are easier to visualize on the grid, unlike Times Roman. I posted these letters on the wall for all to see.
2. During the lesson, following a few more basic guidelines, I explained the activity to students in this way: *The goal of this activity is to use the 15-square grid to draw **BLOCK** letters. Like a jigsaw puzzle, Arial font type letter or a number fit squarely on to the 15-square grid. You need to look at the letter you choose and visualize it on the grid. Follow the grid to trace the visualized shape outline. I will show you one or two letters how it is done. Look carefully when I demonstrate. If you have questions you should ask me.*
3. Block letters like **K, M, N, R** have diagonal lines. Using the block letter **K** as an example, I demonstrated how to draw the diagonal lines using specific points on the grid. I made them do the following: *First simply watch carefully when I demonstrate. Don't do anything, so that you don't miss any step. In the second round, we will do together, step by step.* In the second round, after practicing to draw the letter **K** together, I demonstrated how to draw letter **G** the same way: *First watch me do, and then in the second round, we will do together step by step.*
4. After we were done with the second letter, I gave them the following instruction to carry out the work of their own: *I have a worksheet with 10 sets of grid already drawn for each of you. Choose 10 letters of your choice and fill the grids the way we just practiced. You may talk to each other for sharing the materials,*

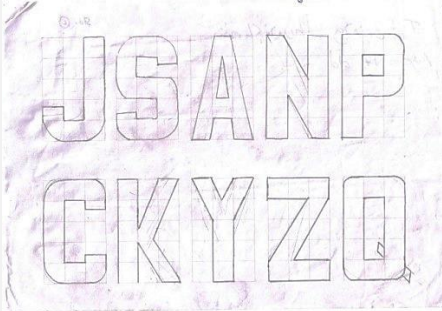

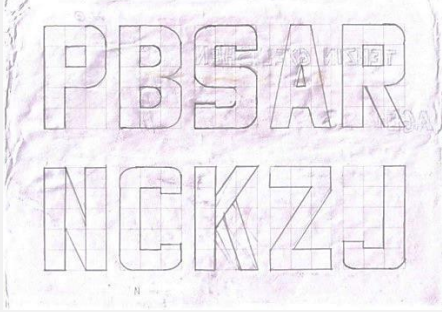
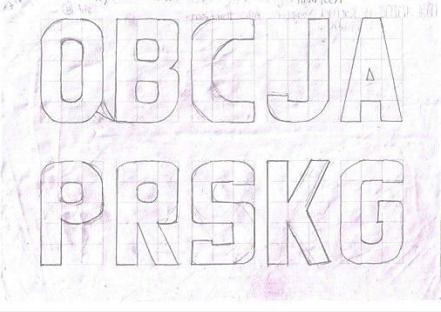


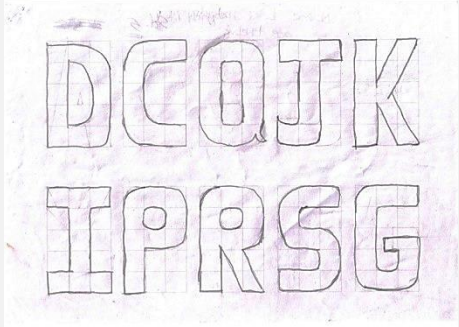
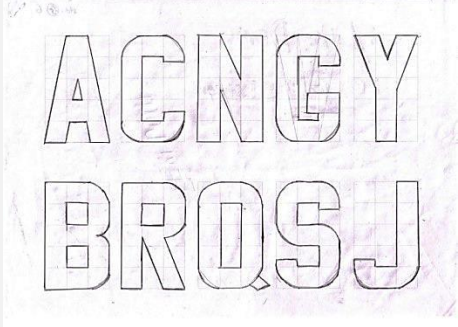
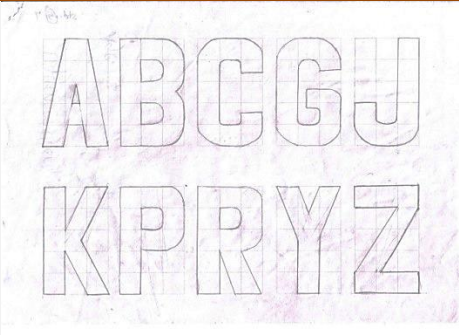
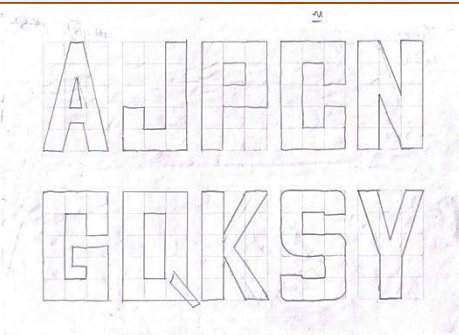
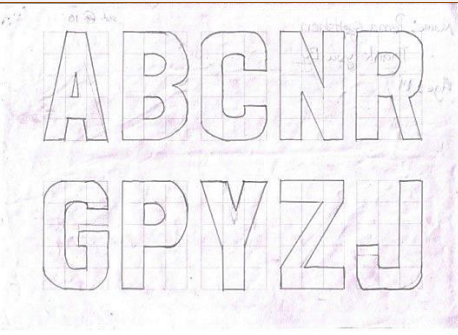
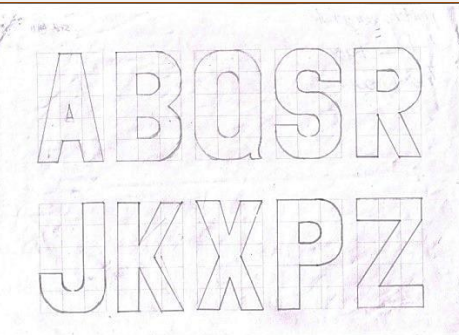
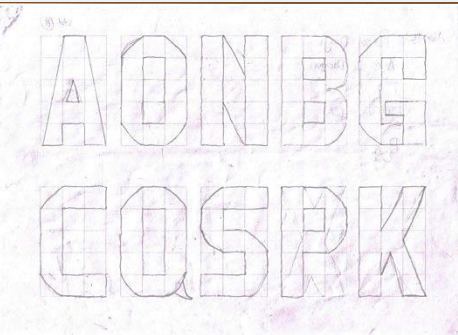
*but try to do the work of your own. If you are not able to get all the letters correctly, I will show in the next class how to draw all the letters.*

5. Before they began the work, I reminded them the time: *The first period is just begun. After 45 minutes, you can take a 10 minute break and then continue with your work till the second period is over. If you finish before time, you can hand over your work to me and leave quietly. As I promised, I will show how to get all the letters done nice and neat. Thank you and you may begin with your work.*
6. I collected the worksheets as and when they finished. As I promised, I showed how to get all the letters using the grid precisely. I helped individually for those who needed more help.

The 18 CGI students' lettering worksheets are shown below:

**Table 5 : CGI Students' Lettering Worksheet (continued on to next page)**

	
<p><b>CGI Student : 1</b></p>	<p><b>CGI Student : 2</b></p>
	
<p><b>CGI Student : 3</b></p>	<p><b>CGI Student : 4</b></p>

	
<b>CGI Student : 5</b>	<b>CGI Student : 6</b>
	
<b>CGI Student : 7</b>	<b>CGI Student : 8</b>
	
<b>CGI Student : 9</b>	<b>CGI Student : 10</b>
	
<b>CGI Student : 11</b>	<b>CGI Student : 12</b>

	
<b>CGI Student : 13</b>	<b>CGI Student : 14</b>
	
<b>CGI Student : 15</b>	<b>CGI Student : 16</b>
	
<b>CGI Student : 17</b>	<b>CGI Student : 18</b>

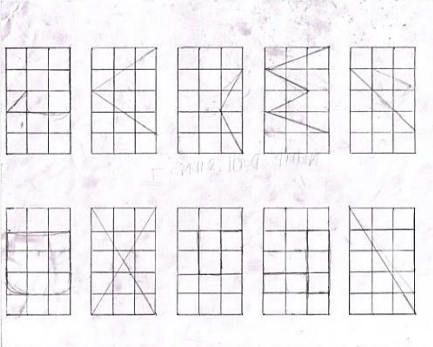
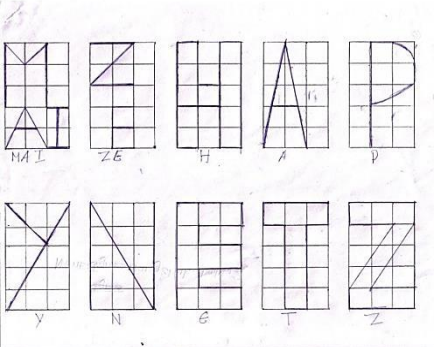
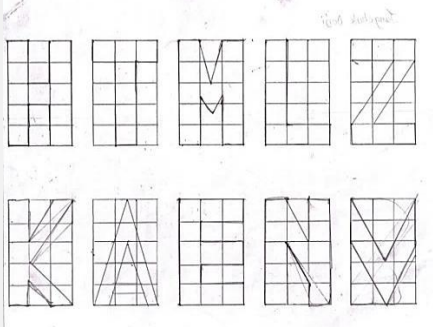
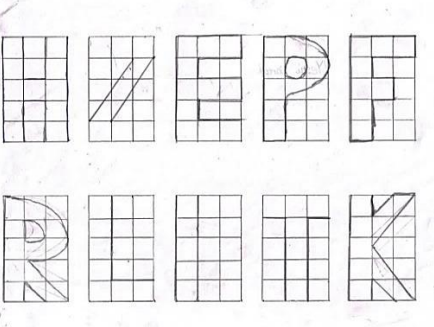
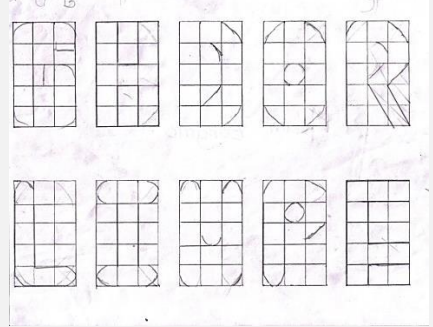
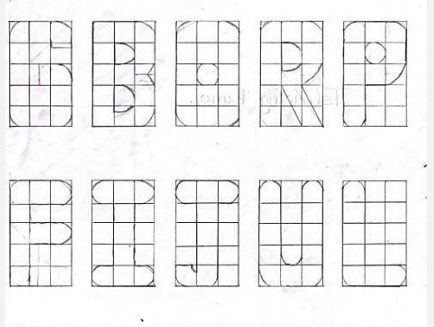
As I watched this group do the activity, I was so amazed to see how engrossed they were, so much so that some of them did not even take the break. Most of them took the full 90 minutes to do the job, and while a few finished little earlier, a few took even longer than the given time.

The RES students' worksheets are shown below.



**Table 6 : RES Students' Lettering Worksheet (continued on to next page)**

<p><b>RES Student : 1</b></p>	<p><b>RES Student : 2</b></p>
<p><b>RES Student : 3</b></p>	<p><b>RES Student : 4</b></p>
<p><b>RES Student : 5</b></p>	<p><b>RES Student : 6</b></p>

RES Student : 7	RES Student : 8
	
RES Student : 9	RES Student : 10
	
RES Student : 11	RES Student : 12
	
RES Student : 13	RES Student : 14

Before getting to this group's work, I must point to the letter-drawing worksheet grid, which was supposed to be a light watermark as in the other group. Since this group's worksheet was printed later, somehow the light background letter drawing grid got darker. Wherever the letter outlines are not drawn bold and sharp enough, the background grid obstructs and makes the letter difficult to read. Nonetheless, if the letter

outline is traced correctly, it is readable. For example, students 13 and 14 have figured out almost all the letters correctly; it is the background grid that makes it hard to read. Students 3, 7, and 8 did fairly well in tracing out the letter shapes from the grid. For the rest, about half of them got some letters correct, while the other half struggled to figure out how to trace out the letter shapes from the grid the way I demonstrated.

When I announced this activity with this group earlier, all were excited and expressed the interest to do so. When I facilitated the activity, even though everyone was active in the beginning, some students' vigor and excitement did not last long. I could tell observed their behavior and the manner in which each was engaged in his or her work. I watched for the way some paused to think and work, back and forth. If a student was fully engrossed in reflecting and searching for a clue or an answer, the pause was much longer before getting back to the task. When a student was not able to sustain that sort of focused attention, back and forth between thinking/reflecting and the task at hand, they gave up. This relates to Greenberg et al.'s (2012) finding that "Non-meditators kept on applying difficult methods to solve easier problems, where the tendency to get frustrated is higher" (p. 1). Most RES students also did not use the full time in completing the worksheet, while almost all the CGI students used the full time, some even beyond, to make sure their work was done properly. Thus, one of the factors for these differences in the way these two groups of students was how they engaged in their work.

Another reason for these differences could be the activity timing. For CGI students, the activity was carried out in the morning, while for RES students, it was in the afternoon. By afternoon, students were perhaps tired, and their minds were not as motivated and fresh to do heavy thinking. Another difference might have been

motivation: for CGI students, this activity would help them in their nature corner project to write big bold letters. Although the lettering skill could be useful for RES students they did not have anything immediate to spark their enthusiasm in the task.

### **Summary**

Any of these factors may have played a role in this problem-solving activity. However, based on the observed differences in the two groups' focus and attention, leading to CGI students spending longer time working on the task, I believe that a contributing factor in the difference between the letter drawings of these two groups of students was the manner in which CGI students engaged in their work. Thus, I propose that their engagement is related to the meditative approach skills they had learned through the integrated curriculum. I propose that since RES student were not introduced to such skills, they were not able to sustain focus. Their approach to the lettering task supports the concept that contemplative practice contributes to sustained focus and patience in a prolonged task. Like the exercise with the caterpillar picture, this problem-solving exercise suggests the hypothesis, for future research, that contemplative learners may be able to draw upon better attention and visualization skills, thus leading to improved creativity and problem-solving skills..

In the next chapter, I will discuss more fully the conclusions of this study, propose hypotheses for future research on the relationship between affective and cognitive learning in holistic, integrated curriculum, and also discuss my self-study findings: what I learned about myself as a teacher facilitating integrated lessons that include contemplative practices.

## CHAPTER 5

### CONCLUDING THOUGHTS AND REMARKS

#### Introduction

*To create a happier humanity, we have to pay more attention to our inner values, whether we are religious or not. Because our existing education systems are oriented towards materialism, we have to find ways to incorporate more humane values, greater concern for others, into our education systems. The simple basis of such inner values is warm-heartedness and common sense<sup>33</sup>.*

— Dalai Lama

According to the Dalai Lama, education should take into account the *affective* dimension of learning as much as the *cognitive* dimension. This study focused on the question: *What can we observe in comments, behavior, and products of young student monks, exposed to an integrated curriculum of contemplative practices and secular lessons, about whether and how they bring their social-emotional learning from the contemplative practices, to bear when learning secular, functional skills and knowledge?* In the sections below, I present my conclusions; recommendations for further research; and lessons learned from this self-study about my own teaching using a holistic, integrated curriculum.

#### Conclusions

Based on the comments and behaviors of the Chokyi Gyathso Institute (CGI) students, and the products of CGI and Rickhey Elementary School (RES) students, my self-study leads me to make some propositions about the relationship between affective and cognitive learning and about holistic integrated curriculum approaches. First, the observations of CGI students' comments, behavior and products from the reflective

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<sup>33</sup> *News Flesh*. Perth, Western Australia, Australia, June 14, 2015



drawing and lettering technique exercises indicate greater focus and attention in doing tasks, leading to increased creativity and problem solving, or what Bloom and associates would call “thorough learning,” the highest level of intellectual behavior. The results of the contemplative learners’ work is more aligned with the teaching instructions and guidelines that I gave to the students than the products of the students not accustomed to learning contemplative practices. To get to the level of deeper learning that the CGI students demonstrated required calm, focused attention, and controlled emotions. At CGI, these dispositions and approaches to learning are cultivated through meditative prayers and reflective contemplative practices.

Thus, my own experiences as a teacher and learner of mindfulness and affective learning practices, I propose that contemplative practices are a viable route towards self-reflection and increased mindfulness during learning. This study provides support for, and do not negate, the research indicating that an integrated curriculum of cognitive and affective learning, including contemplative practices, can support students to develop both problem-solving and creativity, socio-emotional learning and focused attention among students. These outcomes from a holistic curriculum approach may also support the reflectiveness and critical action that a country needs for both happiness and economic development. My classroom experiences using the Druk 3020 integrated curriculum support the proposition that coupling secular education with contemplative practices, affective with cognitive learning, will at least support and not hinder students’ development. My observations of students’ comments, behavior and products lead me to propose that the Dharma lessons incorporated in each thematic unit in the *Lhomon Education* curriculum work toward that end. I propose that contemplative practices help

to build critical, problem-solving, analytic and cognitive skills that educators strive to develop in students.

With support from further research, there are simple recommendations that could be put into place in secular schools—in Bhutan and beyond—that may build upon the results of this study. For one, teachers could consider employing contemplative practices before, during, and at the end of lessons in order to help students achieve a calm state of mind and attention for learning. Another recommendation for relevant situations is that teachers, administrators and curriculum designers could set policies and guidelines in place to include short daily meditation or mindfulness training. With training for teachers, such practices could easily be incorporated into any lesson and need not go beyond the regular framework and time.

### **Implications for Further Research**

At the beginning of my self-study, I hypothesized that an integrated curriculum of secular learning combined with contemplative practices would result in deeper learning, based on the research and literature on the connection between affective and cognitive learning. My findings support and do not negate previous research that an integrated curriculum, integrating contemplative practices with secular studies—affective and cognitive learning—contributes both to one’s affective, social and emotional development and to improved cognitive learning.

Nonetheless, the creativity and problem-solving techniques employed in this study should be tested further to establish a stronger degree of certainty, one which can support more detailed practical and policy recommendations. To that end, I propose that

the following questions could drive further research into the relationship between affective and cognitive learning in Bhutan and in other contexts:

- What types of meditation and mindfulness training, in addition to those propagated through monastic traditions could be successfully added to modern academic learning to promote the desired spiritual and secular, affective and cognitive balance that children need?
- What other tools and techniques could teachers in public schools use to promote visualization, attention, creativity and problem-solving skills among children at different ages?
- One of the models for inclusive and child friendly education in Bhutan is compassion. How is compassion practiced and nurtured through teaching and learning to create that sense of inclusion and a child-friendly learning community?
- What research designs could we use to demonstrate whether contemplative practices, within an integrated, holistic curriculum, support student achievement in cognitive development and in particular subjects, such as science, math, or history?

### **Lessons Learned from Self-Study**

Conducting a self-study means, that one is investigating and deriving lessons about one's own teaching in a particular context. There are three primary lessons I learned about myself as a teacher in this self-study.

First, I learned that teaching using an integrated and holistic curriculum such as the *Druk 3020* curriculum means that the teacher must not only know and understand what constitutes contemplative practices, but also spend considerable time actually practicing those contemplative forms and techniques. I had a clear understanding about what constitutes contemplative practices, but I did not experience the essence of these until I started practicing the various forms and techniques of contemplation. The more I practiced, the clearer it became, especially in the context of teaching and learning. What is also very crucial in this context is the ability to see from both perspectives—traditional and modern—the applications and implications.

For example, I knew the *Three Refuges* prayer, *Four Reliance* principles, *Four Immeasurables*, and the *Six Paramitas* from my own school days, and I recite some of them every day. These were taught in *Dzongkha* (national language) classes and in evening prayer sessions. I did not know, or rather had not given much thought to, how these prayers and traditional moral principles could be integrated into modern classroom teaching and learning until I started reviewing the CGI curriculum documents. The practice of the six paramitas integrated very well with the general classroom organization principles and techniques. Similarly, one of the senior monk's talks on the Buddhist's concept of *Dependent origination*, the dharma link to the thematic unit *Air and Space*, was insightful:

*No phenomena appear without a cause and none are made by an uncaused creator such as the self, time or God. Everything arises exclusively dependent upon the coincidence of causes and conditions without which things will not possibly appear. The conditions or substance of all things and process are the five elements: earth, water, fire, air, and space.*

The five elements are the natural life-giving forces of our familiar natural environment. This helped the students reflect and analyze the environmental issues, such as water and air pollution, to consider the cause, effect, and preventive measures from both spiritual and secular perspectives.

Second, I realized, through this study, the profound spiritual and secular parallel between the sets of contemplative practices (*concentration meditation* and *mindfulness meditation*) and problem-solving techniques (*divergent thinking* and *convergent thinking*). While I was at the teacher education college, I followed Williams's (1991) problem solving techniques, where the linear progression begins with the process of *divergent thinking*—investigating the situation, identifying the problem, and proposing possible solutions. Once the problem is identified and possible solutions investigated, the process gets *convergent*—developing, constructing, and evaluating the proposed solution. I was aware that the same process happens in contemplative practices—the *shamatha meditation* (concentration meditation/focused-attention meditation) and *vipassana meditation* (mindfulness meditation/open-monitoring meditation), but I had no idea that these two sets of spiritual contemplative practices and secular problem solving techniques are, in fact, complementary. When I reflect, I see that we compartmentalize various subjects in schools and hence the compartmentalization of knowledge and skills. We fail to recognize the relevance beyond the specific subject and discipline. I feel that this supports the essential nature of the holistic approach of integrating various subjects and discipline. Bringing the contemplative practices into the education system—into the classrooms—irrespective of monastic or secular institutions “is not adding a new subject but enriching learning, and improving the process of education. ... This will make the

curriculum and learning more enjoyable, more pleasurable, and more relevant (MoE, 2010, p.43).

Third, I learned that students need calm, focused, and controlled emotions, which CGI students demonstrated, cultivated through meditative prayers and reflective contemplative practices. This is one of the key disciplines associated with affective and social-emotional learning. The interactive social disciplines such as love, compassion, and emotional stability, nurtured through disciplines such as contemplative practices, has a direct bearing on the overall learning environment. From this study, I learned that establishing a vibrant and conducive learning environment is one of my priorities as a teacher, without which we cannot advocate educational concepts such as *Child Friendly* and *Inclusive Education*.

Finally, I learned that *self-study* is *research*, and that my *research method* is *self-study*. Self-study is what one does naturally in *contemplation*. As a contemplative practitioner, I was doing self-study long before I started this research, informally. To relate to Kosnik and associates' (2006) purposes for self-study, in order to renew a program, one must renew her or his profession. In order to renew profession, one must renew his or her self. Self and self-study help one grow personally, socially, emotionally, professionally, and beyond.

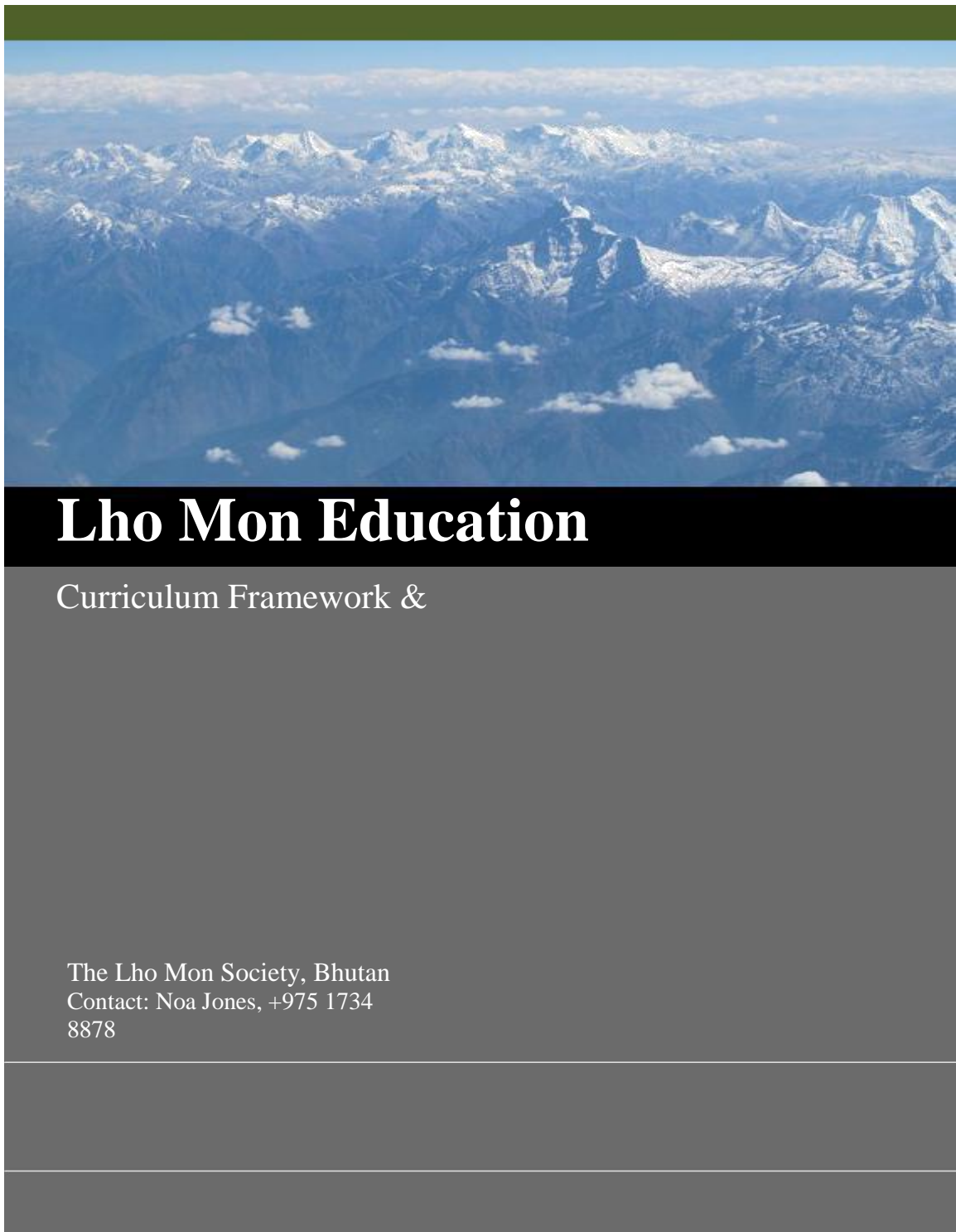
### **Final Remarks**

Human life is precious and sacred. Buddhists believe that, once born, every child has the same needs as others, the most basic need being love and care. The most vulnerable stages of our life are at the beginning and the end. It is not only the innate

duty, but also the moral responsibility, of parents to take the utmost care of their children while young, and so the reverse role of children for their parents in their old age. These mutual love, understanding, and moral responsibilities are the humane forces that bring people closer to creating compassionate and harmonious societies. In addition to the family and community, schools play a critical role in helping children learn to become compassionate, mindful, caring adults. As an educator, my commitment will be to advocate for the importance of love and care the child should receive from schools, to give that sense of communal peace and harmony as the sound foundation for academic, personal, and nationwide success and happiness. This research, and future work that will build upon it, is part of that commitment.

## APPENDIX A

### LHOMON EDUCATION CURRICULUM FRAMEWORK AND MAP





## Education for Bhutan and Beyond

Lhomon Education (LME) is a grassroots initiative fostering the development of innovative curricula designed specifically for Bhutanese students. The basis of the LME initiative is an alternative model of teacher training and curriculum development that integrates principles of Gross National Happiness (GNH) in the truest sense of the term. Based on the overarching mission of Dzongsar Khyentse Rinpoche's Lhomon Society, and on the values and principles laid out in this document, Lhomon Education is helping teachers create innovative GNH-based curricula for use in a variety of education environments. LME curriculum development workshops and teacher training seminars are open to a wide range of education institutions, including government schools, monasteries, nunneries, women's organizations, rural education centers, and other formal and non-formal education institutions and initiatives in Bhutan.

Pilot projects include:

- **Bhutan Association of Women Entrepreneurs**, an organization that empowers Bhutanese women through the promotion of knowledge and business skills, is revamping their domestic helpers program curriculum using the LME Framework for implementation in 2012.
- **The Bhutan Nuns Foundation** is committed to using the LME framework and trainings to develop a secular education program for nuns in East Bhutan. Many girls and women in Bhutan enter nunneries to gain an education and escape poverty and abuse. These women dedicate their lives to serving society. They are very involved in local communities, often helping needy families and serving as role models for other girls and women.
- **Chokyi Gyatso Institute (CGI)**, a monastery in Dewathang, Samdrup Jongkhar, East Bhutan is scheduling implementation of a secular curriculum for monks based on the LME framework in January, 2013 to help the monks become more integrated members of society, active in supporting the health and wellbeing of surrounding communities.
- **The Non-Formal Education Program**, a basic functional literacy program supported by the Ministry of Education and UNICEF, will develop units to extend their existing curricula into areas of math, science, technology, social sciences and mindfulness.
- **The Royal Education Council**, an education think tank of Bhutan, will work with LME to develop a sample of integrated curriculum as part of the innovative research and experimentation they are conducting in a select group government run public schools.
- **The Tarayana Foundation** was established in 2003 by Her Majesty the Queen Mother, Ashi Dorji Wangmo Wangchuck, to help bridge local needs of disadvantaged remote communities with larger national initiatives. The Foundation will send one Field Officer and one Program Officer to LME's Curriculum Design Workshop to develop units for their work in rural communities.

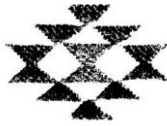
Additional pilot projects are currently being explored. The intention is to offer all of these targeted units free online, to share the process by which they have been created, and perhaps to influence the future of education in the country.



Even the best curriculum needs skilled teachers who have the qualities of a *kalayana mitra*, a friend who can guide a student along the path, therefore LME's primary focus is on teacher training. A special seminar on developing the inner qualities of the teacher will take place in December, 2012. The teacher must believe in and embody the qualities we hope to instill in our students in order to pass them on. Bhutan is built on a legacy of master to disciple transmission of wisdom and we wish to follow that example.

"Education is the key."  
— Dzongsar Khyentse Rinpoche

## About Lhomon Society



LHOMON SOCIETY

The Lhomon Society was established in 2011 by Dzongsar Khyentse Rinpoche, one of Bhutan's most beloved and vocal Buddhist masters. It is Bhutan's first major civil society development project with a mission to foster genuine GNH-based development in harmony with government goals. Lhomon Society's purpose is to raise living standards in Bhutan in an ecologically friendly way, and to establish food security and self-sufficiency, while fully protecting and enhancing the natural environment, strengthening communities, promoting Bhutan's unique culture, stemming the rural-urban migration tide, and fostering a cooperative, productive, entrepreneurial, and self-reliant spirit. The Samdrup Jongkhar Initiative (SJI) was Lhomon Society's first project and remains a vital part of the organization. Lhomon Education began as part of SJI and has since grown into its own separate entity so that it can address the education needs of the entire country.

Lho, in Bhutanese, means south or southern, and Mon refers to the people of the southern regions of Bhutan and the surrounding subtropical regions of Assam and Burma. Rinpoche chose the name to indicate that people are unified not only by government country borders but by the natural environments in which they live.

## Forward

### Eyes on Bhutan: The Concept of Gross National Happiness

When a society accepts materialist measures as the sole indicators of its progress, it encourages imbalanced governance that actually threatens the well-being of the people. Working against the tide will take enormous effort, critical thinking, collaboration, innovation, and a bit of bravery. But because Bhutan is a country like no other—a benevolent, carbon-neutral kingdom with profound ancient wisdom traditions—it is a fertile ground for such an effort. Countries around the world are looking to Bhutan, which for many years has marked success by gross national happiness (GNH) rather than gross domestic product (GDP), as a model of how things could be.

Using Bhutan as an example, the UN General Assembly recently invited countries “to pursue the elaboration of additional measures that better capture the importance of the pursuit of happiness and well-being in development with a view to guiding their public policies.” The resolution said “the pursuit of happiness is a fundamental human goal” and embodies the spirit of the globally agreed targets known as the Millennium Development Goals (MDGs).

But has Bhutan established a sustainable system of educating the next generation to uphold these ideals? Time will tell.

In order to turn these high-minded ideas into practical outcomes, an international community of educators came to Thimphu, Bhutan in 2009 for the Educating for GNH Conference. The group addressed the need for an education system that is uniquely Bhutanese and that reflects GNH principles. Building upon the momentum of that conference, the Lhomon Society began investing in the creation of this curriculum framework.

As the world looks to Bhutan, we hope that Bhutan will look to Lhomon Education and from this model, develop progressive and sustainable education alternatives and further the implementation of authentic GNH-based education.

## Historical Context

### History of the Bhutanese Education System

Source: *U.S. Library of Congress*

Western -style education was introduced to Bhutan during the reign of Ugyen Wangchuck (1907-26). Until the 1950s, the only formal education available to Bhutanese students, except for private schools in Ha and Bumthang, was through Buddhist monasteries. In the 1950s, several private secular schools were established without government support, and several others were established in major district towns with government backing. By the late 1950s, there were twenty-nine government and thirty private primary schools, but only about 2,500 children were enrolled.

Secondary education was available only in India. Eventually, the private schools were taken under government supervision to raise the quality of education provided. Although some primary schools in remote areas had to be closed because of low attendance, the most significant modern developments in education came during the period of the First Development Plan (1961-66), when some 108 schools were operating and 15,000 students were enrolled.

The First Development Plan provided for a central education authority—in the form of a director of education appointed in 1961—and an organized, modern school system with free and universal primary education. Since that time, following one year of preschool begun at age four, children attended school in the primary grades—one through five. Education continued with the equivalent of grades six through eight at the junior high level and grades nine through eleven at the high school level. The Department of Education administered the All-Bhutan Examinations nationwide to determine promotion from one level of schooling to the next.

Examinations at the tenth -grade level were conducted by the Indian School Certificate Council. The Department of Education also was responsible for producing textbooks; preparing course syllabi and in-service training for teachers; arranging training and study abroad; organizing interschool tournaments; procuring foreign assistance for education programs; and recruiting, testing, and promoting teachers, among other duties.

The core curriculum set by the National Board of Secondary Education included English, mathematics, and Dzongkha. Although English was used as the language of instruction throughout the junior high and high school system, Dzongkha and, in southern Bhutan until 1989, Nepali, were compulsory subjects. Students also studied English literature, social studies, history, geography, general science, biology, chemistry, physics, and religion. Curriculum development often has come from external forces, as was the case with historical studies. Most Bhutanese history is based on oral traditions rather than on written histories or administrative records. A project sponsored by the UNESCO and the University of London developed a ten- module curriculum, which included 4 courses on Bhutanese history and culture and 6 courses on Indian and world history and political ideas. Subjects with an immediate practical application, such as elementary agriculture, animal husbandry, and forestry, also were taught.

Bhutan's coeducational school system in 1988 encompassed a reported 42,446 students and 1,513 teachers in 150 primary schools, 11,835 students and 447 teachers in 21 junior high schools, and 4,515 students and 248 teachers in 9 high schools. Males accounted for 63 percent of all primary and secondary students. Most teachers at these levels—70 percent—also were males. There also were 1,761 students and 150 teachers in technical, vocational, and special schools in 1988.

Despite increasing student enrollments, which went from 36,705 students in 1981 to 58,796 students in 1988, education was not compulsory. In 1988 only about 25 percent of primary - school-age children attended school, an extremely low percentage by all standards. Although the

government set enrollment quotas for high schools, in no instance did they come close to being met in the 1980s. Only about 8% of junior high-school-age and less than 3% of high-school-age children were enrolled in 1988. Bhutan's literacy rate in the early 1990s, estimated at 30% for males and 10 percent for females by the United Nations Development Program (UNDP), ranked lowest among all least developed countries. Other sources ranked the literacy rate as low as 12 to 18%.

Some primary schools and all junior high and high schools were boarding schools. Tuition, books, stationery, athletic equipment, and food were free for all boarding schools in the 1980s, and some high schools also provided clothing. With the assistance of the United Nations Food and Agriculture Organization's World Food Program, free midday meals were provided in some primary schools. Higher education was provided by Royal Bhutan Polytechnic in Dewathang, and by Kharbandi Technical School in Kharbandi, Chhukha District. Founded in 1973, Royal Bhutan Polytechnic offered courses in civil, mechanical, and electrical engineering; surveying; and drafting. Kharbandi Technical School was established in the 1970s with UNDP and International Labour Organization assistance. Bhutan's only junior college—Sherubtse College in Kanglung, Tashigang District—was established in 1983 as a three-year degree-granting college affiliated with the University of Delhi. In the year it was established with UNDP assistance, the college enrolled 278 students, and seventeen faculty members taught courses in arts, sciences, and commerce leading to a bachelor's degree. Starting in 1990, junior college classes also were taught at the Yanchenphug High School in Thimphu and were to be extended to other high schools thereafter.

In 1990 the Asian Development Bank granted a US\$7.13 million loan for staff training and development, specialist services, equipment and furniture, salaries and other recurrent costs, and facility rehabilitation and construction at Royal Bhutan Polytechnic. The Dept. of Education and its Technical and Vocational Education Division were given a US\$750,000 Asian Development Bank grant for improving the technical, vocational, and training sectors. The New Approach to Primary Education, started in 1985, was extended to all primary and junior high schools in 1990 and stressed self-reliance and awareness of Bhutan's unique national culture and environment.

Most Bhutanese students being educated abroad received technical training in India, Singapore, Japan, Australia, New Zealand, Britain, Germany, and the US. English-speaking countries attracted the majority of Bhutanese students. The vast majority returned to their homeland.

## **Vision: What We Want for Our Students**

We would like to see more connected, actively-involved, life-long learners grounded in Bhutan's ancient wisdom traditions, principles, values, and practices. To that end, we have developed the framework for a comprehensive curriculum that can be adapted and delivered in five-week units individually or sequentially. The units within this framework help students develop the values, knowledge, competencies, and practical life skills that will enable them to live full and satisfying lives and to become contributing members of society. Khyentse Rinpoche said that true freedom only comes when one is no longer enslaved on an inner level by the emotion and desire and on an external level by ignorance. LME would like to help guide students to this level of freedom.

As connected individuals they will:

- Value and seek out a deep understanding of interdependence
- Relate well with others
- Effectively use communication

- Be connected to their inner world through mindfulness training

As actively involved citizens they will:

- Understand and embrace GNH principles
- Understand their responsibilities, roles and opportunities in society
- Feel empowered to contribute to the well-being of Bhutan—socially, culturally, economically, and environmentally
- Participate as informed decision makers

As lifelong learners, they will:

- Know how to learn and how to think creatively
- Have the ability to find and use information with critical discrimination
- Possess knowledge, skill, wisdom, good character, and emotional maturity
- Actively seek, use and create knowledge
- Take responsibility for their education and development
- Enjoy learning for the sake of learning

## What Does LME Graduate Look Like?

**Ecological Literacy:** Students will have an understanding of ecosystems and the capacity of the environment to sustain human activity within natural resource limits without compromising ecological integrity.

**Interconnectedness:** Students will see themselves as interdependent with each other, all living things, and natural systems. They will have a deep understanding of the law of cause, condition and effect and will put their knowledge and understanding to use in service of their lives, their communities and the world.

**Multiple Perspectives:** Students will truly value and learn from the experiences of others around them— across generations, cultures, and other divides.

**Place:** Students will understand the profound and complex way that the geography and ecology of a place interact with the society and culture of the people who live there.

**Competency:** Students will have life skills to be able to function effectively in society.

**Sustainable Economics:** Students will understand the true costs of human behavior and economic activity, and how to measure well-being and progress genuinely, accurately, and holistically.

**Responsible Citizenship:** Students will understand their rights and responsibilities and the impact of their actions as citizens, and assume participatory roles in society. As active members of society they will work with others to provide effective solutions and ongoing service to their communities.

**Creativity and Visioning:** Students will creatively apply knowledge and skills to foster sustainable, “truly Bhutanese” solutions to current and future challenges. They will have the confidence, insight, and ability to see through, resist, and seek alternatives to consumer-driven cultural tsunamis.

**Cultural Preservation:** Students will have a deep appreciation for their rich cultural heritage and wisdom tradition and discern what cultural practices are worthy of preservation and what must change in order for future generations to thrive.

## Principles: Foundations for Curriculum Design Making



The foundations for the LME curriculum framework differ from the current Bhutanese education model in that they aim to produce a curriculum not tied to standardized tests or certificates. This curriculum aims to engage the heart and mind and to develop long lasting skills. The LME principles, which underpin the development of all our curriculum development, serve to lessen the division between in- school learning and life-long learning. The aim is to educate the whole person in a way that engages and challenges students, is forward-looking and inclusive, project-based, reflects GNH values, and affirms their unique Bhutanese identity. The curriculum will provide a modern education that is consistent with traditional values. Mindfulness training is incorporated across subject areas as it is a key component of living a balanced and peaceful life.

#### An LME Curriculum:

- Has meaning for students, connects with their lives, and engages the support of their families, dzongkhags (districts), and local communities.
- Makes links within and across learning areas, and connects with their abilities, interests and culture.
- Values local wisdom.
- Encourages students to reflect on their own learning processes and learn how to learn.
- Uses the local environment (both physical and cultural) as the context for imparting knowledge.
- Offers students a broad education with practical application.
- Teaches essential life skills and opens up pathways to future learning.
- Encourages students to explore significant future-focused issues such as: sustainability, citizenship, equity, enterprise, and globalization/localization.
- Recognizes and honors the unique intelligence and learning style of each student.
- Requires continual feedback from teachers, peers, etc.
- Provides assessment tools that are closely linked with the students' own learning.
- Promotes cooperation rather than competition.
- Supports and empowers all students to learn and achieve personal goals.
- Promotes dignity of labor.

### Key Competencies & Practical Outcomes

Key competencies help people live meaningfully and contribute to a well-functioning society:

- 1. Thinking** - cultivating creative, critical, and logical thinking; meta cognition; self-awareness and reflection, understanding the concept of self
- 2. Participating and Contributing** – active listening, taking part in discourse, developing curiosity and confidence that translates into active involvement in and service to their communities
- 3. Managing Self** - making sound decisions, setting goals, and planning; distinguishing wants from needs, exploring the notion of the self as the source of suffering, mindfulness training in action
- 4. Relating to Others** - developing the knowledge, communication skills, attitudes, and values necessary for working and interacting with others, compassion in action
- 5. Using Language, Symbols and Texts** - discovering meaning, comprehension

#### **Practical Outcomes**

Our students will develop the skills to live successfully and responsibly in the world, with a natural inclination to conserve nature and benefit others. They will learn to manage a household budget, apply first aid, sow a vegetable garden, make sustainable choices at the market, and

prevent alcohol abuse and forest fires. Their appreciation for their communities and nation as a whole, and expanded understanding of local and global issues, will help stem rural-urban migration.

## Values

### **The Government of Bhutan's Four Pillars of Gross National Happiness**

1. Environmental Conservation
2. Cultural Promotion
3. Sustainable and Equitable Development
4. Good Governance

#### **Issue:**

“Infusing GNH into the education system is not adding a new subject but enriching learning, and improving the process of education. It has to do with creating a context and approach that infuse a GNH consciousness into everything that is learned and taught. This will make the curriculum and learning more enjoyable, more pleasurable, and more relevant. Often there is no clarity on why we teach things, and so, learning is inevitably boring. Infusing GNH understanding creates a purpose and goal for teaching and learning for both teachers and students that makes study less burdensome and more enjoyable.”

—Hon. Prime Minister, Lyonchhen Jigmi Y. Thinley



### **Our Solution: Integrated Curricula, Minimal Testing, Assessment for Mastery**

#### **Issue:**

“Above all, we look upon our schools and institutions becoming morally and ethically green – that is developing an orientation of mind and heart that is positive in itself and that inspires positive thought and creative action in others. Our children growing and developing in such an environment will certainly build a society that is happy and at peace with itself. The stakes are high, but there is no other way to do our job. And [teachers] hold the key to the success of our mission.”

—Lyonpo Thakur S. Powdyel, Education Minister of Bhutan

### **Our Solution: Teacher Training that develops innate qualities that we seek in our students**

#### **Issue:**

"What is necessary in value education is a process of expansion of our boundaries of consideration and caring consciousness of others beyond ourselves..."

—Dasho Karma Ura, Center for Bhutan Studies, *A Proposal for GNH Value Education in Schools*

### **Our Solution: Mindfulness training for teachers and students**

*“Skilled instructors teach their students to make the finer distinctions between ‘education’ and ‘literacy’; between ‘knowing’ and ‘assuming’; between ‘knowledge’ or ‘understanding’ and ‘skill’; between ‘meaning’ and ‘word’. This process is primarily dependent on the ability, attitude, sensitivity and enthusiasm of the teacher. There can be no standardization of this*

*process. For creative teachers this can be a boon; the attempt is to take the student from the known to the unknown. While doing this we acknowledge what the student already knows and we bring the school closer to the student's reality."*

—Pawan Kumar Gupta, Society for Integrated Development of Himalayas

## Learning Areas

*How Does an LME Graduate Function in Specific Discipline Fields?*

### Learning Areas

#### Math

Students are comfortable applying math processes to the world around them. They can create and maintain personal and organizational budgets with accuracy, calculate with precision, and read the statistics in news articles with discernment. They have a general understanding of how the world of finance and economics works. With a firm grounding in math reasoning, they know how and when to locate formulae as needed.

#### Science

Students appreciate the science at play in their ordinary, everyday lives. Looking at the sky, they can say *I know what that cloud is made of and how it got there*. They can assess basic wiring and know if it's safe to plug in a heater. They understand the principles behind every day phenomena such as frozen water pipes and slippery roads, and can therefore make smart and safe choices when needed. They explore and appreciate the interplay between ancient wisdom and modern science and make informed decisions based on this study. They strive to lead balanced lives in harmony with the natural world.

#### Technology

Students are computer literate and comfortable with the latest technology and can effectively interact, communicate, collaborate, problem solve, and access information. They are discerning consumers able to evaluate the authenticity and validity of web-based information and are not manipulated by advertising and media messages. They understand how and why things work with a special focus on appropriate technology. They technology but also value their time away from technology, realizing that it does not represent ultimate wisdom.

#### Social Studies

Students explore how societies and the world function and how they themselves can participate and take action as critical, informed, and responsible citizens.

#### Health & Physical Education

Students will make informed choices that positively affect the health, safety, and well-being of self and others. They understand how the body functions and how it heals, and how to optimize wellness. They have a collection of useful interpersonal skills and a developed awareness of the mind-body connection.

## Official Languages

Our teacher trainings will be lead primarily in English as will the pilot project at CGI. However, a creative and experienced teacher can easily adapt the lessons to native languages and participating teachers can develop their units in whatever language is most suitable for their students.

## Best Practices



## **Integrated Curricula: The Holistic Approach**

*Joining “head, heart, & hands.” When introducing new material teachers guide students to relate it to their lives on many levels, inspiring them to contemplate how the material pertains to their:*

- inner world
- physical health
- family
- class and school
- immediate environment and the natural world
- immediate community
- the global community

## **Understanding the Modes of Teaching**

*There are three traditional modes of teaching, all of which are valid and effective, but teachers must assess their use of all three to insure class time has a balance of the three:*

- Transitional – *Hearing*. Information passed from the teacher to the students through lecturing and direct instruction.
- Transactional – *Contemplating*. Students interact with the material, develop questions, explore relationships to other subjects, reflect on ways in which it is meaningful to their lives.
- Transformational – *Meditating*. Students are thoroughly engaged, they apply the learning to develop solutions and share those solutions. The result is genuine self-transformation.

## **Brain Based Learning:**

Brain based learning is an approach to instruction based on how current research in neuroscience suggests that emotional and physical health play into the process of learning. Science has deepened our understanding of how the human brain functions in a variety of conditions. When we understand these conditions and factor them into the design and learning process, we increase the success of the learning experience. Brain based learning emphasizes the importance of creating a safe learning environment, stimulating the different parts of the brain (logic, creativity, memory, patterns, motor skills, visual processing, language etc), strengthening connections between concepts, developing neural pathways and reinforcing learning.

## **Other strategies:**

Cooperative Learning, differentiated instruction, active learning, multiple intelligence, and more.

### **Who Will Teach?**

Mentoring and modeling is an essential aspect of the Lho Mon Education process and will be incorporated in the creation and implementation of the curriculum. The LME teacher training will be conducted in Bhutan in 2012-2013 with additional reflection and review sessions planned for teachers every six months through 2016. A key to the success of the project is that our teachers will learn how to develop the units themselves, they will be the designers of their own curricula. LME teaching and development training will be open to a group of non-formal and formal education teachers in Bhutan who wish to expand their range of teaching skills. We are looking for creative, enthusiastic teachers with a passion for their profession, who embody the principles and values we seek to embed in our educational system and who have something authentic to share with their

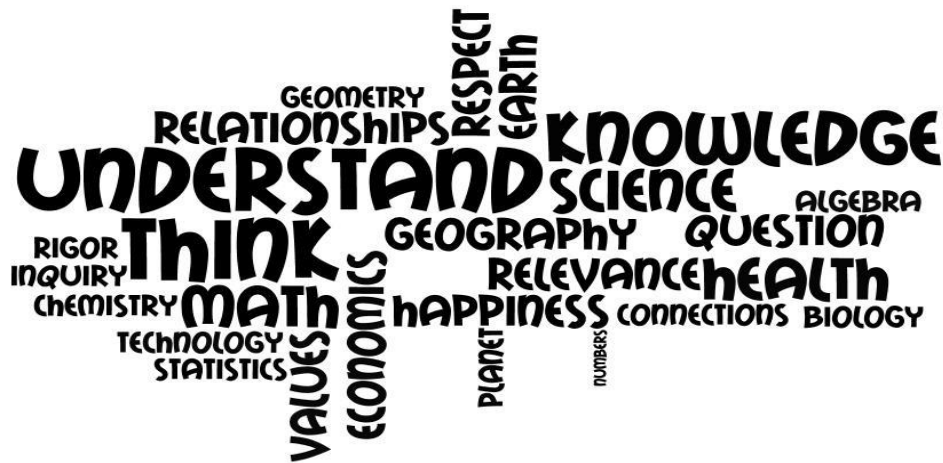


## Curriculum Map

The Curriculum Map presents a sample overview of possible content and outcomes that could be covered in a four-level curriculum plan. It is like a menu from which unit designers can select relevant material to develop their own integrated, thematic units. Project-based learning asks students to go through an extended process of inquiry in response to a question, problem, or challenge. Projects allow students to learn key academic content and practice collaboration, communication, and critical thinking.

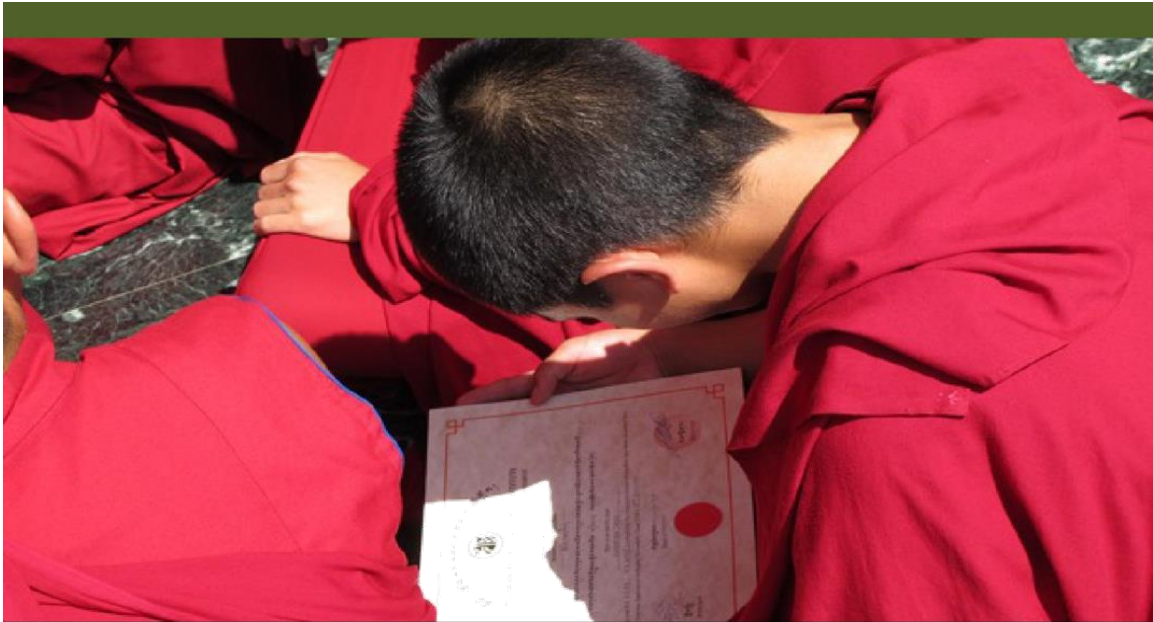
Each pilot will decide the parameters of their project —duration of classes, number of classes per week, number of weeks per unit, language of instruction, and teacher/student ratio. For example, the CGI curriculum is to be delivered in daily three-hour blocks over the course of six five-week units each year. Part of each day will focus on skills training in which students will develop specific literacy, numeracy, and technology skills required for successful completion of the lessons. The skills training will be followed by the integrated lesson. These lessons will move students towards answering the unit's essential questions and coming to long-lasting understandings.

For most pilots, skills training will require some standardised textbooks such as the XSeed Curriculum. LME is presently researching the feasibility of using XSeed, the Khan Academy system or other more effective means of teaching the math and science skills block.



## APPENDIX B

### THE DRUK 3020 CURRICULUM FRAMEWORK AND MAP



# The Druk 3020 Curriculum

## Curriculum Framework & Map

The Samdrupjongkhar Initiative

## The Druk 3020

### GNH Teaching Modules for CGI and Beyond

The Druk 3020 Curriculum is a pilot project designed for implementation at Chokyi Gyatsho Institute (CGI), a monastery in Dewathang, Samdrup Jongkhar, East Bhutan, under the auspices of the Samdrup Jongkhar Initiative. Dzongsar Jamyang Khyentse Rinpoche chose the name Druk 3020 because he wanted educators to think not only about 100 years into the future, but a full millennium ahead. What will this planet look like and who will be leading it? SJI believes in the power of grassroots initiatives so even with that lofty goal, we are starting small. The objective is to create a set of twenty-four comprehensive secular educational units that can be used as a model for GNH -infused education and implemented in monasteries and possibly other schools and institutions in Bhutan.

These integrated units will incorporate many of the learning objectives found in the standard Bhutanese educational system (i.e. math, science, social science, technology, health). An English language course will be developed and taught separately. The first set of six thematic units is being prepared for CGI's incoming class of June, 2013.



## Forward

**"Education is the key"** – Dzongsar Jamyang Khyentse Rinpoche

### Qualities of a GNH-educated graduate

**Honourable Prime Minister, Lyonchhoen Jigmi Y. Thinley**

*Closing speech, Educating for GNH workshop, Thimphu, 12 December, 2009*

“How might a GNH-educated graduate manifest in practice? At the end of our week together, it still feels somewhat easier to describe what such a graduate is *not*. We know that what we want to see is very different from the economic animal that conventional educational systems so often seem to nurture, where success is measured by money, career, acquisition, fame, power, and self-aggrandizement.

“Knowing how different our vision and goals are, we know with certainty that what we want to see is nothing less than transformative — graduates who are genuine human beings, realizing their full and true potential, caring for others—including other species—, ecologically literate, contemplative as well as analytical in their understanding of the world, free of greed and without excessive desires; knowing, understanding, and appreciating completely that they are not separate from the natural world and from others; — in sum manifesting their humanity fully.

“I suppose the ultimate test is that a GNH-inspired education graduate will sleep soundly and happily at the end of each day knowing that she or he has given all to their families, to their communities, and to the world. If we and our young do not have this firm commitment, there is literally no future. In the end, a GNH -educated graduate will have no doubt that his or her happiness derives only from contributing to the happiness of others.”

*Excerpts from opening speech, Educating for GNH workshop, 7 December, 2009*

"... We have identified education as the glue that holds the whole enterprise together. If we are ignorant of the natural world, how can we effectively protect it? If we don't know that smoking, junk food, and physical inactivity are unhealthy, how can we have a healthy citizenry? If we are ignorant of politics and of national issues, how can we cast an informed vote? If we are ignorant of the extraordinary teachings of Guru Rinpoche, Zhabdrug Ngawang Namgyal, and other great masters who taught and practised right here in Bhutan, how can we appreciate our legacy, embody our own culture, and serve the world?"

"We are on a special mission: to return to the true goal of education. Education for gross National Happiness is, therefore, a wonderful opportunity for all of us educators to return to the essential purpose of education—a process that gently draws the human mind to look for and to love what is true and good and useful."

*Honorable Lynpo Thakur S. Powdye  
Minister of Education, Bhutan*

We've actually reached the point where we no longer need to obsess too much more about definitions and concepts when we talk about GNH. If we want to help ourselves and the world, we now have to act decisively and effectively so that we embody what we express, and so that our behaviour and actions, rather than just our words and good intentions, not only realize the vision of our enlightened monarchs but act as a genuine and worthy example for a world desperate for sanity."

## Vision: What We Want for Our

We want to help students become connected, actively-involved, life-long learners. To that end, we are developing a comprehensive secular education curriculum that can be delivered in five-week units individually or sequentially. The pilot project will be first implemented at the Chokyi Gyatso Institute where it will complement the existing rigorous monastic training. The Druk 3020 Curriculum is designed for students to develop the values, knowledge, competencies, and practical life skills that will enable them to live full and satisfying lives and to become contributing members of society.

"I've never let my school interfere with my education." –  
Mark Twain

*Note: Bullet-points same as that of LME*

## What Does a Druk 3020 Graduate Look Like?

*Note: Same as that of LME*

## Principles: Foundations for Curriculum Decision

The foundations for the Druk 3020 initiative differ from the current Bhutanese education model in that they aim to produce a curriculum not tied to standardized tests or certificates. This curriculum engages higher mental and emotional capacities at a time when "high stakes" testing has been critiqued for being at odds with students thinking and learning. The Druk 3020 principles, which underpin the development of this curriculum, serve to lessen the division between in-school learning and life-long learning. The aim is to educate the whole person in a way that engages and challenges students, is forward-looking and inclusive, reflects GNH values, and affirms their unique Bhutanese identity. The curriculum will provide a modern education that is consistent with traditional values.



## Druk 3020 Curriculum:

Note: Bullet-points same as that of LME



"During the course of running village schools in small hamlets of this hilly region, we realized our well-meaning efforts were often doing more harm than good. Village elders, specially the women, were the first to bring this to our attention. The kind of education generally imparted in the schools distanced the young students from whatever was their own – be it their language, custom, lifestyle or culture – and imbued in them a deep sense of inferiority. As a result of this alienation, they were induced into imitating what they considered to be the symbols of 'development'. Manual labor came to be looked down upon and the aspiration was for a desk job or sarkarinaukri. Customs and traditions of village life were seen as backward and the city was perceived as the epitome of modernity. Our attempt is to bring the school closer to the child's own environment, closer to the child's own reality."

Pawa Kumar Gupta

Society for Integrated Development of Himalayas

\* Indian government job.

## Values

### The Four Pillars of Gross National Happiness

1. Environmental Conservation
2. Cultural Promotion
3. Sustainable and Equitable Development
4. Good Governance

"Infusing GNH into the education system is not adding a new subject but enriching learning, and improving the process of education. It has to do with creating a context and approach that infuse a GNH consciousness into everything that is learned and taught. This will make the curriculum and learning more enjoyable, more pleasurable, and more relevant. Often there is no clarity on why we teach things, and so, learning is inevitably boring. Infusing GNH understanding creates a purpose and goal for teaching and learning for both teachers and students that makes study less burdensome and more enjoyable."

—Honourable Prime Minister, Lyonchhoen  
Jigmi Y. Thinley

*"Above all, we look upon our schools and institutions becoming morally and ethically green – that is developing an orientation of mind and heart that is positive in itself and that inspires positive thought and creative action in others. Our children growing and developing in such an environment will certainly build a society that is happy and at peace with itself. The stakes are high, but there is no other way to do our job. And [teachers] hold the key to the success of our mission."*

—Lyonpo Thakur S. Powdye

*"What is necessary in value education is a process of expansion of our boundaries of consideration and caring consciousness of others beyond ourselves..."*

—Karma Ura, A Proposal for GNH Value Education in Schools

## Key Competencies & Practical Outcomes

*Note:* Same as that of LME

## Learning areas

*Note:* Same as that of LME

## Official Languages

*Note:* Same as that of LME

## Effective Pedagogy

While there is no formula that will guarantee learning for every student in every context, there is extensive, well-documented evidence about the kinds of teaching approaches that consistently have a positive impact on student learning.

Evidence tells us that students learn best when lessons are:

- **Integrated:** An integrated program makes connections across traditionally compartmentalized academic disciplines. Lessons organized around broad themes allow in-depth inquiry into core concepts. Students work to answer larger essential questions that provide an important framework for their learning.
- **Inquiry Based:** Students are engaged in individual and collaborative class activities that help them actively pose questions, investigate, solve problems, and draw conclusions about the world around them. As independent thinkers, students become researchers, writers, videographers, and activists rather than passive receivers of textbook content.
- **Holistic:** Holistic lessons ask students to examine where things come from and where they end up (particularly everyday objects) as a way of sharpening critical and analytical thinking and reasoning. They ask students to investigate issues and challenges in their communities, to analyze causes, and to suggest solutions that can be shared and applied.

And students learn best when teachers:

- **Create a supportive learning environment:** A supportive environment is one in which students feel accepted, enjoy positive relationships with their classmates and teachers, and are able to be active, visible members of the learning community. It reinforces positive behavior.

- **Encourage reflective thought and action:** Students learn most effectively when teachers give them an opportunity to stand back from information and ideas and develop the skills to contemplate the material objectively. Reflective learners assimilate new information, relate it to what they already know, adapt it for their own purposes, and translate thought into action.
- **Enhance relevance:** Students learn most effectively when they feel connected to the material presented. Why should they care? Teachers can help them understand why they are learning and how to apply that learning to their lives.
- **Facilitate shared learning:** When teachers ask students to work together, learning becomes social, cooperative and collaborative. By sharing what they have learned, students reinforce their own understanding of the subject matter and develop a greater sense of ownership of the material.

*Some Practical Advice for Teachers:*

- Get to know your students and help them get to know and respect each other. Have the class design their own “Code of Conduct”. Make time for one-on-one sessions.
- Catch kids being good.
- Provide tangible rewards and establish reward systems such as week end raffles.
- Use poetry, and art to integrate reflection time into your already established routines. For example if the students have read an article about poverty, give them some magazines and let them make a collage that reflects what they have understood.
- Use reflective questions: For example during a unit on waste management, ask the students to sit in two circles with the inside circle facing out and the outside student facing in. Sitting directly across from each other students have a chance to answer a facilitated question such as: *what sacrifices would you make to have a plastic free monastery?*
- Don’t assume that students will come to see connections, keep bringing the subject matter back to them. If you are teaching on fire prevention, have them read about the fire in Bumthang, ask them if they have any friends who were affected. Have them write a list of things they would be most afraid of losing if there was a fire.
- After reading an article, have students partner up and share two questions and two understandings they took from the article.
- Have students work in a group of four to design a greenhouse either for their school or a needy group within the community. Have them figure out placement, construction, material costs, upkeep.

## Best Practices

To teach in a holistic, integrated, and inquiry-based manner requires certain skills on the part of the teacher that must be cultivated. Druk 3020 teachers will be coaching, guiding, and supporting students more, and lecturing less. They will teach by example. Their role is a mix of teacher, guide, and facilitator. They are teaching and modeling skills, strategies, and attitudes; guiding students through the inquiry learning process; and facilitating learning activities and discussions.

## Best Practice Reminders

10 quick, easy research-based things you can do to improve student learning in your classroom:

1. **Make learning objectives explicit:** Start every class by telling students the purpose of the day’s class—what you want them to know, understand, or be able to do by the end of class. Write the objective on the board, have them write it in their notebooks, and/or discuss it as a



class.

2. **Bundle new learning:** Brain research shows that the adolescent brain can handle 12-15 minutes of direct instruction of new content. Then they need time to think about it, apply it, or see examples.
3. **Allow movement:** We've known for decades that movement not only improves our ability to learn, but also helps keep us attentive and engaged. Build movement, however brief, into your daily plan. Consider having students switch seats or stand and stretch, or just "mingle" for a few minutes between activities. If you want students to discuss a concept or question, why not have them do this while standing and moving around?
4. **Check for understanding often:** Conduct quick written or verbal checks to see what they have understood or can now do based on your lesson. Take the last 5 minutes of class to revisit the objectives you made explicit at the beginning of class—did they understand what you hoped they would? Make sure to use this input to plan your next class.
5. **Offer read aloud options:** When introducing information or sharing work through reading, provide opportunities for students to read along silently while listening to a teacher read, or have them take turns reading aloud. Both options help improve vocabulary, fluency, and reading rate.
6. **Make learning active:** Remember, the one doing is the one learning. Reduce TTT (teacher talk time). After you have lectured and/or presented new information, allow the students to actively demonstrate what they have learned. For example, rather than teach about zero waste and composting theoretically, the students can implement those measures in the school or monastery. Active learning takes more time, but the outcome is long-lasting.
7. **Be thoughtful about homework:** Homework may not always be possible, but if there is time, it's a good way to teach students to think for themselves and work alone. Homework should not require new learning, it should be used to reinforce, practice, prepare for, or extend learning.
8. **Let students build the problem:** Encourage student intuition. Let them feel, imagine, do and share. Ask them the shortest questions and let them take the lead. Sometimes it is better to be less "helpful."
9. **Use multimedia:** If used properly, cameras flip videos, the Internet, and other media help make learning more engaging and can produce results that are more easily shared outside the classroom environment.
10. **Expect greatness:** All students are capable of meeting or exceeding high expectations, each in their own unique ways. Some may excel scholastically, others artistically or musically, others through manual dexterity. We may need to provide scaffolding for some students, and some may need more time or different pathways than others to get there, but all students can do it. Expect greatness from them, and then help them achieve it.

*Note: The Approach and Modes of Teaching is same as that of LME*

## Assessment

### Who Will Teach the 3020 Curriculum?

Mentoring is an essential aspect of the Samdrup Jongkhar Initiative and will be incorporated in the implementation of the Druk 3020 Curriculum. Each unit will be taught in tandem by two teachers, one Bhutanese, and one native-English speaking education professional. Druk 3020 Teacher training will be conducted in Bhutan in 2012 with additional reflection and review sessions planned for teachers every six months. This training will be shared with any and all teachers in Bhutan who wish to expand their range of teaching skills. From this pool we will select the teachers for the pilot project. Priority will be given teachers who choose to be in Samdrup Jongkhar, rather than those who have simply been posted there. We are looking for creative, enthusiastic teachers with a passion for their profession and a sense that they have something authentic to share with their students—teachers who embody the principles and values we seek to embed in our educational system. After all, Bhutan is built on a legacy of master to disciple transmission of wisdom and we wish to follow that example.

Assessment in the classroom is the gathering of evidence of student learning and a tool that can inform and encourage student development. Effective assessment provides evidence of student performance relative to content. It gives teachers and students insight into student errors, gaps in learning, and misconceptions. Assessment ensures that teaching and learning are continually adjusted to improve individual student performance and the instructional program.

The Druk 3020 Curriculum is committed to a no fail assessment system that is not tied to standardized tests. It recognizes that every student has a unique contribution to the world – some special talent and capacity. Some might be intellectual, some might be skilled manually, some might have artistic talents, some might be kind and generous offering emotional support. There are ways to recognize, acknowledge, and appreciate each student's contribution through a broader assessment system. This broader assessment system will include a hybrid of conventional summative measures of academic progress (e.g. tests) and more formative holistic measures (e.g. observation, group projects, self-assessment, and group reflection).

### Characteristics of Good Assessment

1. **It doesn't matter when or how students learn it, as long as they learn.** A student's assessment should reflect his or her current understanding of the material, not their understanding at some other fixed point in the process.
2. **Allows for multiple paths to demonstrate understanding.** Students should be given the opportunity to express their understanding in various ways (written and verbal tests, video, art, presentations, etc).
3. **Inspires remediation of skills.** Instead of comprehensive tests, assign separate tests that can be targeted and remediated individually. Students will put effort into improving their skills if the potential for success is made apparent.
4. **Asks students not simply to regurgitate but to construct meaning.** Knowing the facts is important and has value but applying and connecting concepts across lessons, units, and disciplines brings meaning to content, demonstrates the interconnected nature of reality, ensures that learning is internalized, and supports life-long learning.
5. **Allows students to engage in real-world tasks.** Students demonstrate meaningful application of essential knowledge, understandings, and skills. As in the working world, "in order to do this job you need to know, understand, and be able to do the following."

*"Everything that a student says and does is a potential source of assessment data. Assessment should be an ongoing process, conducted in flexible but distinct stages, and it should maximize opportunities for each student to open the widest possible window on his or her learning."*

—Carol Ann Tomlinson

*“Passive compliance is rewarded in the kind of drills and skills instruction driven by high stakes tests. Future leaders need instead to be active participants co-creating their learning experiences around global issues that lend real-world relevance to their schooling. Technology is a critical facet of this interconnectedness and should be recognized and embraced as the paradigm shifter that it is.”*

—Juliette La Montagne  
The Learning Loam

## Curriculum Map

The Curriculum Map presents an overview of the intended content and outcomes that will be covered at each of the four levels. Unit designers will select relevant content and outcomes from the map to develop integrated, thematic units. The units are built around essential questions that, when answered, result in enduring understandings. This approach ensures that all subjects and key subject outcomes are addressed each year.

The Druk 3020 Curriculum is designed to be delivered in daily three-hour blocks over the course of six five-week units each year. Each day, the first hour will focus on skills training in which students will develop specific literacy, numeracy, and technology skills required for successful completion of the lessons. The skills training will be followed by the two-hour integrated lesson. These lessons will move students towards answering the unit’s essential questions and coming to long-lasting understandings.

The skills training requires some standardised textbooks such as the XSeed Curriculum, from which we drew many of the specific outcomes designated for the math and science sections on the map. SJI is presently researching the feasibility of using XSeed or other more effective means of teaching the math and science skills block.

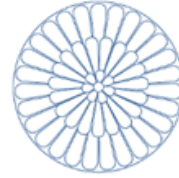


## APPENDIX C

### PROPOSED THEMATIC UNITS



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#### Proposed Thematic Units: Level One (2013-2014) Basic Elements of Being

- 1) **My Place:** This unit will help create a safe and inviting environment for the students, while allowing the teacher to get to know each student individually. Students create their own classroom rules. Essential Questions: *Where do I come from?* and *How did I get here?* Special focus on the meaning of community and local issues, beginning with immediate surroundings. Students begin a portfolio about themselves, their families, villages, gewogs, and country. Emphasis on community involvement and responsibility. Introduction to idea of systems.

**Resources:** Healthy Neighborhoods Healthy Kids; Center for Ecoliteracy; GPI research. SJI research.

**Recommendations:** Science can include an intro to basic astronomy and ecology; Weather; navigation. History of Bhutan. Mapping. Zero waste.

**Dharma:** Relevant *Dakini*, *holy places*, *pure lands*

- 2) **Who Am I? And How Am I?** Students will evaluate health and wellbeing. Set personal goals. Special emphasis on hygiene. Essential Questions: *What my role in the community?* *What beings happiness?* Wants versus needs. Intro to local health issues. Dignity of labor. Stereotypes. Family trees. Identifying strengths and weaknesses.

**Recommendations:** Math and science need to be kept at a very basic level. Begin carbon footprint. The five senses. Microorganisms. Using a microscope.

**Dharma:** *Five aggregates and notions of the self*.

- 3) **What's on my Plate?** A focus on food. Discussion of real costs of organic farming, with an emphasis on health and nutrition. Journey of waste. Biodiversity. Intro to managing household/business/organization budgets. Strong science unit focusing on flowers and plants, biology, weather and seasons. Geography-natural resources; population movement. Discussion of salt. Intro to local economy and trade economy.

**Resources:** Vandana Shiva; Center for Ecoliteracy book "Big Ideas"; GPI research

**Recommendations:** Bumthang apple juice vs Coke. Vegetable garden project. Study of cashews.

**Dharma:** *Karma*. Basic understanding of cause condition and effect. Not wasting what's on your plate i.e Animals have suffered and people have worked hard. Introduce some text.

- 4) **Water:** A focus on the role of water in our lives. Students will think about: *Where does my water come from and where does it go?* Identifying local, national, international resources. Political conflict. Hydropower & kinetic energy. Conservation and pollution. Tides, the moon's effect on water,

volume and weight of water. Introduction to energy - Focus on microorganisms, importance of cleanliness and hygiene. Melting and boiling points. Traditional medicine component on water element.

**Resources:** Bunker Roy; Story of Bottled Water, Mermaid's Tears, Blue Gold: The Water Wars.

**Recommendations:** Prayer wheels and how they generate energy; Class project to address rainwater harvesting. Perhaps take a walking tour to local springs and water sources.

**Dharma:** *Water Dakini*. Why we offer water on the shrine.

- 5) **Fire and All That is Hot:** Continuation of discussion on energy. Fire prevention/community involvement. The real cost of firewood and other energy sources. Measuring temperature. Special focus on the sun and the solar system. Photosynthesis. Who discovered fire? Bhutanese lore. Why we don't burn plastic. Traditional medicine component on fire element.

**Recommendations:** Solar drying techniques and solar power.

**Dharma:** *Pandaravasini*

- 6) **Air and Space:** A focus on properties of air. Discussion of air pollution. How do plants help? Discussion about cigarette smoking/community involvement. Students will ask *What else is out there?* Emphasis on world geography and astronomy. Weather as science. Climate change. Wind power. Traditional medicine component on lung.

**Recommendation:** kites, prayer flags, local air quality, impact of local coal mining and transboundary pollution; changing engine oil (why do we see black fumes coming out the back of trucks? What does that do to the air?)

**Dharma:** *Air Dakini*

## **Proposed Thematic Units: Level Two (2014-2015)**

### **What Moves Us, What Binds Us**

- 1) **Cycles and Systems:** Looking at planet earth: This place we live. Geosphere/biosphere. Earth systems. Interdependence. Interaction of solar and lunar cycles. Personal responsibility, our role in this system. Class project around zero waste: Reduce, Reuse, Recycle. Working with local government to affect change. Vegetable gardening and Composting. Population. Gravity.

**Resources:** Mini Earth (video), Thanal materials

**Recommendations:** Look at local mining

**Dharma:** 6 realms; Introduction to the wheel of life.

- 2) **Trade and Globalization:** Students will start by looking at what they are wearing: *Where did you get that shirt?* Discussion of economics, fair trade, real costs, economic interdependence, intro to GNH vs GDP. Environmental impacts of trade and economic activity (acid rain, weather, global warming)

**Resources:** Story of Stuff, Economics of Happiness, Center for Ecoliteracy materials, Happy Planet Index.

**Recommendations:** Math - Data handling and statistical investigation, projection, percentages, ratio and proportion.

**Dharma:** Renunciation; 4 noble truths milarepa

**3) Change/Innovation:** How things work. Developing creative thinking skills. Necessity is the mother of invention.

History (the wheel, the car, the Internet). Solar engineering.

**Recommendation:** Field trip to JNP and new Centre for Appropriate Technology

**Dharma:** Impermanence on a more subtle level.

**4) Radio/Media Literacy:** Developing writing and communication skills. Sharing information and stories. Setting up a web site for the monastery. Blogging. Interviewing local people local histories. How does a camera work? Television?

**Resources:** Happy Planet Index, Ecological Footprint sites

**Recommendations:** How does radio work? Data handling and statistics

**Dharma:** Bodhicitta

**5) What Do I Believe and Why?** A unit on world religions and philosophy. Different astrological systems (Chinese, Zodiac, Tibetan) and medicinal studies (allopathic, Chinese, Traditional Bhutanese).

**Resources:** Professor Samdrong Rinpoche's booklet on world religions. Vandana Shiva.

**Recommendations:** For math element consider using population studies, timelines (BCE, CE)

**Dharma:** Buddhist Logic: come and see not come and join. Analyzing of the guru.

**6) Gross National Happiness:** What is GNH, what are its values, principles, and practices, and how can Bhutan be a model for the rest of the world? Personal responsibility. Projects that can make a difference. Community involvement, political systems, social justice, civic norms, real cost.

**Dharma:** 7 sublime noble wealth

### **Levels Three & Four (2015-1017)**

The themes for classes in the third and fourth year will remain unspecified at present so that the teachers and students can decide among themselves what themes they are interested in pursuing. These are just some ideas.

#### **The Essences**

- 1) Salt
- 2) Phosphorous
- 3) Secrets
- 4) Greed & Gratification
- 5) Heroes
- 6) Invisible World

#### **Moving Forward**

- 1) The Journey
- 2) Awareness
- 3) Balance
- 4) Media Literacy II
- 5) Origin of Language

**Note:** Resources and recommendations listed above are intended to be illustrative only, and are by no means comprehensive.

## APPENDIX D

### THEMATIC UNIT PLAN AIR AND SPACE



#### Thematic Unit Plan: Air and Space

##### Unit Plan:

Air and Space

##### Big Idea:

The world we live in is covered with air, called the atmosphere, which disappears about 100 km or so above the earth creating a vacuum known as space. Space bears no life as it lacks the very life giving element oxygen supplied by air.

Air therefore should not be taken for granted as life simply does not sustain without it.

In Buddhist teachings, realities are classified as the four basic *elements*—Earth (solidity), Water (fluidity), Fire (heat), and Air (motion), dependent on which all things arise. Each element is represented by a female Buddha *Khandroma*, known as *Dakini* in Sanskrit, a term generally translated as *space-goer*, *celestial woman*, or *cloud fairy*. In Buddhist folklores, especially the *Jataka Tales*, several incidents are narrated in which these divine beings are described as traveling through the air, also interpreted as the guardian mothers who revel in the freedom of emptiness (space). *Damtsik Drolma*, also known as *Green Tara* represents the purity of the *Air* element.

The implication therefore is genuine reverence for these celestial mothers. Mistreating our natural environment such as air pollution would mount to mistreating the air guardian mother Damtsik Drolma. It is believed, the consequences will result in imbalance nature such as untimely rainfall, drought, and bad harvest. Breathing polluted air would mean breathing new diseases exposing to serious health epidemics.

This topic should matter to students because it can enlarge and enrich their perception of the world and their understanding of human activities such as carbon footprint— CO2 emissions while driving a car, heating the house with oil, gas or coal, producing food and goods so on. On a personal level small steps can be taken to help improve the air. Fuel consumption could be reduced a lot by carpooling, taking the bus, riding a bike or walking when and wherever possible.

In a nutshell, this unit will help students gain an understanding of the importance of air to sustain all living being on this planet. They will develop a sense of appreciation for the need to maintain a clean supply of air. By identifying some of the harmful effects of pollution, students will begin to realize how important it is to protect the environment.

##### Topics:

The following topics will be discussed:

- Air and space concepts and related principles such as earth's gravity—how it pulls the air to the planet's surface, leading to some ideas about air travel and space exploration, a glimpse at its future for further exploration.

- Air and its properties, pollution, its causes and effects on our environment and solutions on how we can combat this problem together.
- **Climate change and the greenhouse effect—how an individual person, an event, a product, or an organization contribute greenhouse gas—know one’s carbon footprint and responsibility.**

One of the purposes of this unit is to help students see that the air is among the richest, abundant, varied, and most precious entity in nature we pass through unseeingly all the time. Since we don’t pay much attention because of its abundance, air is grossly abused and polluted in most industrialized and metropolitan cities.

Under normal conditions, humans cannot live without oxygen for more than a few minutes. But through meditation and breathing exercises, yogis are able to slow their metabolic rate to sustain themselves without oxygen for longer periods of time. The idea that air (*prana*, *lung*, or *oxygen*) are all connected and are something that yogis are working with directly is a big idea that could be "seeded" for later exploration.

### Essential Questions

- What is air and what are its key properties?
- What is the role of air in life on earth?
- What are some of the realities of space exploration and living conditions that exist in space?
- What is air quality and how is it degraded?
- What is my carbon footprint?
- What are the sources of air pollution and how does it pollute air?
- How is air quality measured and what could be done to improve it?
- How do air pollutants affect us, for example, if we breathe polluted air?
- How can you and I, our families, and our community do to keep the air clean?
- How do Buddhists perceive air—what do they have to say about air?

### Dharma/Contemplation:

- Air Dakini
- *Pranayama* (Breathing exercises, and control of Prana)
- Compassion meditation (how is this related to air?)
- Shamatha, focusing on the breath
- Five senses meditation

### Learning Outcomes

Subject	Learning Outcomes
<b>Math</b>	Weight and measurement, division and multiplication, subtraction and addition, units-kilogram, gram, mass
<b>Science</b>	Atmospheric air, properties of air, different elements of air, air pollution, causes of air pollution, importance of keeping air clean
<b>Social Studies</b>	The effect of pollution on human health, animals and environment, global warming, greenhouse gases, effect of global warming, air pressure, low pressure, high pressure, how different cultures perceive air – What do the Hindus or native Americans say? What did the Greeks say?
<b>Health</b>	Pollution related diseases, environment health, human health, air borne diseases



<b>Technology</b>	Application of atmospheric pressure such as pressure cooker, bicycle pump, straw, dropper and fountain pens, pouring things out of tin can
<b>Buddhist culture &amp; concepts</b>	Mind training, meditation on five senses, inhale and exhale, air from the Buddhism, prana
<b>Arts and Creativity</b>	Hands-on thinking skills and creativity—The interdisciplinary mind, thinking by analogy and looking closely at the world
<b>GNH</b>	Four pillars of GNH-Environmental conservation

### Vocabulary

Subject	Vocabulary
<b>Math</b>	Mass, weight, kilogram, gram, distance, mile, addition, division, long, place value, multiplication, division, subtraction,
<b>Science</b>	Air, wind, pressure, pollution, atmosphere, oxygen, carbon dioxide, nitrogen, energy, properties, geography, astronomy, planting, climate change, wind power, clean air, chemicals, harm, Pollutants, gases, emissions, factories, cars, planes, smoke, ecosystems, smog, <b>Air Toxic</b> , Carbon monoxide (CO), Chlorofluorocarbons (CFCs), Combustion, <b>Dust</b> , <b>Greenhouse effect</b> , <b>Air pressure</b> , high pressure, low pressure,
<b>Social Studies</b>	Global warming, temperatures, greenhouse gases, temperature, heat energy, burning, fossil fuels
<b>Health</b>	Birth defect, bronchitis, cancer, environment health, animal health, <b>heart disease</b> , <b>illness</b> , <b>irritation</b> , <b>long-term effects</b> , <b>short-term effects</b> , <b>nausea</b> , <b>odour</b> , <b>pneumonia</b> , <b>respiratory disease</b> , acid rain, headaches, breathing difficulties, allergies, asthma, cancer, nerve disorders, air borne diseases
<b>Techno-logy</b>	download, computer, camera, internet, YouTube
<b>Dharma</b>	Mindfulness, inhale and exhale
<b>English</b>	Noun, pronoun, subject

### Learning Content and Expected Outcomes

<b>Know:</b> <i>At the end of the unit, all students should know...</i>	<b>Understand:</b> <i>At the end of the unit, all students should understand</i>	<b>Do:</b> <i>At the end of the unit, all students should be able to...</i>
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<p>The basic life functioning element (air).</p> <p>Air is a mixture of gases (oxygen, nitrogen, carbon dioxide and inert gases).</p> <p>The atmosphere contains gases important for all living things and which also protects the earth from the harmful rays of the sun.</p> <p>Air pressure or atmospheric pressure</p> <p>Particle application of air pressure.</p> <p>What is air pollution?</p> <p>Where do pollutions come from?</p> <p>The indicators (lichens) of air pollution in nature</p>	<p>The importance of air to all life.</p> <p>The function of different gases.</p> <p>How air pressure works.</p> <p>How air pollution affects an environment and living being.</p> <p>Lichen is good indicators of air pollution and some lichen thrive well in polluted air while others cannot.</p>	<p>Observe indirectly that air is all around us.</p> <p>Explain that virtually all living things require air</p> <p>Distinguish between fresh air and polluted air.</p> <p>Recognize that polluted air endangers life.</p> <p>Identify some ways in which air can become polluted.</p> <p>Describe some ways in which polluted air can be harmful.</p> <p>Suggest some things that can be done to keep air from becoming polluted.</p>
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### Assessment

- While students may be tested for in-depth understanding of some concepts involved through paper and pencil test occasionally, this unit will be assessed formatively through reflective hands-on exercises such as group work presentations, one to one conversations, and individual journal maintenance of each topic/class. Tutors will keep a close eye on the ongoing progress of each individual through participation observations and journal records of each class students will maintain in their portfolios. Overall progress will be determined by the portfolio maintenance through a given rubric.

### Final Presentation

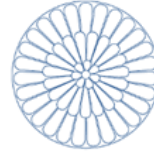
- Students will present artifacts such as charts, posters, models, constructs on various topics and themes on “Air and Space” to rest of the institute and local school kids.

## APPENDIX E

### DHARMA LESSON PLAN ONE



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#### **Dharma Lesson Plan One** The Five Aggregates and Notion of Self **Who am I and How am I?**

At the end of this unit, students will:

Know	Understand	Do
5 aggregates are: form, feeling perception, formation, consciousness.  Appearance of self is dependent on 5 aggregates  Concept of non-existence of self  Classic examples of the snake and the rope; the chariot  The Heart Sutra is the essential teaching of the second wheel of dharma  History of Heart Sutra and how it came to be translated in so many languages	Notion of self is the root of suffering.  Illusions can create stress but understanding them as not solid is a relief.  The five aggregates are like ingredients, they are separate and impermanent.  Basic concept of emptiness and how it is actually good news.  The dharma is precious because it comes from an authentic unbroken lineage.	Apply knowledge of emptiness and illusion in moments of crises or emotion.  Not feel stuck in situations  Notice emotions without judgment  Respect the Buddhist tradition  Contemplate emptiness in everyday things  Be able to explain to others

#### **Suggested Reading Material**

- Lama Sonam Phuntshok's explanation Appendix)
- *What Makes You Not a Buddhist* - Pages 44-46
- *Buddhism* by Dominique Side, Chapter 8: The Three Marks of Existence
- The Heart Sutra
- *Fooling Houdini: Magicians, Mentalists, Math Geeks and the Hidden Powers of the Mind.* Alex Stone

#### **Lessons**

##### **Memorize the Heart Sutra**

Distribute a copy of the heart sutra. Have students memorize and recite as a group. Or each student could remember one or two lines. Play recordings of the heart sutra in Chinese, English and Tibetan. Discuss how the sutra came to be and how it was translated into other languages. What is lost in translation, if anything? What do the students think it means. The

Sutra could also be acted out as it is a dialogue.

### **Flip Books**

Have students create their own cartoon flip books. Go to local printing houses and ask for remainder paper, trimmings. Or simply purchase small notebooks. More elaborately, create a zoetrope. Discuss the illusion and how many parts come together to create that illusion.

### **Aggregates**

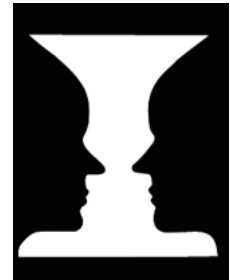
Divide the group into five groups, each one is assigned an aggregate. Make posters using collage, markers and pens to explain them.

### **Magic Tricks**

Teach magic tricks and slight of hand Ring of fire (listen to song by Johnny Cash)

### **Shadows and Optical Illusions**

Set up a light that points to the wall and tape a piece of paper to the wall. Have one student stand between the wall and the light so that his or her profile creates a shadow, nose toward the center. Have a second student trace the shadow. Switch sides and trace again so that the noses are pointing at each other. Cut out the shape between the two faces and paste on a dark piece of paper. The illusion is of a vase. Make a gallery of face/vases. Show other dual images such as the hag and the maiden. Talk about how things are not as they seem. Ask what other things give such an illusion (e.g. mirage, moon on water, face in spoon).



### **Other Ideas**

- Destroy something like a computer or a machine and examine the parts. We hold onto this concept of the machine but it's just all these parts and self is the same concept. You cannot pinpoint it. Ask: *Where do you think your mind is?* Don't give an answer, just keep questioning.
- Use Legos or other building blocks to create one image and then a different one. Small things come together to create a whole. Ask: *What is the smallest thing you can imagine? Are we all made of the same building blocks?*
- Visit an auto workshop and see how an engine is assembled. Ask: When does it stop being an engine?
- Talk about mirages, Ask: *How do they work? Have they ever seen one?*
- Ask students to tell stories about when they saw an illusion

### **List of things needed for group exercises**

- Chart paper-white and dark colors
- Scissors
- Hand mirrors
- Legos/building blocks
- Glue/cello tape
- Marker pens
- Spoons for the exercise on optical illusion

### **Contemplations**

#### **Opening your heart: Recognition without judgment**

Close your eyes and think of a moment when you felt hurt by someone's words. Feel the pain inside, but don't react. Just sit and feel the sensation. Resist the wish to run away or respond. Just sit quietly, and let the pain touch you. Slowly, you'll find that the pain doesn't scare you anymore. You can do this every time someone says something hurtful. Because you face the pain directly, you'll discover that it no longer has the power to hurt you. (Lama Shenphen Zangpo)

#### **Contemplation on Interdependence**

Find a photo of yourself as a child. Sit comfortably. Begin to follow your breath. After 20 breaths, begin to focus your attention on the photo in front of you. Recreate and live again the five aggregates of which you were made up at the time the photo was taken: the physical characteristics of your body, feelings, perceptions, mind functions, and consciousness in the present moment. See the five aggregates which make up yourself. Ask the question, “Who am I?” The question should be deeply rooted in you, like a new seed nestled deep in the soft earth and damp with water. The question, “Who am I?” should not be an abstract question to consider with your discursive intellect. The question “Who am I?” will not be confined to your intellect but to the care of the whole of the five aggregates. Don’t try to seek an intellectual answer. Contemplate for 10 minutes, maintaining light but deep breath to prevent being pulled away by philosophical reflection. (Thich Nhat Hanh from the “Miracle of Mindfulness”)

<http://iamthou.wordpress.com/2010/10/18/notes-from-thich-nhat-hanh-the-miracle-of-mindfulness/>

### **Following your breath while listening to music**

Listen to a piece of music. Breathe long, light, and even breaths. Follow your breath, be master of it while remaining aware of the movement and sentiments of the music. Do not get lost in the music, but continue to be master of your breath and yourself. (Thich Nhat Hanh from the miracle of mindfulness)

<http://iamthou.wordpress.com/2010/10/18/notes-from-thich-nhat-hanh-the-miracle-of-mindfulness/>

### **Contemplation: A loved one who has died**

Sit in a comfortable position and begin to control your breath. Contemplate the body of a loved one who has died and know clearly that the flesh has decomposed and only the skeleton or ashes remain. Know clearly that your own flesh is still here and in yourself are still converged the five aggregates of bodily form, feeling, perception, mental functions, and consciousness. Think of your interaction with that person in the past and right now. Contemplate this way for 15 minutes. (Thich Nhat Hanh) <http://iamthou.wordpress.com/2010/10/18/notes-from-thich-nhat-hanh-the-miracle-of-mindfulness/>

### **Compassion for the person you hate or despise most**

Sit quietly and breathe. Contemplate the image of the person who has caused you the most suffering. Regard the features you hate or despise the most or find the most repulsive. Try to examine what makes this person happy and what causes suffering in his daily life. Contemplate the person’s perceptions; try to see what patterns of thought and reason this person follows. Examine what motivates this person’s hopes and actions. Finally consider the person’s consciousness. See whether his views and insights are open and free or not, and whether or not he has been influenced by any prejudices, narrow-mindedness, hatred, or anger. See whether or not he is master of himself. Continue until you feel compassion rise in your heart like a well filling with fresh water and your anger and resentment disappear. Practice this exercise many times on the same person. – (Thich Nhat Hanh)

<http://iamthou.wordpress.com/2010/10/18/notes-from-thich-nhat-hanh-the-miracle-of-mindfulness/>

### **Detachment**

Sit comfortably, follow your breath. Recall the most significant achievements in your life and examine each of them. Examine your talent, your virtue, your capacity, the convergence of favorable conditions that have led to success. Examine the complacency and arrogance that have arisen from the feeling that you are the main cause for such success. Shed the light of interdependence on the whole matter to see that the achievement is not really yours but the convergence of various conditions beyond your reach. See to it that you will not be bound to these achievements. Only when you can relinquish them can you really be free and no longer be assailed by them. Recall the bitterest failures in your life and examine each of them. Examine your talent, your virtue, your capacity, and the absence of favorable conditions that led to the

failures. Examine to see all the complexes that have arisen within you from the feeling that you are not capable of realizing success. Shed the light of interdependence on the whole matter to see that failures cannot be accounted for by your inabilities but rather by the lack of favorable conditions. See that you have no strength to shoulder these failures, that these failures are not your own self. See to it that you are free from them. Only when you can relinquish them can you really be free and no longer assailed by them. – (Thich Nhat Hanh) <http://iamthou.wordpress.com/2010/10/18/notes-from-thich-nhat-hanh-the-miracle-of-mindfulness/>

### **Bell of Mindfulness**

On your arrival you might hear a bell sound and suddenly people around you have stopped still, stopped talking, and stopped moving. It might be the telephone ringing or the clock chiming, or the monastery bell sounding. These are our bells of mindfulness. When we hear the sound of the bell we relax our body and become aware of our breathing. We do that naturally, with enjoyment, and without solemnity or being stiffed. When we hear one of these mindfulness bells ring, we stop all of our conversations and whatever we are doing and bring our awareness to our breathing. The ringing bell has called out to us:

*Listen, listen,  
this wonderful sound brings me back to  
my true home.*

By stopping to breathe and restore our calm and our peace, we become free, our work becomes more enjoyable and the friend in front of us becomes more real. Back home we can use the ringing of our telephone, the local church bells, the cry of a baby, or even the sound of fire engines and ambulances as our bells of mindfulness. With just three conscious breaths we can release the tensions in our body and mind and return to a cool and clear state of being.

– (Thich Nhat Hanh) <http://www.plumvillage.org/mindfulness-practice.html>

### **Assessment**

Students will not benefit from exams in this subject. We recommend asking them to share what they have learned through community action, communication, and projects. For example:

- Have students write about illusion for their parents and/or families
- Make a video
- Sell the flip books to raise money for the school

### **Connecting across Subjects**

#### **Science**

- Explain how the eye works from a science perspective.
- Explain how light bounces off of objects in a straight line
- Ask: How is it that two images, one in each eye, become one in perception?

#### **Mirrors**

Walk with a mirror under your eyes - look at trees above, look at each other (do not look at the sun) Observations?

1. Use a mirror to draw half a person – Symmetry what else can you do?
2. Magically make a person disappear
3. Try to draw a star without looking at the paper, using the mirror only.
4. Looking at self through a book mirror is experiencing how others see you. Ask students, *Did you like seeing yourself as other see you?*
5. Perception: How do you know where I am? Ask WHERE is your brain perceiving image in the mirror, flat at the mirror? Behind the mirror?
6. Mirrors and Buddhism: The mirror is an ancient Buddhist symbol for clarity, completeness of perception, and purity of consciousness. A mirror reflects a thing objectively, but what we

see in the mirror is not the thing itself. Because the object is not seen directly, it may be seen more accurately ~ more clearly, without judgment and with greater perspective. This can lessen the tendency to see a thing as fixed or solid and encourage better understanding. The mirror, or perception, more effectively propels the mind toward insight and compassion than mere argument or lecture. (<http://www.baronet4tibet.com/symbolism.html>)

### **Math**

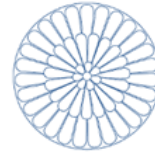
1. Make a book out of 2 mirrors. Using paper, draw one image, a dot or a symbol and stand the mirror book. How many dots do you see?
2. Using mirror to measure angles.
3. If you see 8 dots, it's at a 45 degrees, why?
4. Make kaleidoscope art
5. Now you have a machine.
6. So if I want to be rich do I make a small angle or a big angle? If the dot is one ngultrum and I wanted 360 ngultrum, what angle would I want?

## APPENDIX F

### DHARMA LESSON PLAN THREE



LHOMON  
EDUCATION



#### Dharma Lesson Plan Three

##### Bodhicitta

##### Tender Heart

At the end of this unit, students will:

Know	Understand	Do
Relative Bodhicitta: Aspiration and Application Ultimate Bodhicitta The Six Paramitas	Vastness of Bodhicitta Conduct Profoundness of the Ultimate Bodhicitta Wisdom Meaning of being fully involved with each other and our environment Meaning of “ground” and how we relate to each other	Team building activities Equalizing self and other Exchanging self and other Shamatha The four limitless ones

##### Suggested reading material

- *The Myth of Freedom*
- *Bodhicaryavatara “The Way of the Bodhisattva”*
- *The Lankavatara Sutra*

##### Lessons and Activities

##### “Circle of Recognition/Power”

(Do this activity after learning the paramita of generosity)

*Description:* Group forms a circle and closes their eyes. Shuffle everyone’s positions so that they are unclear who is where. Students forming the circle are facing outside the circle. Pull one person into the middle (two if it’s a big group), and have only those two open their eyes. Instruct the two in the center to touch one or more people on the shoulder who have shown, for example, good leadership, compassion, and good friendship. Once the teacher has asked three such questions to the two in the center, return them to the circle and reshuffle the group. Again pull the next two students into the middle and repeat the process till everyone’s had a chance. Use a wide variety of questions and repeat some. Include the instruction to touch those who have demonstrated generosity, patience, discipline, diligence, concentration or mindfulness, or wisdom and insight. Once finished, do a final shuffle and then have them turn around and open their eyes. Then ask, ‘Did anyone learn something about themselves they would like to share?’ As a facilitator you can also touch people on the shoulder during the process. Beware of doing this with the intent to not “leave someone out”. Some of the best growth happens when someone was not touched.



### **“Mine Field”**

(Do this activity after learning the paramita of discipline)

*Description:* Objects are scattered in an indoor or outdoor place. In pairs, one person verbally guides his/her partner, a blindfolded person, through the minefield.

### **“Zoom”**

(Do this activity after learning the paramita of patience)

*Description:* A group tries to create a unified story from a set of sequential pictures. The pictures are randomly ordered and handed out. Each person has a picture but cannot show it to others. Requires patience, communication, and trying to understand from another’s point of view in order to recreate the story’s sequence.

### **“The Results Driven Structure”**

(Do this activity after learning the paramitas of diligence and meditative concentration)

*Equipment:* blocks or Legos or other building materials

*Guidelines:* Half of the group is sightless. You can just have them close their eyes on the honor system for safety purposes. The sighted half is without speech but each person can make a unique noise (e.g. one person may snap their fingers, another may clap, another may whistle, etc.). A structure is built quickly by the facilitator in the middle of the room. The speechless members may study it for up to one minute and then the facilitator will disassemble the structure and place the pieces around the room. The sightless team members may touch the building materials and may speak. The speechless team members may see and make noises, but may neither touch the sightless persons nor the building materials. The team is to reassemble the structure as it was originally built by the facilitator.

### **“Now What?”**

(Do this activity after learning the paramita of discriminating awareness wisdom)

*Equipment:* Flip charts, markers, index cards or paper, pens

*Description:* This is a good way to end an informational or educational presentation. Divide into groups of 6 – 8 people each. The small groups brainstorm 6 to 8 practical ways the new information can be used in their work or lives. Ideas are written on flip chart paper and presented to the large group.

### **Memorize a verse from the bodhisattvacaryavatara**

Have each student choose a verse from any chapter in the *Bodhisattvacaryavatara* and memorize it. Once they have internalized the passage, have them recite it for the group and explain why they chose that particular verse. If the commentary by Khenpo Kunzang Palden is available, the teacher could read and explain the commentary on the particular verse chosen by the student.

### **Paramitas**

Divide the students into groups of 3 or 4. Assign the *paramitas* one by one in progression. For each *paramita* the group should demonstrate the practical application of that particular virtue in whatever situation, everyday or uncommon, they can think of.

Once all the *paramitas* have been demonstrated by each group discuss the following questions with the class: (answers should contain students’ reasoning):

*Which is the most difficult perfection to apply?*

*Which do you think would be easier to apply?*

*What stops you from applying the paramitas? How can you clear those things away?*

*What negative attitudes, views, or actions are the paramitas a remedy for?*

*Can you identify someone who fully embodies at least one of the paramitas?*

*Could a paramita such as generosity, solve all problems by itself?  
Why is wisdom so important? Couldn't one escape suffering with only perfect discipline and ethics?*

## **Contemplations**

### **Shamata**

- Focusing on the breath
- Focusing on an external object

### **The Four Limitless Ones**

- Boundless love – “*may all sentient beings be happy*”
- Boundless compassion – “*may all sentient beings be free from suffering*”
- Boundless joy – “*may all sentient beings never be separated from happiness*”
- Impartiality – “*may all sentient beings abide in equanimity*”

### **The Nectar of Manjushrī's Speech by Khenpo Kunzang Palden<sup>34</sup>**

*The following passages, taken from The Nectar of Manjushri's speech, explain the verses 90 to 98 and 141 to 154 of Chapter 8 of the Bodhicaryavatara. It gives the metaphysical basis for the meditation on equality of self and other, and thus the whole practice of compassion according to Mahāyāna Buddhism.*

### **Equalizing Self and Other**

*Introduction:* Two things are to be practiced on the level of relative bodhicitta: meditation on the equality of self and other, and meditation on the exchange of self and other. Without training in the former, the latter is impossible. This is why Shāntideva says that we should first meditate strenuously on equality of self and other; for without it, a perfectly pure altruistic attitude cannot arise.

All beings, ourselves included, are in the exactly the same predicament of wanting to be happy and not wanting to suffer. For this reason we must vigorously train in ways to develop the intention to protect others as much as ourselves, creating happiness and dispelling suffering. And this is possible, despite what we might think.

Although they have no ultimate grounds for doing so, all beings think in terms of “I” and “mine.” Because of this, they conceive of “other,” fixing on it as something alien, although this too is unfounded. Aside from being merely mental imputations, “I” and “other” are totally unreal. They are both illusory. Moreover, when the nonexistence of “I” is realized, the notion of “other” also disappears, for the simple reason that the two terms are posited only in relation to each other. Just as it is impossible to cut the sky in two with a knife, likewise, when the space like quality of egolessness is realized, it is no longer possible to make a separation between “I” and “other,” and there arises an attitude of wanting to protect others as oneself, and to protect all that belongs to them with the same care as if it were one's own. As it is said, “whoever casts aside the ordinary, trivial view of ‘self’ will discover the profound meaning of great ‘selfhood.’” Thus, for realization of the equality of “I” and “other,” it is essential to grasp that “I” and “other” are mental imputations without ultimate reality. This vital point of egolessness is difficult to understand, difficult even for a person of great acuity. Thus, as the teachings say, it is of great importance that egolessness be clearly demonstrated and assimilated.

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<sup>34</sup> The following two contemplations are taken from pgs. 180 -192 of Padmakara Translation Group's translation of Shantideva's The Way of the Bodhisattva (Shambhala Publications ©1997)

*The actual contemplation:* Suppose we were to ask someone how many bodies he had. “What are you talking about?” he would say. “I have nothing but this one body!” “Well,” we continue, “are there many bodies that you have to take care of?” “No indeed!” would be the reply. “I take care only of this one body of mine.” But whatever he may say, the fact is that “his body” is merely a name applied to a collection of elements. Other than that, there is no such thing as an individual entity called “his body.” Furthermore, there are no grounds for insisting that the term *body* should be applied here and not elsewhere. The name *body* is affixed, without ultimate justification, to what is merely a heap of component items, and it is only mentally that an idea of “my body” arises. On this basis, “I,” “mine,” and all the rest are imputed. To claim, moreover, that it is reasonable to apply “I” to “this aggregate,” and not to apply “I” to “another aggregate,” is quite unfounded. Consequently, the teachings affirm that by applying the name *I* to the whole collection of suffering beings, and by entertaining and habituating oneself to the thought “*They are myself*,” the thought of “I” will in fact arise with regard to them, and one will come to care for them as much as one now cares for oneself.

But how can such an attitude arise, given that others do not feel my pains, and I do not feel theirs? The sense of the root text (*verses 92 and 93 of the Bodhicaryavatara*) may be construed as follows:

*Even if these sufferings of mine have no effect upon the bodies of other sentient beings, they are nevertheless the sufferings of my “I”; they are hard for me to bear precisely because of my ego identity. Again, even if the pains of others do not actually befall me, since I am a bodhisattva and consider others as myself, they are in fact my sufferings and so are unbearable.*

A long period of habituation is not necessary for this kind of experience to occur. Take the example of a horse that is being put up for sale. Right up to the moment when the deal is struck, if the horse lacks grass or water, or if it is ill, or if it has any other discomfort – all this will be unbearable to its owner, while it will not at all affect the client. As soon as the transaction takes place, however, it is the buyer who will not be able to stand the horse’s sufferings, while the seller will cease to be concerned. From the horse’s side, of course, there are no grounds for distinction between “seller’s horse” and “buyer’s horse.” The horse is identified simply according to how it is labeled – now as this man’s horse and now as that man’s horse.

In exactly the same way, there is not the slightest reason for saying that the notion of “I” must be applied to me and not to another. As we have said, “I” and “other” are merely conceptual imputations. The “I” of oneself is “other for someone else, while what is “other” to oneself is “I” for another. The notions of “here” and “there” are simply points of view, imputed by the mind; there is no such thing as an absolute “here” or an absolute “there.” In just the same way, there is no “I” and no “other” in an absolute sense. And so the Dharma teachers that it is through understanding this crucial point of mental imputation that “I” can be mentally applied to other sentient beings. If one can mentally incorporate others into the notion of “I” – the thought that they are “mine” will arise.

### **Exchanging Self and Other**

*Introduction:* When you perform the meditation of exchange, take other sentient beings who are your inferiors, superiors, or equals and consider them as yourself, putting yourself in their position. Simply take their place and entertain no other thought. Imagine yourself in the position of someone lower than yourself and develop a sense of envy [i.e., toward yourself]. Consider yourself from the viewpoint of someone on a par with yourself and generate an attitude of rivalry and competitiveness. Finally, look at yourself from the viewpoint of someone higher than yourself and cultivate feelings of pride and condescension.

*The practice of jealous rivalry from the point of view of an equal (verses 147 to 150*

*bodhicaryavatara*): In order to generate a sense of competitiveness, take someone similar to, or slightly better than, yourself in religious or worldly affairs. [147] Make the exchange, taking the other person's place. Tell yourself that however good his reputation is, you will outdo him (i.e., your ego). Whatever possessions he has, and whatever respect he has in other people's eyes, you will rob him of them in contests or debates, and you will most certainly get them for yourself.

[148] In every way possible, you will advertise far and wide your own spiritual and material gifts, while hushing up whatever talents he has, so that no one will ever see them or hear about them.

[149] By contrast, you will dissimulate whatever faults you have, hiding them from the public gaze, while at the same time talking about all his shortcomings, making quite sure that they are known to everyone. Under the impression that you are beyond reproach, lots of people will congratulate you, while for him it will be just the opposite. From now on, you will be the wealthy one, the center of attention. For him there will be nothing. [150] For a long time and with intense satisfaction you will gloat over the penalties he has to suffer for breaking his vows of religion, or because he has misbehaved in worldly life. You will make him an object of scorn and derision, and in public gatherings you will make him despicable in people's eyes, digging out and exposing his secret sins.

Thus by using a spirit of rivalry as an antidote to jealousy, you will recognize your own faults in being competitive with others. Then you should discontinue such an evil attitude, and instead do whatever you can to help your rivals with presents and honors.

## APPENDIX G

### A SUMMARY OF MY FIRST TWO WEEKS OF FIELD EXPERIENCE AT CGI

Those travelling from Trashigang (the far eastern province) to the southern border province Samdrup Jongkhar, the only highway passes through the small hamlet popularly known as Dewathang (the flat area of happiness) which cannot be missed. It is a familiar place of



historic significance and a pleasant reminder for weary travelers that the business hub Samdrup Jongkhar is not too far from this point on. I did know the small monastery that existed above this settlement but never visited before. Those days, the only noticeable objects were white prayer flags. From this same bus stop now one can see the magnificent temple surrounded by cluster of buildings against the lush green hillock—Chokyi Gyatso Institute (CGI).

CGI—I came to know about this monastery being upgraded to the present institute with its unfamiliar curriculum known as *The Druk 3020 Curriculum*. I discovered it while Goodling for some information on meditation and mind training, one of the pathways for Educating for Gross National Happiness (GNH). Out of curiosity I started reading this curriculum. It gave me not only the information I was seeking but also some profound thoughts and inspiration about holistic education, the theme I was working on for my doctoral dissertation. In fact, this changed the course of my dissertation proposal. I decided to trace the curriculum to its founding principles and place—where it is being implemented, and that is how I landed at CGI.

I arrived at CGI on Sunday June 15, 2013 around 3:30pm. Dawa the new curriculum teacher received me and ushered me to the guest house. After organizing my things and taking a shower, I came out to get a better view of the institute campus. The first thing that captivated my attention was the sight of the main temple construction in its splendid architecture. The final details are not fully done as yet, still, its unique feature such as the four *Victory Banners* on the second floor



top corners stand prominent and auspicious. As I circumambulated below, it gave me a sense of being blessed. A sense of spiritual energy was around, and I experienced peace and tranquility that prevails. As I walked little further down I couldn't help but stop and admire the panoramic view across overlooking Dewathang. Those settlements along the highway looked much different from above, stretching beside the *Flat Space of Happiness* (Dewathang) into the distant hills. After standing spellbound for a while I called it for the day.

Next day I joined Dawa to observe his class. After he introduced me, the class began by reciting the *Heart Sutra*. This was my first time hearing the *Heart Sutra* being recited in English—quite unusual but impressive. With much stress on some specific words, most read



aloud and all seemed excited reciting in English. This was followed by few minutes of meditation. Meditation is in fact one of the main focuses of my study, and sure enough, I started paying full attention to see what goes on in a meditation session. I was particularly interested to see meditation in relation to classroom teaching and learning, in terms of focused attention, wakefulness, information analysis and retention, and the like which meditation is acclaimed

for. To be able to see such outcomes, intense interactions will be carried out in teaching the next unit, *Air and Space*. What follows are my prior observations over the first couple of weeks:

Eating with *Khenpos* (Professor or Senior Monk) and *Lams* (ordained Buddhist teachers) in the commons, I realized after few days that there was not much variation in what they eat. Whether breakfast, lunch, or dinner, the main diet most of the time would be rice and potato curry. Not that I didn't like the taste of the food but there was no balanced diet. In my casual conversation with Dawa one evening, after supper, I mentioned—it will be nice to have chapatti (Indian flatbread) once in a while for lunch or dinner and for breakfast, fried rice mixed with soaked *chana* (chickpea) could be served, as it contains high protein. These items just popped up in my mind from my memories of eating in the college commons while studying in India where *chana* dishes in various forms were often served as part of the balanced diets. I didn't know that a couple of students from our class overheard our conversation. It was their turn that evening to help in the kitchen, and they had been waiting in the next room to clean up after we were done. To our surprise next day, dinner was served with chapatti and the following breakfast with fried rice mixed with soaked *chana*.

Considering this act from one's students, I thought it was a significant gesture. Unless they had given some serious thought to what they had overheard, they wouldn't have done what they did. Such kind of transformation is what I wish to see in students from what they hear in classrooms. Could this be an impact of information analysis—a carryover from meditation exercises—a sense of applied focus?



Likewise, another creative transformation students displayed was after we had a session on *Zero Waste* management from one of the *Samdrup Jongkhar Initiative*<sup>35</sup> staffs. To *reduce*, *reuse*, and *recycle* waste was the message.

That session was specifically on how to reuse waste, for which various examples such as how to make a *T-Shirt Bag*, *Umbrella Cushion*, and *Plastic Broom* were demonstrated.

The very next day I saw at least half a dozen of the students carrying the t-shirt bag they made out of their old t-shirts. They found this idea handy as many of them had old unused t-shirts. The t-shirt bags became handy for carrying plates and cups to the dinning and other play items during the breaks. Some used their t-shirt bags for carrying classroom materials as well.

For one boy, he didn't just want to reuse the reuse ideas demonstrated in the class. Instead, he demonstrated his own innovation. When rest were working on the reuse ideas just demonstrated, he had walked to a heap of broken electrical appliances and picked part of a broken fan. I saw only when he was hammering hard with a piece of plank to pin some nails. He had no proper tool whatsoever. Next moment he walked into the classroom using it as a *Sang Phob* (incense burner). Whenever the classroom got damp and humid, he would bring in the burning *Sang* (incense) to purify.

My overall impression of CGI was very favorable. While the above examples are simple and anecdotal, for me, they affirmed the importance of creating a learning environment that is inclusive, student friendly and conducive to creativity and self-expression—one that abides in mutual respect and harmony for students and teachers alike—a true learning community.

<sup>35</sup> civil society development project with a mission to foster genuine GNH-based development in harmony with government goals



Despite advocacy for such ideals, learning is often dominated by fear, wariness, and concern for certain end results, as opposed to learning as a process, fun, and wonder. For such ideals to take root in a learning community, the foremost prerequisites I believe are the mutual respect, trust, care, and concern for each other, particularly between student and teacher. I am impressed by the display of these qualities in both the conduct and mannerisms of the students and teachers at CGI. The communal peace and harmony is visible as well as felt. The young monks are as comfortable with any other senior monk. For example, it is fun to watch the little ones amongst the seniors in the playground and other communal activities. Every young one is taken care of by one of the senior monks who is referred to as *Ata* (big brother). *Ata* plays the role of a mentor as well as a friend for the young ones. CGI could be a living role model for an inclusive and child-friendly school for the rest of Bhutan.



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