TEACHERS' PERCEPTIONS OF EARLY CHILDHOOD CARE AND DEVELOPMENT CENTERS: EFFECTS ON PRE-PRIMARY STUDENTS IN BHUTAN

BY

TSHERING DENKAR

A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF EDUCATION
IN CURRICULUM AND INSTRUCTION
SURYADHEP TEACHERS COLLEGE

GRADUATE SCHOOL, RANGSIT UNIVERSITY
ACADEMIC YEAR 2019

Thesis entitled

TEACHERS' PERCEPTIONS OF EARLY CHILDHOOD CARE AND DEVELOPMENT CENTERS: EFFECTS ON PRE-PRIMARY STUDENTS IN BHUTAN

by

TSHERING DENKAR

was submitted in partial fulfillment of the requirements for
the degree of Master of Education in Curriculum and Instruction

Rangsit University
Academic Year 2019

……	……..
Asst. Prof. Kittitouch Soontornwipast, Ed.D.	Asst. Prof. Anchalee Chayanuvat, Ed.D.
Committee Chairperson	Member

……..
Nipaporn Chalermnirundorn, Ed.D.
Member and Advisor

Approved by Graduate School

(Asst.Prof.Plt.Off.Vannee Sooksatra, D.Eng.)
Dean of Graduate School
January 15, 2020

ACKNOWLEDGEMENTS

My sincere appreciation to all the people who made this endeavor possible. Foremost, I would like to thank Dr. Arthit Qurairt, President of Rangsit University, Thailand International Cooperation Agency (TICA) and the Royal Civil Service Commission for this esteemed opportunity to realize my aspirations.

I would like to express utmost gratitude to my thesis advisor Dr. Nipaporn Chalermnirundorn for her unwavering support, patience, and guidance until the completion of the study. Also, I would like to thank the thesis committee, Assistant Professor Dr. Anchalee Chayanuvat and Assistant Professor Dr. Kittitouch Soontornwipast for their insightful feedback and suggestions.

I would like to acknowledge Mr. Karma Gayleg, Ms. Dechen Peldon, Dr. Prayuth Chusom and Ms. Tshering Tshomo for validating the research instruments and rendering their expertise at the most crucial stages of the study. I truly appreciate the support and cooperation rendered by the principals and the teachers of the research schools. Their kind assistance helped me complete my data collection effortlessly.

A special mention to my ever understanding family for the unconditional love and support. Thank you for helping me accomplish my goals.

Tshering Denkar

Researcher

6105770	:	Tshering Denkar
Thesis Title	:	Teachers' Perceptions of Early Childhood Care and Development Centers: Effects on Pre-Primary Students in Bhutan
Program	:	Master of Education in Curriculum and Instruction
Thesis Advisor	:	Nipaporn Chalermnirundorn, Ed.D.

Abstract

This mixed methods research aimed at investigating the effects of Early Childhood Care and Development (ECCD) Centers on Pre-Primary students' developmental skills through Bhutanese Pre-Primary teachers' perceptions. The students' developmental skills were determined in terms of their gross and fine motor development, emergent language and literacy, emergent numeracy, socio-emotional development and approaches to learning. The respondents consisted of 35 teachers' teaching the Pre-Primary level across 14 schools in one of the western districts in Bhutan.

The data collected through survey questionnaire and semi-structured interview was analyzed using descriptive statistical analysis and thematic analysis respectively. The findings revealed a high level (Mean=3.73) preparedness in the overall developmental skills of the Pre-Primary students who attended ECCD Centers. In addition, the study also confirmed that it was important for students to attend ECCD Centers before starting the formal schooling because it contributed to enhanced school readiness, academic performance, confidence, social skills and teaching-learning process. However, maintaining the quality of ECCD Centers were suggested as essential to ensure optimum benefits and to overcome the current challenges associated with ECCD attendees.

(Total 108 pages)

Keywords: Early Childhood Care and Development Center, Pre-Primary, Perceptions

Student's Signature: ……. Thesis Advisor's Signature: ……..

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

TABLE OF CONTENTS (CONT.)

LIST OF TABLES

Page

Tables

LIST OF FIGURES

Page

Figures

ABBREVIATIONS

Abbreviations	Meaning
CAPSD	Curriculum and Professional Support Division
ECCD	Early Childhood Care and Development
IDELA	International Development and Early Learning Assessment
IOC	Item Objective Congruence
MoE	Ministry of Education
OECD	Organization for Economic Cooperation and Development
PP	Pre-Primary
REC	Royal Education Council
SD	Standard Deviation
UNESCO	United Nations Educational, Scientific and Cultural Organization

CHAPTER 1

INTRODUCTION

This chapter presents the background and rationale of the study, objective of the study, research question and scope of the study. It further highlights the limitations of the study, terminology, and the significance of the study.

1.1 BACKGROUND AND RATIONALE OF THE STUDY

History of early childhood care and education dates back to the 19th century (early 1970s). The programs started in the European countries as a means of providing care for children when the women started to join work force. It was also aimed at preparing children for the formal education at later stage of their life (Kamerman, 2006). By the end of the century, the children in these countries had already experienced at least one year in an early childhood education program before starting the formal education (Gabe & Kamerman, 2006). Ever since, the enrolment of children (3-4 years old) in the developed OECD countries have increased to 71.5% to 80% (OECD, 2010).

Early childhood care and education is known as early childhood care and development (ECCD) in Bhutan. It is a recent development in Bhutan which gained attention only from early 2000s due to rural to urban migration, growing workforce and the emergence of nuclear families which led to the demand of child care services (Pedey & Sims, 2015). Likewise, adoption of the United Nations Convention on the Rights of the Child and Education for All which focused on "expansion of early childhood care and education" as one of the goals towards achieving the learning needs of all by 2015, led to increased prioritization of ECCD (ECCD & SEN Division, 2014). Additionally, growing number of evidences on brain development also augmented the need for focus on early childhood care and education.

The foundations of brain development and later learning is claimed to be established in the early years. Brotherson (2009) states that even though learning occurs throughout life, it is crucial to provide the best opportunities for learning when the brain is a kind of "super sponge" and develops more rapidly (between birth and age five) than during any other subsequent period. This is said to depend on the quality of the learning experiences in early childhood as infants, toddlers and preschoolers. A strong foundation enables children to acquire and master the skills that they will need through school and beyond (Brotherson, 2009; Klass, Needlman, & Zuckerman, 2003).

Therefore, during the 9th Five-Year Plan (2001-2007) early childhood care was highly prioritized and by 10th and 11th Five Year Plan (2008-2013, 2013-2018) further plans were laid (Wangmo & Brooks, 2016). The government emphasized the need for a comprehensive national policy on ECCD so that it would act as a guiding framework for the development of ECCD in the country (Gurung, 2014). An ECCD Policy was framed and proposed in the National Education Policy by the Ministry of Education, which still awaits approval by the cabinet of the government of Bhutan as reported in the Gross National Happiness Commission's 11th Five Year Plan (Ball & Wangchuk, 2018).

The general objective of early childhood care and development programs in Bhutan is to support learning and development of children between 0 to 8 through: (i) Home based parenting education and intervention through mass media, health outreach services, and non-formal education programs for children 0-2 years of age. (ii) Initiation and support for center-based ECCD programs for early learning opportunity for children 3-5 years of age, and (iii) Interventions in schools to improve teaching-learning practices for the children in the early years of formal school (Wangmo & Brooks, 2016).The Department of ECCD & SEN under the Ministry of Education has been collaborating with the private sectors, corporate sectors and non- governmental organizations such as Save the Children and UNICEF in fostering ECCD in Bhutan.

The Ministry has particularly highlighted the promotion of early learning opportunities for children aged 3 to 5 years through increased access to center-based

ECCD programs (Pisani et al., 2017). These ECCD Centers work towards providing care and stimulation through developmentally appropriate activities which support children's learning and development in the areas of gross and fine motor; language and literacy; emergent numeracy; socio-emotional; approaches to learning and; cultural, spiritual and moral. (Ministry of Education, 2012). Yoshikawa, Weiland, and Brooks-Gunn (2016) support that early childhood education experience boosts children's cognitive skills which include language, literacy and math skills. It also enhances children's socialization, behavioral and self-regulation skills in primary schools. Likewise, Sawhill (2016); Zigler, Gilliam, and Jones (2006) agree that access to a quality early childhood education program contributes to higher school achievement, reductions in grade retentions and lowering school dropouts.

Despite recognizing the significance of ECCD, there are a total of only 340 ECCD Centers spread across 20 districts of the country. The Annual Education Statistics 2018 reports that ECCD coverage is still minimal with only 23.4% of the 3 to 5 year olds enrolled in an ECCD Center (Ministry of Education, 2018). This could be due to lack of knowledge on the benefits of ECCD among general Bhutanese population and accessibility to the centers. Ball and Wangchuk (2018) posits that scattered population and economic condition of the country could be the major factors among many others. This statistics clearly proves that only a minority of Bhutanese children start their formal education in the Pre-Primary with prior ECCD experience.

Pre-Primary is the first year of formal education in Bhutan. Children start Pre-Primary at the age of 6, regardless of their ECCD experience. The first year in the school can be challenging for children as they are expected to have some specific cognitive, socio-emotional and motivational skills to cope with the teaching learning process. They need to be able to cooperate, follow directions and pay attention as they start engaging with their peers and teachers (Boyd, Barnett, Bodrova, Leong, & Gomby, 2005; O'Farrelly & Hennessy, 2013). Being able to adapt well to the new changes at this time is important since a successful start is associated with future progress and achievement (Giallo, Treyvaud, Matthews, & Kienhuis, 2010).

However, children without ECCD experiences will face difficulty in adapting with the academic and new social environment due to the abrupt exposure to the new setting. It would especially impact the disadvantaged children due to minimal opportunity for stimulation and learning at home (UNESCO, 2004). Stedron and Berger (2010) rightly stated that children who start their Pre-Primary without any preparedness lack behind academically and are at risk of dropping out of school and face unemployment in the later years.

This indicates the need of concrete evidence to confirm the effect of ECCD intervention through studies and advocate to the general public. This need is clearly reflected in the Bhutan Education Blueprint 2014 to 2024 that despite government's initiatives to enhance access to ECCD programs by expanding community based ECCD centers in the rural area, minimal Bhutanese children were enrolled in such programs. The cause for low enrollment was revealed as "lack of awareness on the role of ECCD in preparing children for formal schooling" (Ministry of Education, 2014). Although there is widespread evidence on significance of ECCD programs around the world, limited studies are available on its impact in Bhutan. There are particularly no researches studying the Pre-Primary teachers' perceptions regarding ECCD Centers.

Therefore, in order to contribute to further development of ECCD programs in Bhutan, the researcher intended to validate the effects of ECCD Center participation. This study investigated how ECCD Center enrolment affected the Pre-Primary students as they started formal education through Pre-Primary teachers' perceptions.

1.2 RESEARCH OBJECTIVE

1.2.1 The purpose of the study is to investigate the Bhutanese Pre-Primary teachers' perceptions on the effects of Early Childhood Care and Development (ECCD) Centers on Pre-Primary students' developmental skills.

1.3 RESEARCH QUESTION

1.3.1 What were the Bhutanese Pre-Primary teachers' perceptions on the effects of Early Childhood Care and Development (ECCD) Centers on Pre-Primary students' developmental skills?

1.4 SCOPE OF THE STUDY

1.4.1 Location of the Study

The study was carried out in Paro, which is one of the districts located in the western part of Bhutan. A total of 14 schools with Pre-Primary level and accessibility to ECCD Centers in their locality were chosen for the study. This criterion for school selection was considered specifically to ensure that the Pre-Primary level in these schools have students who attended ECCD Centers prior to starting their formal education at the Pre-Primary level.

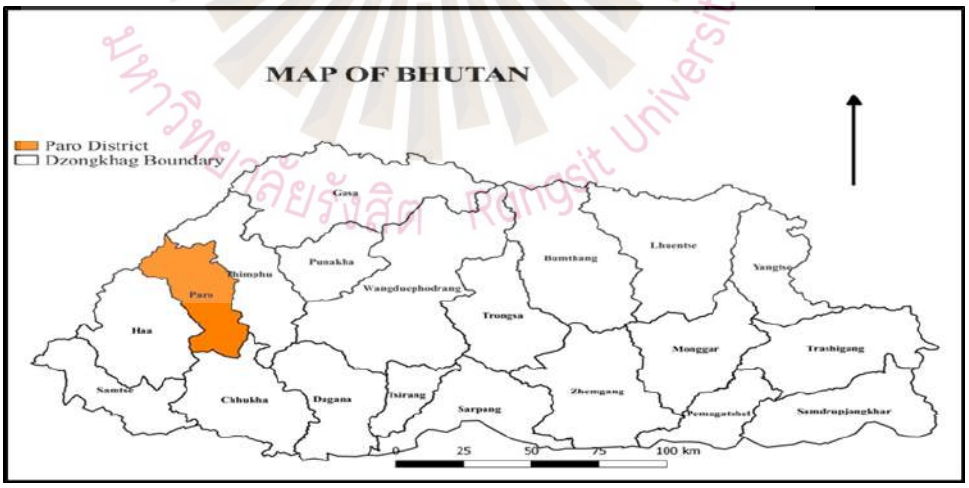

Figure 1.1 Map of Bhutan Showing the Research Location

Source: Atlas of Bhutan, 2019

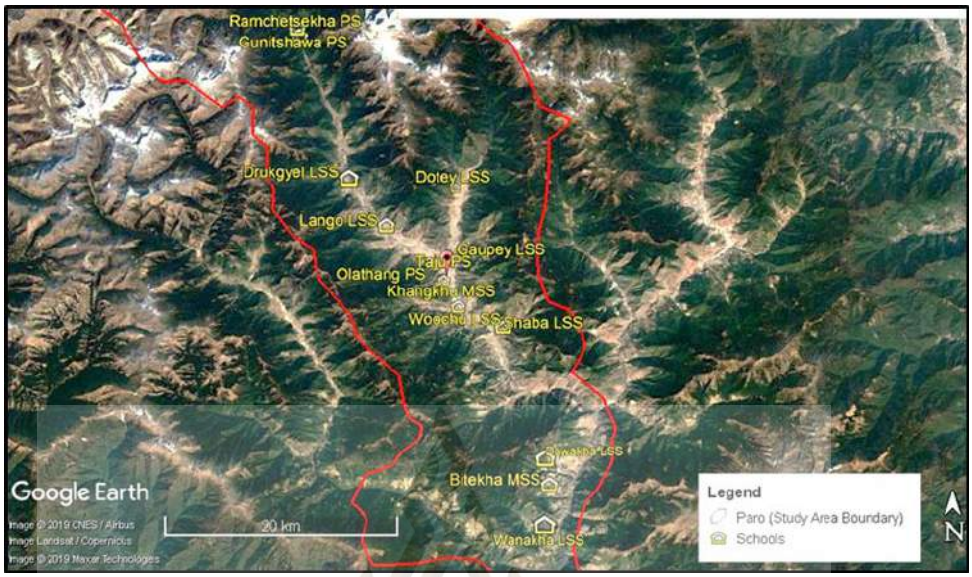

Figure 1.2 Map showing the Schools with Access to ECCD Centers in Paro

Source: Google Earth, n.d.

1.4.2 Respondents

A total of 35 teachers currently teaching the Pre-Primary level served as the respondents of the study. They were specifically considered for the study as these teachers teach in schools that have accessibility to ECCD Centers and have experience in teaching students who attended ECCD Centers before starting their formal education at Pre-Primary level.

1.4.3 Content of the Study

The study intended to find out how the Pre-Primary teachers perceived the effects of center-based early childhood education programs (ECCD Centers) on the developmental skills of students as they started formal education at the Pre-primary level. Students' preparedness were determined in terms of five developmental skills namely gross and fine motor development, emergent language and literacy, emergent numeracy, social and emotional skills and approaches to learning.

1.4.4 Time Frame

The study was carried out in the second term of the academic session in the month of August. The study was conducted according to the time frame given below:

Table 1.1 Time Frame

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Literature Review												
Research Proposal												
Data Collection												
Data Analysis												
Report writing												
Final Defense												

1.4.5 Conceptual Framework

For this study, the respondents served as the source of data. The data were collected using survey questionnaires and semi-structured interviews. These instruments intended to find out the teachers' perceptions on the effects of ECCD Centers on students' developmental skills. Figure 1.1 presents a graphic representation of the framework:

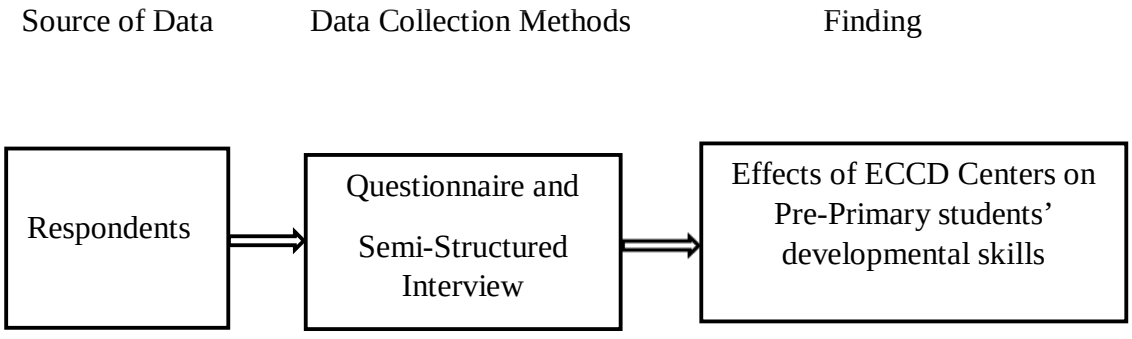

Figure 1.3 Conceptual Framework of the Study

1.5 LIMITATIONS OF THE STUDY

1.5.1 The study was limited to only one district in the western part of Bhutan. Thus, the findings should not be generalized.

1.5.2 The study respondents could have included other relevant people like ECCD experts, ECCD facilitators, parents and principals to confirm teachers' perception and assure reliability of the results.

1.5.3 Although other important factors like parents' educational background and socioeconomic status could have been considered, but due to time constraint, the study focused only on the impact of center-based early childhood education programs (ECCD Centers).

1.6 DEFINITIONS OF TERMS

Early Childhood Care and Development (ECCD) Center: refers to the center-based early childhood education programs or pre-schools which provides services to children aged between 3 and 5 years. These centers not only provide care and support for children's holistic development, but also ensures smooth transition to formal education setting.

Developmental Skills: refers to a set of skills that children acquire according to their developmental stages. In this study, the researcher used International Development and Early Assessment (IDELA) tool to find out students' developmental skills in five core domains:

1) Gross and fine motor skill development: refers to using large muscles and small muscles to do daily activities such as running, hopping, holding pencils and coloring.

2) Emergent language and literacy: refers to understanding and speaking a language. It also includes early literacy skills such as understanding print, basic alphabet knowledge and early phonological awareness (understanding sounds and words).

3) Emergent numeracy: refers to understanding about numbers, counting and other basic math concepts and solving problems.

4) Social and emotional skills: refers to a child's ability to understand the feelings of others, control their own feelings and behaviors and get along with peers.

5) Approaches to Learning: refers to how children learn. It focuses on skills and behaviors that students' use to engage in learning.

Teachers' Perceptions: in this study refers to opinions of the Pre-Primary teachers regarding ECCD Centers and its impact on students' developmental skills.

Pre-Primary (PP): refers to the first year/level in formal education as per the education structure of Bhutan.

1.7 SIGNIFICANCE OF THE STUDY

1.7.1 The findings of the study would help establish an evidence base on the significance of ECCD Centers in early learning and development of children.

1.7.2 It would be a basis for future expansion of ECCD programs in the country.

1.7.3 It would help increase students' enrolment in ECCD Centers by creating awareness amongst parents.

CHAPTER 2

LITERATURE REVIEW

This chapter is a review of literature related to effects of Early Childhood Care and Development (ECCD) Centers on students as they start their formal education. It presents an account on Pre-Primary (PP) level as a formal introduction to education in Bhutan followed by an overview of ECCD at a global and national level. Further, reviews on basic elements, the role of ECCD Centers and the theories of early childhood education and related studies are also included in this section.

2.1 PRE-PRIMARY: THE FIRST YEAR IN FORMAL EDUCATION

The Bhutanese education system includes 13 years of free basic education for all children. This comprises of 7 years of primary education (Pre-Primary to Grade 6) and 6 years of secondary education (Grade 7 to 12). Essentially, formal education for students start from Pre-Primary (PP) level at the age of 6, once they get formally enroled in schools. Even though attending ECCD Centers for children aged between 3 and 5 is also recognized as a part of the general education program, it is not mandatory unlike the primary and secondary education. An outline on the general education structure of Bhutan is presented in figure 2.1 (Ministry of Education, 2014):

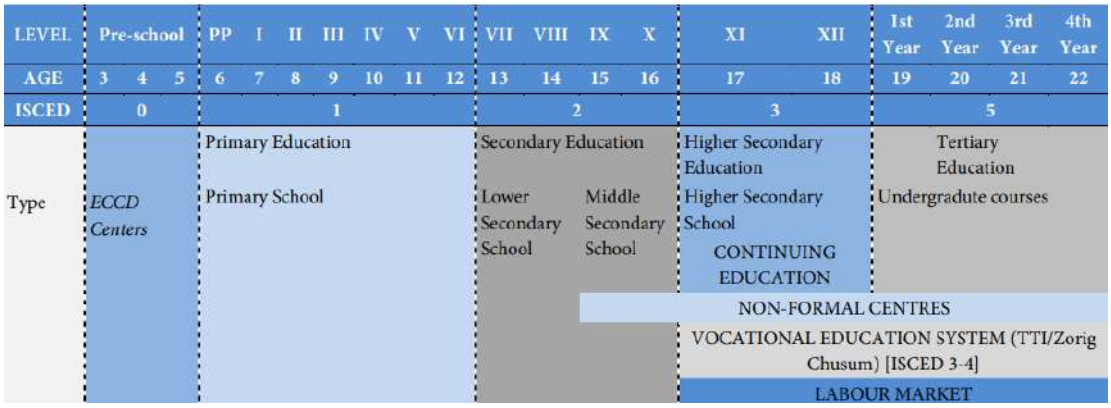

Figure 2.1 General Education Structure

Source: Ministry of Education, 2018, p.9

2.1.1 Pre-Primary Curriculum

The curriculum in Grade PP consists of three main subjects namely English, *Dzongkha* (the national language) and Mathematics. Other subjects like Value Education and Health and Physical Education (HPE) are also a part of the curriculum but no formal assessments are carried out for these two. English and Dzongkha are not just the official language but they are also used as the medium of instruction for teaching and learning across all subjects throughout the grades (Ministry of Education, 2018).

2.1.1.1 Dzongkha and English language learning standards

English and Dzongkha language learning are fostered in PP through a student centered curriculum with specific outcomes laid down for each language strand. These subjects focus on engaging students in language development in all four strands thereby making them independent and proficient speakers, listeners, readers and writers. The curriculum places an emphasis on the use of strategies and approaches that enhance students' learning, develop skills and knowledge that improve their proficiency in the two languages (Curriculum and Professional Support Division (CAPSD), 2005a). Given below are some of the objectives that every PP graduate is expected to achieve:

Table 2.1 Pre-Primary English and Dzongkha Language Learning Objectives

Language Strands	Learning Objectives
Listening and Speaking	a. Use vocabulary related to their immediate environment. b. Respond to simple questions about matters of immediate interest. c. Listen to and understand simple stories and make text to life connections. d. Describe common objects in simple words, phrases, and sentences.
Reading	a. Relate the spoken word to the written word. b. Use phonics (letter sounds) to read new words and pronounce them clearly. c. Read simple texts aloud. d. Make text to life connections. e. Enjoy reading as a learning activity.
Writing	a. Shape letters clearly. b. Use knowledge of sounds to begin to write words independently. c. Write simple sentences using known words. d. Be able to write a minimum of 50 new words independently. e. Enjoy writing as a creative activity.

Source: CAPSD, 2005a

2.1.1.2 Standards for Mathematics

Apart from language learning, PP students are also required to learn basic Mathematics skills in six strands namely numbers; operations; patterns; measurement; geometry and; data management. Following are some of the expected learning outcomes (CAPSD, 2005b):

Table 2.2 Pre-Primary Mathematics Learning Objectives

Strands	Learning Objectives
Numbers	a. Counting b. Sets: sorting, based on number c. Representing numbers physically d. Comparing Sets: more, less, same e. Ordinal Numbers: to 10
Operations	a. Combining Sets: small groups - (counting totals) b. Subtraction Meaning: separating small groups, comparing small groups - (counting results)
Pattern	a. Copy, Extend, Create patterns based on attributes of shapes b. Copy, Extend, Create patterns based on measurement
Measurement	a. Length: compare, order, sort: (directly, indirectly) b. Mass: compare, order, sort: (direct)
Geometry	a. Spatial Sense b. 2-D & 3-D Shapes: sort, build, compare
Data Management	a. Collect & Organize Data: pictorially, chart form b. People Graphs, Concrete & Picture Graphs: create, interpret

Source: CAPSD, 2005b

2.1.2 Pre-Primary Transition

The shift from early childhood to a formal school is an important period in the life of a child. It can be challenging for children as it requires them to be independent, social, attentive and ready to learn (Rimm-Kaufman & Pianta, 2000). The curriculum outline clearly specifies the academic outcomes that they would have to accomplish as well.

Attending ECCD Center is recognized for having immense benefits in preparing a child for smooth transition to the formal school setting. Studies suggest that as children are given an opportunity to engage in series of effective language and cognitive

experiences, it enhances their language and pre-literacy skills such as letter recognition and print knowledge (Jena & Wangmo, 2016; Ramey, C., & Ramey, S., 2004).

Furthermore, it has also been proven that the availability of high quality ECCD Centers promote academic success and cognitive and social development in the short and long term subsequently (Bakken, Brown, & Downing, 2017; Marturano, Gardinal-Pizato, & Fontaine, 2012; Yoshikawa et al., 2013). In a famous longitudanal study called the Abecederian Project by Campbell , Ramey, Pungello, Sparling & Miller-Johnson (2002), having access to quality early childhood programs were found to result in more years of total education and higher chances of attending a college or a university. Therefore, this study makes an attempt to investigate how ECCD Center enrollment affects students as they start formal schooling from the Pre-Primary teachers' perception.

2.2 ECCD GLOBALLY

2.2.1 ECCD in Developed Countries

Due to immense awareness on the key role that early childhood education plays in promoting child development and early-learning, it is accorded high priority especially in most of the developed nations. The European nations such as United Kingdom, France, Belgium, Denmark, Iceland, Spain, Norway, Austria and others provide at least two years of free, publicly-funded early education programs to boost children's access to such programs before starting formal education. In other developed nations such as Australia, Korea and some of the US states where free education is available only from the primary schooling year, subsidies are provided on availing such services depending on the family income (OECD, 2010).

Hence, increased government investment in early childhood education has led to increased enrolment in these countries. On an average, the enrolment rate of children between 3 and 5 years is as high as 87% in the Organization for Economic Co-operation and Development (OECD) countries and is even more than 90% in the OECD countries

that are part of the European Union (Belgium, Denmark, France, Germany, Iceland, Italy, New Zealand, Norway, Spain, Sweden and the United Kingdom) (OECD, 2019).

2.2.2 ECCD in Developing Countries

However, it is not the same in some parts of the world where early childhood education is still a luxury for only a certain section of people in the country. To cite some examples, the average enrollment of 3-5 year old children in an ECCD program in the five south Asian countries such as Bangladesh, Bhutan, India, Nepal, and Pakistan was only 26% as per the UNICEF statistics in 2005. The gross enrolment rate was as low as 1.5% in Bhutan, 10.3% in Bangladesh, 27% Nepal, 38.8% in India and 52.5% in Pakistan (Das, et al., 2008).

Some of the major challenges for inadequate ECCD coverage in these nations resonate to absence of comprehensive National ECCD Policy, low awareness about the value of ECCD among parents and policy makers and poor quality of the programs available (Das, et al., 2008). In the recent years, realizing the role of ECCD, the governments in collaboration with donor agencies such as UNICEF, Save the Children and UNESCO have been working towards expansion of quality early childhood programs.

2.3 ECCD IN BHUTAN

Early Childhood Care and Development (ECCD) is a broad and a holistic approach in Bhutan as it is anywhere in the world. It encompasses services provided to children from birth to eight years of age (ECCD & SEN Division, 2014). In the early 2000's, need for ECCD was realized as a means to solve the modern day issues of the working class population within the urban centers in the country. The age old tradition of child care at home faded due to rise in nuclear family systems and rural to urban migration (Pedey & Sims, 2015) Following are the ways in which the ECCD Policy ensures support for development of children in specific age groups (Wangmo & Brooks, 2016):

1) 0-2 years: home based parenting education and intervention through mass media, health outreach services, and non-formal education programs.

2) 3-5 years: initiation and support for center based ECCD programs such as day care centers, work place based centers and community based centers for early learning opportunity.

3) 6-8 years: interventions in schools to improve teaching-learning practices for the children in the early years of formal school.

Considering the focus of the study, researcher presents details about center-based ECCD programs (ECCD Centers) available for children aged between 3 and 5 years in Bhutan in the subsequent subheadings:

2.3.1 Objectives of ECCD Centers

The ECCD Policy supports the introduction of center-based ECCD programs. These ECCD Centers aim at providing supportive and affectionate interaction, stimulation, and early learning opportunities for children aged 3-5 years (ECCD & SEN Division, 2014). Furthermore, children's participation in such programs is expected to promote their overall development and enhance school readiness (Ministry of Education, 2012).

The Department of ECCD & SEN under the Ministry of Education collaborates with the private sectors, corporate sectors and non- governmental organizations such as Save the Children and UNICEF in fostering ECCD in Bhutan. Continued effort has been made in increasing the access to ECCD centers throughout the country subsequently (Pisani et al., 2017).

2.3.2 Types of ECCD Centers

There are four different types of center-based ECCD programs prevalent in Bhutan (Choden, 2014):

1) Community ECCD Centers: provides services to the children aged between 3 and 5 years especially in the rural areas. The government funds the centers.

2) Private ECCD Centers: provides services to the children aged between 3 and 5 years in urban areas and parents have to pay for the services.

3) Workplace Based Centers: are set up by different organizations at the work place and parents pay a nominal fee for the service.

4) Non-Governmental Organization Centers: the concerned organizations fund the establishment and don't charge any fee. They are mostly set up in the rural parts of Bhutan.

The ECCD & SEN Department under the Ministry of education administers all these centers in collaboration with district education officers and Pre-Primary teachers trained in Step by Step ECCD approach in the local schools (ECCD & SEN Division, 2011).

2.3.3 Current Status of ECCD Centers in Bhutan

Bhutan's National ECCD Impact Evaluation 2015 reports that in 2007, there were only six private daycare centers in Thimphu, the capital city of Bhutan. By 2009, enrolment of children between the age of 3 and 5 in ECCD Centers increased slightly to 1.26% (Pisani et al., 2017). Thenceforth, the number of ECCD Centers and the enrollment in such programs has been on the rise.

As per the annual education statistics, there are a total of 340 centers spread across the 20 districts in the country. The gross enrollment accounts to 8,499 (23.4%) children aged between 3 and 5 enrolled in such programs as of 2018 (Ministry of Education, 2018). Of all types of ECCD, Community ECCD Centers are the most common and provides services to most of the children in rural parts of the country for free. ECCD participation through other services such as private, NGO and Corporation is minimum comparatively as presented in the table below:

Table 2.3 ECCD Enrolment and Facilitators

Type of ECCD	No. of Centers	Enrolment			Facilitators		
		Boys	Girls	Total	Male	Female	Total
Community ECCD Centers	282	3434	3421	6855	42	494	536
Private Childcare Centers	51	764	679	1443	12	201	213
NGO Childcare Centers	3	32	29	61	0	6	6
Corporation Childcare Centers	4	65	75	140	0	9	9
Total	340	4295	4204	8499	54	710	764

Source: Ministry of Education, 2018, p.12

Despite steady growth, the aim of maximum ECCD coverage is still a challenge for the government to achieve. Participation of children in ECCD programs is still very low compared to the enrollment of children in primary schools with figures at 102,310, which is 92.58% (UNESCO Institute for statistics, 2019). Ball and Wangchuk (2018) considers the scattered population and the economic condition of the country among many other shortcomings as some of the major causes of inability to achieve widespread expansion. Hence, with a focus on center based ECCD approach, private sector and Non-Governmental Organizations are encouraged to participate in providing the services to the people.

2.4 BASIC ELEMENTS OF AN ECCD CENTER

Studies from around the world support the significance of early childhood education programs and the need for increasing its access to the children. However, researchers argue that just providing access to early childhood education is not enough. Effectiveness of early childhood education program is highly determined by its quality (Pianta, Downer, & Hamre, 2016; Yoshikawa et al., 2016).

Pianta et al. (2016) define the quality of early education in terms of four key areas; a program's structural elements; classroom environment; teacher student interaction; and quality rating and improvement systems. This closely relates to the four core elements identified as essential in delivering effective services in Bhutan. They are curriculum, facilitator's relationships, words and actions; activities and; materials and physical environment (ECCD & SEN Division, 2012):

2.4.1 Curriculum

Wechsler, Melnick, Maier, and Bishop (2016) state that the children benefit the most when the early childhood programs have a curriculum that are based on comprehensive early learning standards, addresses the whole child and are developmentally appropriate. In Bhutan, the Early Learning Development Standards (ELDS) which were validated in 2010, guides the early learning and development of children aged between 3 and 6. Following the ELDS, the centers have to design activities to maximize children's early learning and development. Nevertheless, Wechsler et al. (2016) argue that a curriculum must be well implemented if it is to be effective. Therefore, a successful outcome of the curriculum is largely dependent on the facilitators/teachers.

2.4.2 Facilitators

In addition to a good curriculum, the programs should promote positive relationships among children and adults. Pianta et al. (2016) state that the teacher-

student relationship and interaction has the most influence on the children's learning and development. The teachers should be sensitive to the individual needs of the students, support positive behavior and stimulate language and cognitive development. This would build trust, respect, and excitement for learning in children. Thus, a program's success, depends on teachers being able to create these learning opportunities and facilitate children's interactions with adults, peers, and the environment in positive and growth-promoting ways (Ramey, S., & Ramey, C., n.d.).

2.4.3 Activities

United Nations Children's Fund (UNICEF, 2018) recognized play as an essential strategy for learning throughout the early childhood period. It promotes children's understanding of the world through exploration and helps develop their imagination too. For instance when children engage in a structured or free play such as rhyming game, songs, storytelling and pretend play, they are in a process of developing their language skills- sounds, vocabulary, meaning, grammar together with enhancing their interpersonal skills with their peers (Smith & Pellegrini, 2013).Therefore, programs that engage children in activities that develop skills and knowledge through meaningful play fosters quality early childhood education and is associated with social-emotional and cognitive gains (literacy, math, problem solving, imagination) (Hirsh-Pasek & Golinkoff, 2008; Hirsh-Pasek, Golinkoff, Berk, & Dorothy, 2009)

2.4.4 Material's and Physical Environment

Children need various opportunities to interact with others and to use a wide variety of resources for expressing their understanding. Therefore, an effective program should have a safe and healthy environment that provides appropriate and well maintained indoor and outdoor physical environment. It should include appropriate facilities and materials to facilitate child and staff learning and development (NAEYC, n.d.). When a child attends a program that allows for multiple means of representation, engagement and expression, they are able to enhance and develop their cognitive skills (Stockall, Dennis, & Miller, 2012).

2.5 FUNCTIONS OF ECCD CENTERS

To fulfill the objective of ECCD programs to provide opportunities that support and nurture the holistic development of every child, the Ministry of Education relies on the Early Learning and Development Standards (ELDS). The ELDS ensures that early childhood programs in Bhutan are consistent and are of high quality. It describes what children in Bhutan should be expected to know and be able to do at the end of their pre-school period or before they go to school. The centers are required to design and carry out activities to ensure optimum development of children which will further enhance their school readiness. The ELDS of Bhutan identifies children's development in the following six key areas (ECCD & SEN Division, 2014):

2.5.1 Physical and Motor Development

A child's physical and motor development is an important aspect to be considered in the ECCD centers. It comprises of subdomains such as physical wellbeing, health and motor development (gross and fine). The ELDS mandates the ECCD Centers to engage the children in meaningful play with their peers using challenging materials in their environment so that it can foster their physical development. For instance, encouraging the children to participate in activities such as running and hopping is said to enhance their gross motor skills and activities such as coloring, cutting shapes, building blocks and threading beads enhance their fine motor skills. In the process, children should also be given the opportunity to care for oneself by explaining and demonstrating ways of ensuring healthy habits, personal care, hygiene, nutrition, and safety at home, play grounds and roads (ECCD & SEN Division, 2014).

2.5.2 Social and Emotional Development

ECCD Centers provide a platform for the social development of young minds by augmenting interaction with people other than their family members in a safe learning environment. Their experiences with the new friends and environment is

expected to foster the development of necessary life skills which not only prepares them for life but also develops a love for lifelong learning (Palmer, 2015).

Play should be highly encouraged to nurture positive interaction and for the development of social and emotional skills amongst the children. Also, engaging the children in group play and discussions can instill values such as taking turns, seeking permission, cooperating and respecting each other. This, in turn, will enhance their interpersonal skills and build a sense of trust, confidence and empathy for their friends, adults and people around them. Student's ability to exhibit such skills are associated to enhancing early adjustment and achievement in school (Kennedy, 2018).

2.5.3 Language, Literacy and Communication

The foundations for literacy development in children is laid from the experiences that they have with language and print at home and the immediate environment (Huisman, 2012). This includes building vocabulary, understanding and speaking the language, and developing the early literacy skills. As children learn to speak and listen, they build the foundations for literacy. The foundational knowledge and skills that children have about reading and writing before they can actually read and write is called as early literacy skills (Ghoting & Martin-Diaz, 2006). These skills are oral language (speaking and listening), understanding print (knowledge that print has meaning), basic alphabet knowledge (letter recognition) and early phonological awareness (understanding sounds and words) .These key areas that forms the basis of early literacy skills are interrelated and crucial for success at school and later in life. (ECCD & SEN Division, 2012; Save the Children, n.d.).

Therefore, the ELDS necessitates the centers to provide children with opportunities to interact and use a variety of resources to express their understanding through stimulating activities such as object naming, description, storytelling, songs and rhymes.

2.5.4 Cognition and General Knowledge

Supporting the cognitive development of children in their formative years is acknowledged worldwide. It is an important developmental and school readiness component. The ECCD facilitators are required to stimulate the cognitive abilities of the children by having them make observations, understand cause and effect and understand about numbers and counting. They should further be prompted to solve problems, think logically, and form explanations (ECCD & SEN Division, 2014). Development of specific skills such as counting, knowing the number symbols, recognizing patterns, comparing quantities and sorting objects in accordance to its characteristics is referred to as early numeracy (Raghubar & Barnes, 2016).

Children acquire such informal numeracy skills before they start learning mathematics formally at school through experiences at home and in their everyday environment (LeFevre, Smith-Chant, Skwarchuk, Fast, & Kamawar, 2009). Nevertheless, not all children demonstrate such skills depending on their early childhood experiences (Starkey, Klein, & Wakeley, 2004). The development of such informal numeracy knowledge is said to provide a sound foundation for learning mathematics at school (Reid & Andrews, 2016).

Evidence from a study by Jordan, Kaplan, Locuniak, and Ramineni (2007) support significant correlation between children's early numeracy skills and their math achievement in first grade. They found that mathematics performance at the end of first grade was strongly determined by children's knowledge about numbers in the early years. Similarly, in another study by Jordan, Glutting, and Ramineni (2010), early numeracy skills were found to significantly impact student's mathematics achievement at the end of 1st grade as well as at the end of 3rd grade. It therefore, ascertains the fact that children's numeracy development must be supported both at home and in ECCD Centers before they start formal school.

2.5.5 Approaches to Learning

Approaches to learning refers to the observable behaviors that describe how children participate in classroom interactions and learning activities (Chen & McNamee, 2011). Some of the important skills associated with a positive approach to learning include curiosity, task persistence, attentiveness, self-direction, problem solving and creativity (Conn-Powers, 2006). Being able to acquire and use such skills enhances preparedness and learning in children as they start school. The center-based early childhood programs in the country are supposed to provide children with opportunities to engage in fun and stimulating learning experiences that promotes children's curiosity, interest and imagination (ECCD & SEN Division, 2014).

2.5.6 Spiritual, Moral and Cultural Development

This is an early childhood care and development component that is unique to Bhutan. For children's spiritual, moral and cultural development, the ECCD centers are specifically required to model the behavior along with the one established at home to promote values such as spirituality, honesty, responsibility and empathy. They are also supposed to familiarize children with one's own culture along with learning to respect the differences in culture. With these values in mind, the children should be able to show respect, sense of belongingness (identity) and love for ones' country and culture (ECCD & SEN Division, 2014).

2.6 EARLY CHILDHOOD EDUCATION THEORIES

2.6.1 Lev Vygotsky's Social Development Theory

Lev Vygotsky's social development theory emphasizes on the importance of social interaction for learning through experiences from ones environment and culture. Vygotsky (1978) states that the community plays a vital role in the process of "meaning making". He believes that a child learns best through social interaction with the adults or peers who model behaviors and engages them in the classroom problem solving

activities. Upon understanding the basics, a child develops skills they will then use on their own to enhance their higher mental functions.

The social learning theory is based on the two developmental levels in the children namely, the actual developmental level (what they can achieve on their own) and the proximal level (what they can achieve with the support from others) (Vygotsky, 1978). These concepts are then related with the Zone of Proximal Development, which is the difference in the extent to which a child can achieve independently to the highest level of achievement with the support and guidance of a skillful adult (McLeod, 2018). This level of development is required for the children to develop cognitively and it can be achieved through social interaction which promotes cooperative and collaborative exchange of ideas.

Vygotsky's theory supports the need for the early childhood education programs to focus on engaging children in activities that are developmentally appropriate. He highlights play as one of the main components in facilitating the development of skills such as positive interaction, cognitive development and self-regulation (following rules, planning play, reflective thinking). He is of the belief that play can be fun as well as meaningful if designed with specific goals and scaffolding by the teachers. The competencies that the children develop in the process is thus considered crucial as it equips the children with the skills necessary in adjusting to the demands of the formal schooling. This includes children being able to build relationships with the friends and teachers in the new environment, following rules and instructions and taking interest in the learning process. A strong foundation in the social and cognitive competencies, thus accounts to the children's success in the school (Bodrova & Leong, 2005).

2.6.2 Jean Piaget's Cognitive Development Theory

Jean Piaget believed that learning is a process, which evolves as the result of children interacting with the environment and moving through certain stages of cognitive development (Nutbrown, Clough, & Selbie, 2008, p. 57). The four stages are; the Sensorimotor stage (birth to 2 years), in which a child tries to explore the

environment; the Preoperational stage (2-7 years), in which a child develops language and learns to represent objects by words; the Concrete operational stage (7-11years), in which a child starts to understand facts and make relations; formal operational stage (11-beyond), in which a child starts to think logically (Dunn, 2005).

The theory asserts that the age at which each stage occurs is necessary and sequential for the development of logical and abstract thinking (Dunn, 2005). He was of the view that children learn best when they get to explore the things around them and engage in the activities on their own. For this reason, in many of the early childhood education programs the role of the teacher is that of facilitator or guide. The teacher provides suitable materials to help the child relate to their prior and present experience. In addition, interaction with the peers and the teacher is also considered crucial as it helps children understand others feelings and thoughts. Therefore a Piagetian inspired early childhood program provides many opportunities for teacher-learner and learner-teacher interaction (Dunn, 2005).

2.6.3 The Montessori Method

Maria Montessori was an Italian physician and educationist, renowned for her contribution to early childhood education. She pioneered the "Montessori Method" which was based on her observation of children in the process of learning (Nutbrown, Clough, Selbie, 2008). She categorized child development in four stages; i) the absorbent mind and the sensitive periods (birth-6years), ii) childhood (6-12years), iii) adolescence (12-18) and iv) transition to adulthood (18-24 years).The absorbent mind and the sensitive period describes knowledge acquisition through sensory and practical experiences from the immediate environment. This stage is considered the most crucial as attainment of basic skills can contribute to enhanced reasoning, social awareness, and independent livelihood in the subsequent years (David, 2016).

Montessori's approach considers child, teacher and environment as key to learning. Its goal is to ensure a child's holistic development (intellectual, physical, emotional and social) in accordance to his/her personal traits and developmental stages.

A child is given the freedom to choose and conduct the activities in a conducive learning environment. Montessori's "prepared environment" requires teachers to use stimulating resources to facilitate a child's physical and intellectual development through exploration and creativity. A teacher takes the role of a facilitator, who guides the children as they engage in activities of their choice. The focus is on individual growth, hence, it does not believe in reward or punishment for learning to occur (Marshall, 2017).

2.7 RELATED RESEARCH AND STUDIES

Given below are some related research and studies from across the world, which examines the impact of center-based early childhood care and development programs on the early learning and development of students.

A study conducted by Save the Children (2003), examined the impact that the community based early childhood care and development centers had on children's transition to school in 38 communities in Nepal. Using a mix-method data collection, the study found that 95% of the 935 children who attended these centers were enrolled in the primary schools, which was about 20% more than the non-attendees. The parents and teachers perceptions revealed that these children were well-prepared to start school academically as well as socially. They also had more regular attendance and higher pass rates through grades one and two. The teachers further confirmed employing these children's capabilities to encourage and support other children, and were noted for raising the expectation level within the classroom.

Rao et al. (2012) carried out a study to evaluate the effectiveness of preschool programs in Cambodia with a total of 880 five year old children from the rural communities in Cambodia. The children were attending State Preschools, Community Preschools, Home Based Programs or no programs. They were assessed two times using the Cambodian Development Assessment Test (CDAT) which includes assessment in the areas of general knowledge, gross motor skills, fine motor skills, pre-academic concepts, memory, reasoning, life skills and language. The children in all the three

preschool programs had significantly higher scores than the children who did not participate in any programs. The study also found that the children in the State Preschools performed significantly better than those in the Community and Home Based programs. This indicated that enrollment in higher quality preschools with access to better resources and qualified teachers resulted in higher achievement.

A descriptive survey by M and S (2015) intended to establish the impact of Early Childhood Education (ECE) on students learning in primary schools in Kenya. The research participants comprised of 210 primary school teachers of the Starehe Division of Nairobi County. Data was collected using a questionnaire and descriptive statistics was used to analyze the findings. The study confirmed that those children who had attended ECE performed better in terms of basic mathematics skills, reading and speaking compared to the ones who did not attend an ECE. Additionally those who attended ECE's demonstrated good social skills by being able to interact with their peers and teachers unlike the ones who did not attend ECE, especially in the beginning of the year.

An early childhood education program impact evaluation was done in the Philippines by Ceido, Nayo, and Sampang (2015). Using the national assessment tools, children were assessed on their developmental skills (Gross Motor, Fine motor, Self-Help, Language, Cognitive and Social Emotional). The study found that children improved significantly in most of the developmental domains after attending any of the four types of the programs offered. Maximum gains were identified in the Socio-emotional, fine-motor, cognitive development, expressive language, as well as reading readiness skills such as copying letters or words, Identifying similar objects and naming places. On the other hand, children's weak areas were Gross Motor, Receptive Language, Self-help and Reading Readiness skills such as reading 2-3 syllable word, sequencing events, identifying words that rhymed or sounded alike, and conserving numbers and giving equivalence of numbers. Participation in such programs resulted in positive outcomes regardless of the context (rural/urban) and developed skills that enhance children's school readiness.

Another quantitative, quasi-experimental, study was carried out by Cox (2016) to determine whether early childhood programs influences students learning in Shelby County, Tennessee. A total of 501 preschool students who transitioned to kindergarten took a pretest within the first 45 days of school and posttest at the end of the school year. Some of these students had attended programs such as Head Start or child care, whereas, some did not attend any formal early childhood program. The results showed that student's participation in an early childhood program increased their literacy, cognitive and pre-writing skills all needed to be successful in kindergarten.

Pisani et al. (2017) conducted a study to evaluate the impact of the ECCD programs in Bhutan. The study used the International Development and Early Learning Assessment (IDELA) to assess early learning and development of the children in the six domains (motor development, emergent literacy and language, emergent numeracy, social and emotional development, executive functioning, spiritual, moral and cultural development). The findings revealed that children with access to center-based programs gained more skills than those without access to such programs. The study also established the fact that higher quality centers and smaller child-teacher ratio results in better learning outcomes. Finally, other factors such as family's economic status and positive home learning environments were found to impact learning significantly.

Action research was employed by Ball (2018) to measure the effect of early childhood programs on the academic success in kindergarten. The research participants included 252 kindergarten students and the teachers from two primary schools in the suburban Tennessee. Data were collected using mixed method design consisting of the students assessment scores and perception surveys from kindergarten teachers. From the kindergarten readiness test, a significant difference was found between the students who had attended a private preschool and those who did not attend a preschool. Furthermore, the findings also concluded that the Kindergarten students who had attended preschools achieved significantly more in reading and math compared to those who did not. Even the teacher's perception survey revealed that it was important for students to attend early childhood programs before entering kindergarten as it prepared students for

kindergarten in regards to school readiness, reading, writing skills, mathematical skills and social emotional development.

CHAPTER 3

METHODOLOGY

This chapter describes the methodology adopted to answer the research question laid down in Chapter 1. The description includes the research design, population, the research instruments used to collect the data, validity of the instruments and the data analysis procedures.

3.1 RESEARCH DESIGN

A mixed methods approach facilitates the combination of quantitative and qualitative research in the same study (Shorten & Smith, 2017). The integration of qualitative and quantitative data helps enhance the validity of the findings as it often necessitates numerous views and provides meaningful interpretation (McKim, 2017). Thus, a mixed methods research was employed to investigate the Pre-Primary (PP) teachers' perceptions on the effects of Early Childhood Care and Development (ECCD) Centers on the Pre-Primary (PP) students.

Figure 3.1 describes the research design of the study. The quantitative data and the qualitative data were collected using teacher survey questionnaires and semi-structured interviews respectively. The data were analyzed in terms of descriptive statistical analysis and thematic analysis which were then interpreted to answer the research question.

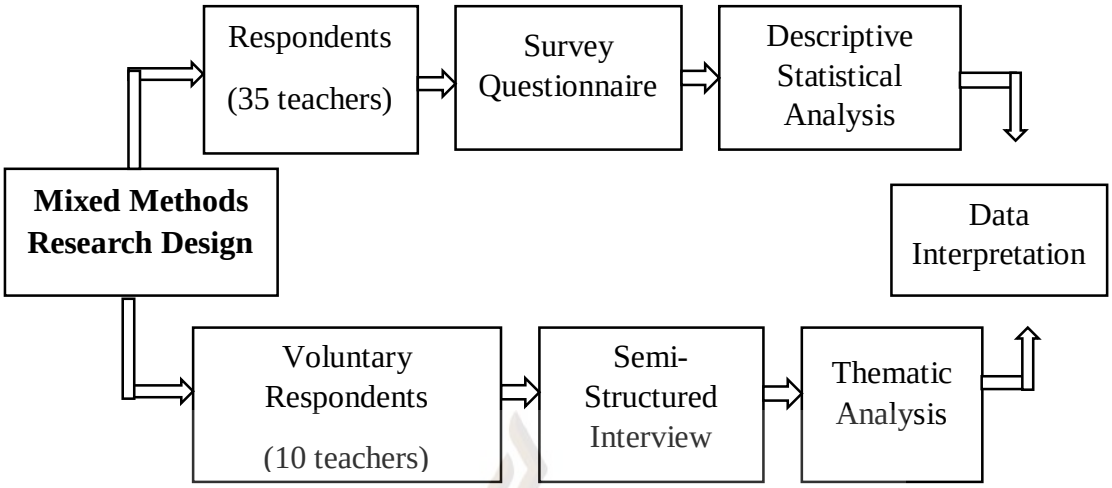

Figure 3.1 Research Design

3.2 RESPONDENTS' GENERAL INFORMATION

There are 14 schools with access to ECCD Centers in the district chosen for this study. All the 35 teachers currently teaching the Pre-Primary (PP) level in these schools served as the respondents for this study. This selection criteria enabled the researcher to gain rich perspectives of the teachers who had experience in teaching students who attended ECCD Centers before starting their formal education at the PP level.

The percentage of female respondents were comparatively higher than male. Majority of the respondents taught in schools located in urban areas. They had varied teaching experiences ranging from 0 to 31 years and above. Most of them had 0-5 years of PP teaching experience and interestingly, there were also some with 11-20 years of experience. The participation of all the respondents in the study enabled 100% return rate. The table below shows the demographic profile of the survey respondents:

Table 3.1 Demographic Profile of the Respondents (n=35)

General Information		n	Percentage
Gender	Male	7	20.0
	Female	28	80.0
	Total	35	100.0
School location	Rural	14	40
	Urban	21	60.0
	Total	35	100.0
Teaching Experience	0-10 years	12	34.3
	11-20 years	18	51.4
	21-30 years	3	8.6
	31 and above years	2	5.7
	Total	35	100.0
PP Teaching Experience	0-5 years	24	68.6
	6-10 years	7	20.0
	11-20 years	4	11.4
	Total	35	100.0

3.3 RESEARCH INSTRUMENTS

The researcher used two instruments to collect the data. They were teacher survey questionnaires and semi-structured interviews:

3.3.1 Quantitative Data Collection Instrument

3.3.1.1 Survey questionnaire

The researcher administered a survey questionnaire to study the PP teachers' perceptions on the effects of ECCD Centers on the developmental skills of the students at the PP level (Refer Appendix C). Using questionnaire is a practical means of data collection as the questions and the designs can be managed in various ways to

fulfill the objectives and to suit the target group (Boynton & Greenhalgh, 2004). We can collect data from a large group of people in a limited time span and therefore the findings from the study can be more generalizable (Rowley, 2014). The questionnaire consisted of two sections. The descriptions of each section are as follows:

Part I: This section covered the demographic information of the respondents such as age, gender, school location, teaching experience and Pre-Primary teaching experience.

Part II: This part intended to find out how ECCD enrollment effects PP students developmental skills through PP teachers perceptions. The study adapted International Development and Early Learning Assessment (IDELA) tool by Save the children, to design a teacher survey questionnaire (Pisani, Borisova, & Dowd, 2015). The IDELA tool was specially designed to evaluate and provide evidence for ECCD programs in low and middle income countries. With a holistic approach, IDELA assesses a child's early learning and development in five broad areas of gross and fine motor development, emergent literacy and language, emergent numeracy, socio-emotional development and approaches to learning. This tool has been used in over 50 countries till date (Pisani et al., 2018). This tool was also used in Bhutan for the "National ECCD Centre Program: Impact Evaluation 2015". The respondents marked the preparedness level of the students who attended ECCD Centers for each item in five broad skill areas based on the five-point Likert scale as shown below:

Table 3.2 Developmental Skill Areas

Developmental Skills	Number of Items	Item number
Gross & fine motor development	3	1,2,3
Emergent literacy and language	9	4,5,6,7,8,9,10,11,12
Emergent numeracy	6	13,14,15,16,17,18
Socio-emotional development	6	19,20,21,22,23,24
Approaches to learning	4	25,26,27,28

Table 3.3 Description of Likert Scale

Perception on students preparedness in each skill	Score
Very well prepared	5
Well prepared	4
Prepared	3
Slightly prepared	2
Not prepared	1

Source: Adapted from Wangchuk, 2018

3.3.2 Qualitative Data Collection Instrument

3.3.2.1 Semi-structured interview

Qualitative data was collected through semi-structured interviews. Semi-structured interviews were conducted to further confirm and supplement the PP teachers' perceptions of ECCD Centers. Semi-structured interviews are flexible in nature as the researcher can prepare a set of question to obtain specific data with a focus on the research objectives while also seeking an in depth information from the respondents as per their experiences in the particular area (DiCicco-Bloom & Crabtree, 2006). Thus, it allows the researcher to structure the questions and probe in detail according to the response, allowing the respondents to share their opinions freely (Edwards & Holland, 2013).

The researcher developed five open-ended questions to gain deeper perspectives on how the PP teachers perceived the effects of ECCD Center enrolment on the students' (Refer Appendix C). The qualitative data was used to further confirm the quantitative findings. A total of 10 respondents teaching the PP level in schools with access to community as well as private ECCD Centers participated in the interview voluntarily. The respondents also had diverse teaching experiences (1-16 years). To be able to study respondents' experiences and opinions, the researcher chose to conduct face-to face interview. Shuy states that this form of interview enables the researcher to build rapport with the interviewee, which results in authentic and in-depth reports as the respondents

share their experiences openly (as cited in Knox & Burkard, 2009). In order to gain more details and also to align with the research objective, the questions were restructured and rephrased according to the interviewee responses. Each interview took about 20 to 30 minutes. The researcher took notes and also recorded the entire interview. This way the researcher could highlight the key points as well as transcribe the complete data, thereby enhancing reliability of the study.

3.4 VALIDITY AND RELIABILITY OF THE INSTRUMENTS

3.4.1 Validity

To examine the validity of the instruments, content validation was carried out by three experts, one from Thailand and two from Bhutan. Both the instruments, teacher survey questionnaire and the semi-structured interview questions were validated to obtain the Item Objective Congruence (IOC). Each expert rated the items as +1, 0 and -1.

If the rating was +1, it meant that the item clearly matched the stated objectives. If the rating was 0, it meant that the item was unclear or not sure whether the measure meets the objective or not. The rating -1, indicated that the item does not measure the stated objective. If the total value for any test item was between 0.5-1.00, the item was considered acceptable (Rovinelli & Hambleton, 1977).

The formula for calculating IOC=$\sum\frac{r}{n}$ where

IOC=Item Objective Congruence

'r' = sum of the scores of individual experts and

'n'= the number of experts who validated the item

The items with an IOC score between 0.5 and 1 were used for the survey questionnaire. A total of 28 items which were in the acceptable range were selected from

an initial total of 31 items. The validity score of the questionnaire and the semi-structured interview questions were 0.89 and 0.93 respectively (Refer appendix E).

3.4.2 Reliability

After the instruments were approved, the researcher conducted a pretest with 31 PP teachers in another district of Bhutan. To test the reliability of the questionnaires, Cronbach's Alpha Coefficient was used. A score of 0.70 or greater is generally considered to be acceptable as per Cronbach's Alpha scale as shown below:

Table 3.4 Description of Internal Consistency using Cronbach's Alpha

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: Tavakol & Dennick, 2011

The Cronbach's Alpha (α) for the overall questionnaire was 0.887 which was higher than 0.70. This indicated that the questionnaire was reliable for the study (Refer Appendix G for the survey questionnaire reliability test result).

3.5 DATA COLLECTION PROCEDURES

3.5.1 Ethical Consideration

3.5.1.1 Approval

The researcher obtained approval from authorities concerned and the stakeholders involved. This includes approval from the Ministry of Education and the

participating school principals. The researcher explained the purpose of the study and sought approval of each respondent personally before administering the questionnaires.

3.5.1.2 Anonymity of the participants

Anonymity of the research participants and confidentiality of their views were protected by the researcher. The researcher used numbers to code the respondents (Teacher 1, Teacher 2).

3.6 DATA ANALYSIS

3.6.1 Survey Questionnaire

A survey questionnaire was administered to study the PP teachers' perceptions on the effects of ECCD Centers on the PP students' developmental skills through PP teachers' perceptions. The data collected from the questionnaires were analyzed using a computer program. The demographic information and the PP students' level of preparedness for each items were analyzed using descriptive statistics such as frequency, percentage, mean and standard deviation. The findings were then interpreted in accordance to mean score range shown below:

Table 3.5 The Range of Mean Score Interpretation

Mean Score Range	Teachers' Perception on Preparedness level
4.21 – 5.00	Highest
3.41 – 4.20	High
2.61 – 3.40	Moderate
1.81 – 2.60	Low
1.00 – 1.80	Lowest

Source: Adapted from Wangchuk, 2018

3.6.2 Semi-Structured Interview

The analysis of the semi-structured interviews provided an in-depth perspective on ECCD Centers. The data collected through semi-structured interviews were analyzed and interpreted using thematic analysis. This involved a rigorous process of transcribing, coding, categorizing and synthesizing. First, the interview recordings were transcribed at the earliest for accurate and authentic data comprehension. Next, the researcher read the transcriptions to understand the meanings conveyed and coded the ideas. Then, the identified codes were categorized into themes and presented accordingly.

CHAPTER 4

RESULT AND DATA ANALYSIS

This chapter presents how the Bhutanese Pre-Primary (PP) teachers perceived the effects of Early Childhood Care and Development (ECCD) Centers on students' developmental skills. It further examined the Pre-Primary teachers' perceptions of students need to attend ECCD Centers before starting formal education. The data for the study were gathered using two research instruments: a survey questionnaire and a semi-structured interview. The quantitative data was analyzed and presented through mean and standard deviation and thematic analysis was carried out for the qualitative data reporting. In this section, the researcher presents the quantitative data first, followed by the qualitative data in two separate sections:

4.1 ANALYSIS OF THE QUANTITATIVE DATA

In this section, quantitative findings intended to answer the research question: What were the Bhutanese Pre-Primary teachers' perceptions on the effects of Early Childhood Care and Development (ECCD) Centers on Pre-Primary students' developmental skills?

Hence, the findings from the data collected using the survey questionnaires are presented based on the individual skills namely gross and fine motor development, emergent literacy and language, emergent numeracy, socio-emotional development and approaches to learning.

The findings were analyzed using descriptive statistics (i.e. mean and standard deviation). A five-point Likert rating scale ranging from 5 to 1 was interpreted with the mean score from 4.21-5.00 as Highest, 3.41-4.20 as High, 2.61-3.40 as Moderate, 1.81-2.60 as low and 1.00-1.80 as lowest.

4.1.1 Pre-Primary Teachers' Perceptions on Students' Gross and Fine Motor Development

Table 4.1 Gross and Fine Motor Development: Mean and Standard Deviation (n=35)

I. Gross and Fine Motor Development	Mean	SD	Interpretation
1. Participate in activities involving basic movements such as running, walking, jumping, skipping and hopping.	4.54	0.657	Highest
2. Use hand-eye coordination to perform simple tasks (example: copying a shape)	4.03	0.891	High
3. Hold and use pencils/colors with control	4.23	0.808	High
Average	4.27	0.680	Highest

Table 4.1 shows the mean scores and the standard deviations for the teachers' perceptions on the effects of ECCD Centers on the PP students' gross and fine motor development. The teachers perceived that students who attended ECCD Centers had enhanced gross and fine motor skills (M=4.27), which denotes the highest level. Although the mean score for students being able to use hand-eye coordination to perform simple task was comparatively low, still the mean score interpretation revealed that students preparedness for this item was at a high level (M=4.03).

4.1.2 Pre-Primary Teachers' Perceptions on Students' Emergent Literacy and Language Development

Table 4.2 Emergent literacy and language development: Mean and Standard Deviation (n=35)

II. Emergent literacy and language	Mean	SD	Interpretation
a. Listening& Speaking			
4.Use a variety of words and phrases to communicate ideas	3.71	0.789	High
5.Listen and respond to simple questions appropriately	3.91	0.818	High
6.Understand and follow directions/instructions	3.80	0.797	High
b. Reading			
7.Identify and name the alphabets/letters	3.74	1.067	High
8.Tell the sounds of the letters	2.91	1.245	Moderate
9.Open the book appropriately and point to texts on the page	3.51	1.173	High
c. *Writing*			
10.Understand that printed symbols such as letters, words and pictures convey a message	3.34	0.938	Moderate
11.Knowledge on left to right writing orientation	3.51	1.121	High
12.Write some alphabets and numbers	3.77	1.060	High
Average	3.58	.801	High

The mean scores and the standard deviation of how the teachers perceived the effects of ECCD Centers on the Pre-Primary students' emergent literacy and language development are presented in table 4.2. The overall mean score of students' emergent literacy and language development was high (M=3.58). For this skill, the items were further divided under three subcategories: listening and speaking, reading and writing. Item 5 of the 'listening and speaking' subcategory, "listen and respond to simple questions appropriately" had the highest mean score (M=3.91). The item with the lowest mean score (M=2.91) at the moderate level was "telling the sounds of the letters" and it

falls under ‘reading’ subcategory. The mean score for all three categories was high, nevertheless, the mean score for the subcategory ‘reading’ is comparatively low (M=3.06) which according the interpretation table states moderate.

4.1.3 Pre-Primary Teachers’ Perceptions on Students’ Emergent Numeracy

Table 4.3 Emergent numeracy: Mean and Standard Deviation (n=35)

III. Emergent numeracy	Mean	SD	Interpretation
13.Count to ten or more	4.23	0.910	Highest
14.Identify and name the numbers up to ten or more	3.66	1.282	High
15.Compare objects based on one or more attributes (big, small, long, short)	3.43	0.979	High
16.Sort similar and different objects based on its attributes (size, colour, shape)	3.49	1.040	High
17.Identify the shapes such as circle, rectangle, triangle, square	3.54	1.120	High
18.Basic idea of addition and subtraction (2+2, 3-1)	2.14	1.115	Low
Average	3.41	.939	High

Table 4.3 presents the mean scores and the standard deviation for how teachers perceived the effects of ECCD Centers on the PP students’ emergent numeracy. The overall mean score for this particular domain was high (M=3.41). The mean scores in this skill area differed greatly, with items in the highest as well as low level. The findings revealed that the students’ who attended ECCD Centers were able to count to ten or more (M= 4.23). However, the teachers perceived that they had difficulty with basic idea of addition and subtraction (M=2.14).

4.1.4 Pre-Primary Teachers' Perceptions on Students' Socio-emotional Development

Table 4.4 Socio-Emotional Development: Mean and Standard Deviation (n=35)

IV. Socio-emotional development	Mean	SD	Interpretation
19.Interact easily with peers and teachers	4.11	0.867	High
20.Work/play cooperatively with the peers	3.94	0.838	High
21. Tell basic information of self, such as name, age, gender, parents.	4	0.767	High
22.Show care and respect for others feelings and needs	3.26	1.010	Moderate
23.Adapt to the rules and routines of the school	3.69	1.051	High
24.Express their needs and feelings openly	4.03	0.954	High
Average	3.84	0.750	High

The table above indicates the mean scores for how teachers perceived the effects of ECCD centers on the PP students' socio-emotional development. The overall mean score for this skill was high (M=3.84). All the items in this category fell within the high score range (M=3.69 to 4.11) except for item number 22 "Show care and respect for others feelings and needs" which was in the moderate score range (M=3.26). The findings indicated that students were able to interact and work cooperatively with their peers, express their needs and feelings openly and tell basic information about themselves after attending ECCD centers. Nevertheless, teachers perceived that the students' ability to display care and respect for others' feelings and needs were at a moderate level.

4.1.5 Pre-Primary Teachers' Perceptions on Students' Approaches to Learning

Table 4.5 Approaches to Learning: Mean and Standard Deviation (n=35)

V. Approaches to learning	Mean	SD	Interpretation
25.Pay attention to the instructions and activities	3.51	1.147	High
26.Focus on the work/task assigned	3.49	1.222	High
27.Stay motivated to complete the task	3.57	1.145	High
28.Show interest and curiosity in learning activities	3.63	1.060	High
Average	3.55	1.110	High

Table 4.5 displays the mean and standard deviation for the teachers' perceptions on the effects of ECCD Centers on the PP students' approaches to learning. The finding depicts that the overall mean score was high (M=3.55). All the items in this domain were within the high score range (M=3.49 to 3.63). This indicates that attending ECCD centers had not only enabled students to focus on instructions and activities attentively, it also motivated them to completer their work and learn with curiosity.

4.1.6 Summary of Pre-Primary Teachers' Perceptions on Students' Overall developmental skills

Table 4.6 Overall mean and standard deviation of the developmental skills (n=35)

Sl.no	Developmental Skills	Mean	SD	Interpretation
I	Gross and fine motor development	4.27	0.680	Highest
II	Emergent literacy and language	3.58	.801	High
III	Emergent numeracy	3.41	.939	High
IV	Social and emotional development	3.84	0.749	High
V	Approaches to Learning	3.55	1.109	High
	Average	3.73	0.748	High

Table 4.6 presents a summary of the descriptive statistics for the overall developmental skills from the survey questionnaire. The overall developmental skills mean score was 3.73 at a high level. The result revealed that the Pre-Primary teachers perceived students who attended ECCD Centers before starting formal education were significantly prepared in terms of overall developmental skills. The students were considered to be the most prepared in gross and fine motor development, which was at the highest level (Mean=4.27), followed by the social-emotional development (Mean= 3.84) at the high level. Although all the other three skills were also at a high level, emergent numeracy had the least mean score (M=3.41) relatively.

4.2 ANALYSIS OF THE QUALITATIVE DATA

The qualitative data obtained through semi-structured interviews intended to supplement the quantitative data. This enabled the researcher to probe further on Pre-Primary teachers' perceptions of attending Early Childhood Care and Development (ECCD) Centers before starting formal education.

Face to face interviews were conducted with 10 volunteer PP teachers. To maintain participants' confidentiality, researcher used numbers to code the interviewees (Teacher 1, Teacher 2). All the interviewees were female and had a minimum of 9 years of teaching experience. The group consisted of 2 rural and 8 urban school teachers with 1 to 15 years of PP teaching experience. The interviewee information also specified the number of students who attended ECCD Centers in each class. It was noticed that majority of students in rural schools had attended ECCD Centers before starting formal schooling at the PP level compared to students in urban schools. Table 4.7 shows detailed information about the interviewees:

Table 4.7 Interview Participants Information

Interviewees	Teacher Details				Student details	
	Gender	SL	TE	PP TE	ECCD attendees	Total PP students
Teacher 1	Female	Urban	15	3	12	29
Teacher 2	Female	Rural	23	6	20	27
Teacher 3	Female	Rural	20	15	22	23
Teacher 4	Female	Urban	9	3	10	27
Teacher 5	Female	Urban	12	3	9	26
Teacher 6	Female	Urban	18	3	6	32
Teacher 7	Female	Urban	33	8	4	30
Teacher 8	Female	Urban	26	6	6	31
Teacher 9	Female	Urban	13	3	9	24
Teacher 10	Female	Urban	16	1	10	29

Note SL (School Location), TE (Teaching Experience), PP TE (Pre-Primary Teaching Experience

The interview data was then analyzed using thematic analysis following a process of transcribing, coding, categorizing and synthesizing the data into themes. The major themes derived from the interview questions are presented in the following sections:

4.2.1 PP Students who attended ECCD Centers were perceived to have enhanced skills

As per the respondents, students who attended ECCD Centers before starting their formal education at the Pre-Primary level developed many important skills. Given below is a list of skills that the respondents identified as the most enhanced in the Pre-Primary students who attended ECCD Centers before starting school. Along with frequencies, brief descriptions of each skill has been presented for better understanding.

Table 4.8 Most Enhanced Skills

Sl.no	Skills	Frequencies
1	Social skill	7
2	Fine Motor skill	6
3	Communication skill	5
4	Basic literacy and numeracy	3
5	Adaptability to a new environment	1

1) Social skill

Of the ten respondents, seven of them stated social skill as the most enhanced skill in the students who attended ECCD Centers before starting formal education in the Pre-Primary level. These students were able to interact freely with the new peers and teachers. They were further described as being frank and open.

"They are easily able to interact with their friends which the students who did not attend ECCD Centers face difficulty especially in the first few weeks of the session." (Teacher 5)

"The skill which are the most enhanced in the ECCD attendees is that they are very sociable, acceptable in nature and very open." (Teacher 1)

2) Fine motor skill

The other skill which was identified as the most enhanced in the ECCD attendees was their fine motor skill. The respondent's mentioned that these students had well developed hand coordination and pencil skills.

"Most of the children who attended ECCD Centers have well developed motor skills (use of pencil)." (Teacher 5)

3) Communication skill

Majority of the respondents also agreed that students enrollment in ECCD Centers enhanced their communication skill the most. The students could understand and respond to teachers queries accordingly. Moreover, they could express their thoughts clearly.

> "Communication skill is the most enhanced in the students who attended ECCD Centers. They can understand and share their opinions with their friends and teachers easily." (Teacher 7)

4) Basic literacy and numeracy skill

Pre-Primary students who had ECCD experience were considered to be equipped with basic literacy and numeracy skills such as alphabet, numbers, color, and shape knowledge.

> "Children who come from ECCD are good at shape, color, alphabet, and number recognition. They are also very open and can communicate their needs well with anyone. This creates a scope of becoming skillful." (Teacher 6)

5) Adaptability to a new environment

The ability to adapt well to the school and classroom environment was another skill that the respondents perceived to be the most enhanced in the Pre-Primary students who attended ECCD Centers. These students understood the classroom needs well as they were ready for school.

> "They are also very prompt at responding to the queries and accommodate to the classroom well as they understand the needs of the new environment and are ready." (Teacher 1)

4.2.2 PP students who attended ECCD Centers were perceived to have academic advantage

Respondent statements confirmed that students who had attended ECCD Centers prior to starting formal education had academic advantage. They performed better as they could build on prior knowledge acquired from the centers. Moreover, as they had already developed the basic, yet essential skills necessary for starting schooling, it motivated them to learn.

1) Better academic performance

"The position holders in my class are those who attended ECCD." (Teacher 4)

"They can understand the concepts taught faster and better." (Teacher 7)

2) Motivation for learning

"Because they are equipped with these basic skills, they enjoy the process of learning as well as do better." (Teacher 7)

"As students build on their experiences from ECCD Centers, they are more enthusiastic about learning. (Teacher 1)

4.2.3 PP students who attended ECCD Centers were perceived to be ready for school

The interview data revealed that enrolment in ECCD Centers before formal education significantly impacted students' preparedness to start school. They regarded these students' abilities to cope well with school rules, timings and adapt to the school environment as beneficial for the students. Additionally, the teachers also mentioned that being well equipped with the basic skills, they were very comfortable and ready to begin their formal schooling.

1) Adaptable to the school norms

"They can adapt to the rules easily and they don't feel tortured in the class." (Teacher 9)

"Since ECCD Centers focus on the overall development of the children, they are well prepared to face the formal classroom setting. (Teacher 7)

2) Positive interaction

"Students who attended ECCD Centers can open up easily, interact easily with teachers and with peers" (Teacher 9)

4.2.4 Having students who attended ECCD Centers supported the teaching learning process

The findings further established that ECCD Center attendance supported teaching-learning process in the classroom. The teachers mentioned that it was easy to guide these students as they could follow the instructions and had well developed fine motor skills which the teachers considered essential, especially in the beginning of the school. This helped the teachers to conduct the lessons more effectively and focus on fulfilling the academic targets.

1) Easy classroom management

"When these students come to school with ECCD experience, we can easily manage the class. They can follow the instructions easily which enhances the whole teaching learning process altogether." (Teacher 10)

"Attending ECCD Centers does influence their learning as they are already exposed to some essential basics such as fine motor and communication skills necessary for PP, it becomes easy to guide them." (Teacher 3)

2) Effective lesson delivery

"Since the students are prepared, the teachers can carry out their activities as planned. For example, since the student's already have the pencil holding skills, the teacher can directly start teaching writing. Otherwise, when the teachers have to start from such basic levels, we cannot carry out lessons as planned." (Teacher 4)

4.2.5 PP Students who attended ECCD Centers were perceived to be confident

Attending ECCD Centers was also considered to boost children's confidence. It was observed that these children were able to support others and seek help from others easily. They would express their ideas explicitly and take part in the class discussions too.

"Since they are able to socialize, they are able to render help to others and also seek help and learn from others when in need. They even don't hesitate to ask help from the teachers too." (Teacher 5)

"Since these children are equipped with the basic skills, they have a sense of confidence when they are able to do things." (Teacher 4)

"They are also very prompt at responding to the queries and accommodate to the classroom well as they understand the needs of the new environment. (Teacher 1)

Even though ECCD Center attendance did benefit the students' significantly, there were some challenges which could not be ignored. The following themes shed light on some of the issues that the PP teachers commonly face with regard to students who attended ECCD Centers before starting PP:

4.2.6 PP students who attended ECCD Centers were perceived to have behavior issues

Students' behavior was a major concern raised by the respondents. They perceived that students who had attended ECCD Centers were generally quite restless and was challenging to keep them engaged.

> "These students need to work on their social etiquettes. They need to learn to be more well-behaved and respectful." (Teacher 2)

> "Children are mostly exposed to play and they have the right to do things their way. So as they transit to school, it gets difficult to gain their attention." (Teacher 3)

> "Since they have learned most of the things in the center, for example rhymes, at times they overtake the flow of the lessons and it gets disruptive." (Teacher 4)

4.2.7 PP teachers found it difficult to correct the acquired knowledge

Letter formation was one of the most common issues encountered in students who attended ECCD Centers. The respondents specified that some of these students had developed a letter formation technique which was difficult to correct.

> "Students are already introduced to basic writing in the ECCD centers. But the letter formation that they are taught in the centers do not correspond with the one in PP curriculum. Once they are in school, it becomes difficult to convince them to correct it." (Teacher 5)

> "A disadvantage is that some children from ECCD come with wrong letter formation. Correct letter formation in PP is essential for their handwriting.

Sometimes it is difficult to undo what has already been done, than to teach new things." (Teacher 6)

After the interviewees identified the issues, they were asked to suggest some ways to overcome the challenges. Overall, the PP teachers perceived that ensuring the quality of the ECCD Centers was the most essential measure. The themes derived on ways ECCD Centers could ensure its quality are as follows:

4.2.8 By supporting the professional development of the ECCD facilitators

Several aspects of quality ECCD Centers were highlighted by the respondents as a measure towards ensuring students preparedness for formal school. This includes ensuring the quality of the ECCD facilitators through increased emphasis on their professional development through trainings on early childhood education curriculum and child development.

"If all the correct things are happening in the ECCD, there would be only advantages. For that we need trained ECCD facilitators and they need to be aware of the education policies and development needs of the children according to their age. (Teacher 6)

"The ECCD Centers can promote active listening skills in the children. The facilitators need to attend workshops to be able to facilitate such skills in the children." (Teacher 8)

4.2.9 By creating conducive learning environment

The respondents considered that it was crucial to create conducive learning environment to ensure children's optimum development in the ECCD Centers.

"ECCD Centers need to create conducive learning environment, need trained facilitators and need to follow the ECCD curriculum guidelines." (Teacher 7)

"The ECCD facilitators need to create conducive and safe learning environment so that children feel like coming to the center." (Teacher 2)

4.2.10 By ensuring adequate teaching learning resources

The respondents stressed that it was also necessary to equip the ECCD Centers with rich teaching learning materials.

"Likewise, they need to create teaching learning materials using locally available resources for engaging the children." (Teacher 2)

"I feel that for the optimal development of a child, enough resources and professional development programs for the ECCD facilitators is necessary." (Teacher 3)

In this study, the data analysis of both the questionnaire and the semi-structured interviews showed similar results in the perceptions of the PP teachers regarding the effects of the ECCD Centers on the PP students' developmental skills. The PP teachers perceived attending ECCD Centers not only enhanced students' development of essential skills, but also gave them an academic advantage, prepared them for school and contributed to the overall teaching-learning process. The study also highlighted some of the challenges that the PP teachers faced in regard to ECCD attendees and made some recommendations on ways ECCD Centers could ensure students overall development. In the following chapter, a summary of the quantitative and qualitative finding will be followed by discussion of the findings.

CHAPTER 5

CONCLUSION, DISCUSSION AND RECOMMENDATION

This chapter presents the conclusion from the result based on data analysis, followed by discussion of the findings and recommendations for future studies:

5.1 CONCLUSION

This study investigated the Bhutanese Pre-Primary (PP) teachers' perceptions on the effects of Early Childhood Care and Development (ECCD) Centers on the Pre-Primary (PP) students. The focus of study was to determine the preparedness level of the PP students who attended ECCD Centers in five areas of developmental skills and also to understand the PP teachers' perceptions on students' need to attend ECCD Centers before starting their formal education. Given below are the main findings of the study:

5.1.1 Result Analysis of Survey Questionnaires

"What were the Bhutanese Pre-Primary teachers' perceptions on the effects of Early Childhood Care and Development (ECCD) Centers on Pre-Primary students' developmental skills?"

The International Development and Early Learning Assessment (IDELA) tool was adapted to develop a teacher survey questionnaire to determine the PP teachers' perceptions on preparedness level of the students who attended ECCD Centers prior to starting their formal education. A total of 35 PP teachers served as the respondents of the study.

The findings of the teacher survey questionnaire were analyzed using mean and standard deviation using a computer program. With a total mean of 3.73, the PP teachers perceived the overall preparedness level of students who attended ECCD Centers at a high level. The students were considered to be the most prepared in the gross and fine motor development, which was at the highest level (Mean=4.27), followed by the social-emotional development (Mean= 3.84) at the high level. Even though students' emergent numeracy skill also interpreted high level, with a mean score of 3.41, it was the lowest amongst the 5 developmental skills.

5.1.2 Result Analysis of Semi-Structured Interviews

A total of 10 PP teachers volunteered to take part in the interview. The data from the semi-structured interviews were analyzed using the thematic analysis technique which involved processes such as recording, transcribing, coding and categorizing. All the ten respondents perceived that it was important for students to attend ECCD Centers before starting formal education. Further discussion on why the Pre-Primary teachers perceived the need to attend ECCD Centers resulted in identification of several reasons, which were categorized under various themes. Additionally, the interview findings also identified the common challenges that the PP teachers faced regarding the students who attended ECCD Centers, followed by suggestions to overcome such challenges and to promote optimal child development in the ECCD Centers. A summary of the major themes from the semi-structured interviews are as follows:

1) PP students who attended ECCD Centers were perceived to have enhanced skills

All the respondents perceived that it was important for students to attend ECCD Centers before starting school. They stated that ECCD enrollment catered to students' developmental needs and equipped students with important skills which prepared them for school. The students were well prepared especially in social skills, fine motor skills, communication skills, basic literacy and numeracy and adaptability to a new environment.

2) PP students who attended ECCD Centers were perceived to be ready for school

Students' enrolment in ECCD Centers prior to formal education was also found to impact their preparedness to start school. They could cope well with school rules, timings and adapt to the school environment.

3) PP students who attended ECCD Centers were perceived to have academic advantage

Majority of respondents agreed that attending ECCD Centers before starting school contributed to students' academic achievement in the school. The students were said to be able to understand the concepts faster and perform better.

4) PP students who attended ECCD Centers were perceived to be confident

The respondents stated that students who attended ECCD Centers before starting their formal education were able to support others and seek help from others without difficulty. Thus, they were able to express their ideas explicitly and participate in the class activities confidently.

5) Having students who attended ECCD Centers supported the teaching learning process

ECCD Center attendance supported the teaching learning process in the classroom. As students were well prepared, teachers could conduct the lessons effectively which allowed the teachers to focus on achieving the academic goals.

Although ECCD enrolment was considered to benefit students immensely, there were few concerns that the PP teachers raised:

1) PP students who attended ECCD Centers were perceived to have behavior issues

The PP teachers perceived that students who had attended ECCD Centers were generally quite restless and found it challenging to keep them engaged.

2) PP teachers found it difficult to correct the acquired knowledge

The respondents stated that some of the students who attended ECCD Centers had developed an incorrect letter formation technique, which was difficult to correct.

To accomplish greater benefits and to overcome the current challenges, the respondents suggested the following measures for ECCD Centers:

1) By supporting the professional development of the ECCD Facilitators

All the respondents emphasized on the need to enhance the quality of the ECCD facilitators through professional development programs such as trainings and workshops on a timely basis.

2) By creating conducive learning environment

The respondents considered that it was crucial to create conducive learning environment to ensure children's optimum development in the ECCD Centers.

3) Need for adequate teaching learning resources

The respondents stressed that it was also necessary to equip the ECCD Centers with rich teaching learning materials.

5.2 DISCUSSION

In line with the research objective, the researcher has discussed the pertinent outcomes of the study in the following order:

5.2.1 Findings from the Teacher Survey Questionnaire

This study investigated the teachers' perceptions on the effects of ECCD Centers on the PP students. It emphasized on determining the teachers' perceptions on the preparedness level of PP students who attended ECCD Centers in the 5 developmental skills namely 1) gross and fine motor development, 2) emergent literacy and language, 3) emergent numeracy, 4) social and emotional development and 5) approaches to learning.

The study findings concluded that PP students who attended ECCD Centers were well prepared, in terms of their overall developmental skills. A total mean score of 3.72 was a clear indication of a high level of preparedness. This translates to the achievement of the center-based ECCD program's objective to "provide care and support for the holistic development of children and also to ensure the smooth transition of children to the formal schooling" (ECCD & SEN Division, 2011). The findings are consistent with other studies which discovered that children who participate in early childhood education programs gain more in terms of development, primary school attendance and achievement than those who do not (Ceido et al., 2015; Rao et al., 2012; Save the Children, 2003). All these studies were conducted in Asian countries, also striving for early childhood education programs expansion amidst the challenging economic conditions.

Amongst the developmental skills, students were found to be the most prepared in the gross and fine motor development, which was at the highest level (Mean=4.23), followed by social and emotional development (Mean= 3.84) at the high level. This finding was further substantiated by the interview results in which teachers opined fine motor skills and social skills as the most enhanced in students who attended ECCD

Centers. According to the teachers, these students had well-developed hand-eye coordination and were able to hold and use pencils without the teacher's assistance. Interestingly, item 19 "interact easily with peers and teachers" which was rated the highest in the social-emotional development, was another skill which the teachers mentioned as being highly enhanced in the ECCD attendees during the interviews. It correlates to the findings of Cox (2016); M and S (2015) that students' participation in an early childhood program increased their literacy, cognitive, prewriting and social skills in the school.

Even though the emergent numeracy domain was also at a high level as per the mean score interpretation (Mean=3.41), it was the lowest amongst the 5 developmental skills. Likewise, the lowest-scoring item “basic idea of addition and subtraction” was also in this particular domain, which was not surprising at all, considering the overall preparedness level of the students in this area. Similar findings on weaker gains in early literacy, numeracy, and social-emotional development compared to the other developmental areas were identified in the national ECCD impact evaluation conducted in Bhutan (Pisani et al., 2017). Thus, these findings provide strong evidence for areas of focus and suggests that much can be done to stimulate the cognitive aspects of children, being mindful of the developmentally appropriate practices.

5.2.2 Findings from the Semi-Structured Interviews

The semi-structured interviews with 10 Pre-Primary teachers further supplemented the findings from the survey questionnaire on the effects of ECCD Centers on PP students. The interviews aimed to study the Pre-Primary teachers’ perceptions on the need to attend ECCD Centers before starting formal education. All the interviewees perceived that it was important for students to attend ECCD Centers.

The interview data revealed that student’s participation in ECCD Centers prepared the students to start school. The interviewees stated that these students were able to adjust comfortably to the new school environment and cope well with the school rules and timings. The finding aligns with Ball (2018) who discovered that in addition

to academic achievement, ECCD attendance also contributed to students' school readiness and social-emotional development.

The finding also corresponds to Lev Vygotsky's social development theory. Vygotsky (1978) emphasizes the importance of interaction in learning through experiences from one's environment and culture. As these students already have experiences from the environment outside their home, it contributes to their capability to adjust to new settings and build relationships with friends and teachers.

Additionally, the interviewees also believed that students who attended ECCD Centers have academic advantages. The findings reported that the PP students who attended ECCD Centers learn faster and perform better as they have already mastered the basic skills and could build on their prior knowledge. Jean Piaget's cognitive development theory supports this finding. According to Dunn (2005) each stage of cognitive development is necessary and sequential for the development of logical and abstract thinking. The finding is parallel to studies conducted by Cox (2016); Bakken et al. (2017); Marturano et al. (2012). These studies found out that attending early childhood program results in both short and long term academic gains in the 1st and through the 3rd, 4th and 5th grades in school.

Besides its impact on each student, the interview data also highlighted that having students who attended ECCD Centers in the class supported the teaching-learning processes. The teachers stated that students being prepared and equipped with the basic skills contribute to the efficient flow of the lesson and enabled the teachers to conduct lessons as effectively. A similar perception was also described in an impact evaluation study of ECCD programs in Nepal by Save the Children (2003). The students who attended ECCD programs were not only recognized as being well-prepared to start school, but they were also more regular in school and had higher pass rates. The teachers further stated that they often made use of these children's capacity to support other children and also to raise the level of expectation within the classrooms.

Along with the significant benefits, some challenges associated with ECCD attendees were also identified through the interviews. One of the common challenges that teachers faced was behavioral issues, and they said one reason could be due to a play-based free setting in the centers. Another reason could be the pace and the familiarity of the topics taught in the class. Since not all students in the class start school with enhanced prior learning experiences from home or the centers, the teachers would have to design lessons following the general need. Thus, repetition of the concepts that they already know could have led to restless and disruptive behavior.

The teachers also faced difficulty to correct the acquired knowledge as a common issue amongst the ECCD attendees. Most of the students who attended ECCD Centers were observed to have developed a letter formation technique which did not correspond to that of the writing mechanics emphasized in the Pre-Primary curriculum. This could be due to the facilitator's lack of awareness regarding such techniques and their implications on the learners in the future.

Therefore, the findings indicated that there was a need to maintain the quality of the ECCD Centers. The facilitator's professional development, conducive learning environment and adequate teaching learning resources were considered crucial for quality ECCD Centers. Amongst the three, professional development for ECCD facilitators was highly emphasized by the interviewees. This could be because ultimately the facilitator's guidance and support determines children's optimum learning in the centers or in the schools. This corresponds to the studies which claim that the effectiveness of the early childhood education programs on improving children's learning and development is highly determined by its quality (Pianta et al., 2016; Yoshikawa et al., 2016). This was also highlighted in a study by Pisani et al. (2017) in which recommendations for ECCD Center expansion without a focus on quality, especially for facilitators, was stated to be wasted investment.

5.3 RECOMMENDATIONS

The findings from this study concludes that the PP students who attended ECCD Centers were well prepared in all the 5 developmental skills and the teachers perceived the need for the students to attend ECCD Centers before starting their formal education. On the basis of the study findings, the researcher would like to make the following recommendations:

5.3.1 Recommendations for Implementation

1) Attending ECCD Centers before starting the formal school promotes early learning and development of the students. Therefore, the study recommends students to attend ECCD Centers.

2) Considering the significant impact of ECCD Centers on the Pre-Primary students, there is need to increase the accessibility to more government ECCD Centers in the rural as well as the urban centers. This would create opportunities for increased enrolment in such programs.

3) The service providers and the concerned stake holders need to ensure that the ECCD Centers are of high quality to maximize the outcomes. Investment in ECCD facilitators, learning environment and teaching learning resources could significantly impact the quality of the ECCD programs in Bhutan.

5.3.2 Recommendations for Future Research

1) The study was limited to PP teachers' perceptions in only one district in the western part of Bhutan. Therefore, a perception study involving PP teachers, parents and the ECCD facilitators in other districts, would be valuable to gain deeper insights on the impact of ECCD Centers.

2) The future research could focus on studying the effects of the ECCD Centers on the PP students through experimental or observational research which would ensure the authenticity and the reliability of the findings.

3) A longitudinal study needs to be carried out in order to establish the long term effects of ECCD Centers on students.

REFERENCES

Atlas of Bhutan. (2019). *Map of Bhutan*. Retrieved from https://commons.wikimedia.org/wiki/Atlas of_Bhutan#/media/File:Bhutan_districts_english.png

Bakken, L., Brown, N., & Downing, B. (2017). Early Childhood Education: The Long-Term Benefits. *Journal of Research in Childhood Education, 31*(2), 255-269. doi: 10.1080/02568543.2016.1273285

Ball, J., & Wangchuk, K. C. (2018). The Emerging Early Childhood Care and Development Sector in the Kingdom of Bhutan. In J. R. Roopnarine, J. E. Johnson, S. F. Quinn, & M. M. Patte (Eds.), *Handbook of International Perspectives on Early Childhood Education*(pp.134-147).London:Routledge.

Ball, K. (2018). *Impact of Early Childhood Education on Academic Achievement in Kindergarten* (Doctoral dissertation). Retrieved from ProQuest Disstertations and Theses database. (Proquest LLC10837293)

Bodrova, E., & Leong, D. J. (2005). High Quality Preschool Programs: What Would Vygotsky Say? *Early Education and Development, 16*(4), 439-445.

Boyd, J., Barnett, W. S., Bodrova, E., Leong, D. J., & Gomby, D. (2005). Promoting Children's Social and Emotional DevelopmentThrough Preschool Education. *National Institute for Early Education Research*. Retrieved from https://www.researchgate.net/publication/253323393Promoting_Children's_Social_and_Emotional_Development_Through_Preschool_Education

Boynton, M. P., & Greenhalgh, T. (2004). Selecting, designing, and developing your questionnaire. *BMJ, 328*(7451), 1312–1315. doi:10.1136/bmj.328.7451.1312

Brotherson, S. (2009). *Understanding Brain Development in Young Children*. Retrieved fromhttps://www.researchgate.net/publication/252178274_Understanding_Brain _Development_in_Young_Children

Campbell , F. A., Ramey, C. T., Pungello, E., Sparling , J., & Miller-Johnson, S. (2002). Early Childhood Education: Young Adult Outcomes From the Abecedarian Project. *Applied Developmental Science, 6*(1), 42-57. doi:10.1207/S1532480XADS060105

REFERENCES (CONT.)

Ceido, M. B., Nayo, M. P., & Sampang, M. J. (2015, October). *Making a Case for ECCD:Impact Evaluation of Save the Children Phillipines ECCD Program.* Asia-Pacific Regional Network For Early Childhood (ARNEC) Conference, Beijing.

Chen, J.Q., & McNamee, G. D. (2011). Positive Approaches to Leaarning in the Context of Preschool Classroom Activities. *Early Childhood Education Journal, 39*(1), 71-78.

Choden, R. (2014). *The Status of Early Childhood Care and Development in Bhutan: An Internal Report for ECCD Situational Study.* Thimphu: Royal Education Council.

Conn-Powers, M. (2006). *Strategies for Readiness in Each Developmental Domain.* Retrieved from https://www.iidc.indiana.edu/styles/iidc/defiles/ECC/ECC_Strategies_Each_Dev_Domain.pdf.

Cox, L. (2016). *Effectiveness of Early Childhood Programs on the Literacy Achievement of Kindergarten* (Unpublished Doctoral dissertation). Walden University, United States.

Curriculum and Professional Support Division. (2005a). *Englsih Curriculum Framework, Classes PP-XII.* Thimphu, Bhutan: Department of Curriculum Research and Development, Ministry of Education.

Curriculum and Professional Support Division. (2005b). *Mathematics Curriculum Framework for classes PP-XII.* Thimphu, Bhutan: Curriculum and Support Division, Ministry of Education.

Das, D., Mohamed, H., Saeed, M. T., Acharya, P., Noble, R., Panezai, S., & Jasraj, S. (2008). *Strategic Choices for Education Reforms:Early Childhood Development in Five South Asian Countries.* Washington DC: World Bank Institute.

David, L. (2016) *Montessori method (Montessori)*. Retrieved from https://www.learning-theories.com/montessori-method-montessori.html.

DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education, 40*(4), 315. doi: 10.1111/j.1365-2929.2006.02418.x

REFERENCES (CONT.)

Dunn, S. G. (2005). *Philosophical Foundations of Education; Connecting Philosophy to Theory and Practice.* United States of America: Pearson Education.

ECCD & SEN Division. (2011). *Guidelines for Private ECCD Centres.* Thimphu, Bhutan: Ministry of Education.

ECCD & SEN Division. (2012). *Curriculum Implementation Guide for ECCD Centre Facilitators.* Thimphu, Bhutan: Ministry of Education.

ECCD & SEN Division. (2014). *Early Learning and Development Standards.* Thimphu: Ministry of Education.

Edwards, R., & Holland, J. (2013). *What is Qualitative Interviewing?* Retrieved from http://eprints.ncrm.ac.uk/3276/1/complete_proofs.pdf

Gabe, S. G., & Kamerman, S. B. (2006). Investing in Children: Public Commitment in Twenty-one Industrialized Countries. *Social Servicce Review, 80* (2), 239-263. doi: 10.1086/502783

Ghoting, S. N., & Martin-Diaz, P. (2006). *Early Literacy Story Times @ your library*. Retrieved from https://books.google.co.th/books?hl=en&lr=&id=1S7vmxOGf9QC&oi=fnd&pg=PR9&dq=early+literacy,+Ghoting+%26+Martin-Diaz

Giallo, R., Treyvaud, K., Matthews, J., & Kienhuis, M. (2010). Making the Transition to Primary School: An Evaluation of a Transition Program for Parents. *Australian Journal of Educational and Developmental Psychology, 10,* 1-17. Retrieved from https://files.eric.ed.gov/fulltext/EJ885703.pdf

Google Earth. (n.d.). *Study Area Map showing the Schools with Access to ECCD Centers in Paro*. Retrieved from https://earth.google.com/web

Gurung, A. (2014). Zero-three: The critical years for Government Investment in Bhutan. *Bhutan Journal of Research and Development, 3,* 41-53.

Hirsh-Pasek, K., & Golinkoff, R. M. (2008). *Why Play = Learning*. Retrieved from encyclopedia.com/play/according-experts/why-play-learnin

REFERENCES (CONT.)

Hirsh-Pasek, K., Golinkoff, R. M., Berk, L. E., & Dorothy, S. (2009). A Mandate for Playful Learning in Preschool: Applying the Scientific Evidence. In K. Hirsh-Pasek, R. M. Golinkoff, L. E. Berk, & S. Dorothy (Eds.), *The Evidence for Playful Learning in Preschool* (p.18). USA: Oxford University.

Huisman, S. (2012). Family Connections: Promoting Early Literacy Skills: Ages Birth to 5. *Childhood Education, 88* (6), 398-388. doi: 10.1080/00094056.2012.741489

Jena, P. C., & Wangmo, D. (2016). Early childhood care and education in Bhutan: an evaluative study. *World Scientific News, 37*, 279-302. Retrieved from http://www.worldscientificnews.com/wp-content/uploads/2015/10/WSN-37-2016-279-303.pdf

Jordan, N. C., Glutting, J., & Ramineni, C. (2010). The importance of number sense to mathematics achievement in first and third grades. *Learning and Individual Differences, 20*(2), 82–88.

Jordan, N. C., Kaplan, D., Locuniak, M. N., & Ramineni, C. (2007). Predicting First-Grade Math Achievement from Developmental Number Sense Trajectories. *Learning Disabilities Research & Practice*, *22*(1), 36–46.

Kamerman, S. B. (2006). *A global history of ealry childhood care and education.* Retrieved from https: //olc.worldbank. org/sites/default/files/3 A_global_ histo ry_of_early_childhood_care_and_education_Background_paper_EFAGlobalM onitoringReport2007UNESCO_0_0.pdf

Kennedy, A. S. (2018). Promoting the Social Competence of Each and Every Child in Inclusive Early Childhood Classrooms. *Early Childhood Education.* doi: 10.5772/intechopen.80858

Klass, P. E., Needlman, R., & Zuckerman, B. (2003). The developing brain and early learning. *Archives of Disease in Childhood, 88*(8), 651-654. doi:10.1136/adc.88.8.651

REFERENCES (CONT.)

Knox, S., & Burkard, A. W. (2009). *Qualitative Research Interviews.* Retrieved from https://epublications.marquette.edu/cgi/viewcontent.cgi?article=1121&context=edu_fac

LeFevre, J.-A., Smith-Chant, B. L., Skwarchuk, S.-L., Fast , L., & Kamawar, D. (2009). Home Numeracy Experiences and Children's Math Performance in the Early School Years. *Canadian Journal of Behavioural Science, 2*(41), 55–66. doi: 10.1037/a0014532

M, J. R., & S, R. K. (2015). Impact of Early Childhood Education on Pupils. *Global Journal of Educational Studies, 1*(1), 52-61.

Marshall, C. (2017). Montessori education: a review of the evidence base. *Npj Science of Learning, 2*(1), 1-11. doi: 10.1038/s41539-017-0012-7

Marturano, E. M., Gardinal-Pizato, C. E., & Fontaine, A. M. (2012). Access to early childhood education and academic achievement in elementary school. *SciELO Analytics, 22* (52), 187-192. doi: 10.1590/S0103-863X2012000200005

McKim, C. A. (2017). The Value of Mixed Methods Research:A Mixed Methods Study. *Journal of Mixed Methods Research, 11(2),* 202–222. doi: 10.1177/1558689815607096

McLeod, S. (2018). *Simply Psychology: Lev Vygotsky*. Retrieved from https://www.simplypsychology.org/vygotsky.html

Ministry of Education. (2012). *Educating for GNH: National Educaton Policy.* Thimphu: Gross National Happiness Commission.

Ministry of Education. (2014). *Bhutan Education Blueprint (2014-2024): Rethinking Education.* Thimphu, Bhutan: Author.

Ministry of Education. (2018). *Annual Education Statistics* . Thimphu, Bhutan: Policy and Planning Division, Ministry of Education.

NAEYC. (n.d.). *The 10 NAEYC Program Standards*. Retrieved from https://www.naeyc.org/our-work/families/10-naeyc-program-standards#9

National Statistics Bureau. (2018). *Statistical Yearbook of Bhutan.* Thimphu, Bhutan: Author.

REFERENCES (CONT.)

Nutbrown, C., Clough, P., & Selbie, P. (2008). *Early Childhood Education; History, Philosophy and Experience.* London: SAGE.

OECD. (2010). *Early Childhood Education and Care.* Retrieved from http://www.oecd.org/berlin/46299897.pdf

OECD. (2019). *Education at a Glance 2019: OECD Indicators.* Retrieved from https://doi .org/10.1787/f8d7880d-en

O'Farrelly, C., & Hennessy, E. (2013). Understanding Transitions Within Early Childhood Care and Education Settings: The Perspectives of Professionals. *International Journal of Transitions in Childhood, 6,* 3-15. Retrieved from https://pdfs. Semanticschol ar.org/63a0/d8991b6afaac 79b093bf6a 78e36 24 73

Palmer, V. (2015). *The 13 Key Benefits of Early Childhood Education: A Teacher's Perspective*. Retrieved from https://www.huffpost.com/entry/the-13-key-benefits-of-ea_n_7943348

Pedey, K., & Sims, M. (2015). Are We All Travelling Similar Paths to Early Childhood Professionalisation? The Case of Bhutan . *International Journal of Innovation and Research in Educational Services, 2* (3), 2349-5219. Retrieved from https://www. ijires.org/administrator/ components/com_jresearch /files/ publications/IJIRES_301

Pholphirul, P. (2016). Pre-primary education and longterm education performance: Evidence from Programme for Intrnational Student Assessment (PISA) Thailand. *Journal of Early Childhood Research*, *15*(4), 410-432.

Pianta, R., Downer, J., & Hamre, B. (2016). *Quality in Early Education Classrooms: Definitions, Gaps, and Systems*. Retrieved from https://files.eric.ed.gov / fulltext / EJ1118551.pdf

Pisani, L., Borisova, I., & Dowd, A. J. (2015). *International Development and Early Learning Assessment Technical Working Paper*. Retrieved from https: //www. savethechildren.org/content/dam/global/reports/education-and-child-protection /ID ELA-tech-wrkppr-15.pdf

REFERENCES (CONT.)

Pisani, L., Borisova, I., & Dowd, A. J. (2018). Developing and Validating the International Development and Early Learning Assessment (IDELA). *International Journal of Educational Research, 91,* 1-15. doi: 10.1016/j.ijer.2018.06.007

Pisani, L., Dyenka, K., Sharma, P., Chhetri, N., Dang, S., & Gayleg, K. (2017). Bhutan's National ECCD Impact Evaluation: Local, National, and Global Perspectives. *Early Child Development and Care, 187*(10), 1511-1527. doi:10.1080/03004430. 2017.1302944

Raghubar, K. P., & Barnes, M. A. (2016). Early numeracy skills in preschool-aged children: A review of neurocognitive findings and implications for assessment and intervention. *The Clinical Neuropsychologist, 31*(2), 329–351. doi: 10.1080/13854 046.2016.1259387

Ramey, C. T., & Ramey, S. L. (2004). Early Learning and School Readiness: Can Early Interventation Make a Difference? *Merrill-Palmer Quarterly, 50* (4), 471-477. doi: 10.1353/mpq.2004.0034

Ramey, S. L., & Ramey, C. T. (n.d.). *Foundations for Early Learning: The InvestiGator Club™ Research Base.* Retrieved from https://www.investigatorclub.com/wp-content/uploads/2018/07/TIC-Research-Base.pdf

Rao, N., Sun, J., Pearson, V., Pearson, E., Liu, H., Constas, M. A., & Engle, P. E. (2012). Is Something Better than Nothing? An Evaluation of Early Childhood Programs in Cambodia. *Child Development, 83*(3), 864-876. Retrieved from https://www.jstor. org/stable/23255729

Reid, K., & Andrews, N. (2016). *Fostering Understanding of Early Numeracy Development.* Retrieved from https://research.acer.edu.au/cgi/viewcontent.cgi?article=1028&context=monitoring_learning

Rimm-Kaufman, S. E., & Pianta, R. C. (2000). An Ecological Perspective on the Transition to Kindergarten; A Theoritical Framework to Guide Empirical Research. *Journal of Applied Developmental Psychology, 21*(5), 494.

REFERENCES (CONT.)

Rovinelli, R. J., & Hambleton, R. K. (1977). On the use of content specialists in the assessment of criterion-referenced test item validity. *Tijdschrift voor Onderwijsresearch, 2*(2), 49-60.

Rowley, J. (2014). Designing and using research questionnaires. *Management Research Review, 37*(3), 308-330. doi:10.1108/MRR-02-2013-0027

Save the Children. (2003). *What's the difference? An ECD Impact Study from Nepal.* Retrieved from https://www.unicef.org/evaldatabase/files/Nepal_2003_ECD Impact_Studty.pdf

Save the Children. (n.d.). *Emergent Literacy: Investing Early for Exponential Outcomes*. Retrieved from https://www.save the Children.org/content/ dam/global/reports/ education-and-child-protection/edu-elm-13.pdf

Sawhill, I. (2016). *Kids Need an Early Start*. Retrieved from https://www.heartland.org/ publications -resources/publications/kids-need-an-early-start

Shorten, A., & Smith, J. (2017). Mixed methods research: expanding the evidence. *Evidenced Based Nursing, 20*(3), 74-75. doi: 10.1136/eb-2017-102699

Smith, P. K., & Pellegrini, A. (2013). *Encyclopedia on Early Childhood Development: Learning Through Play*. Retrieved from http://www.child-encyclopedia.com/play/ according-experts/learning-through-play

Starkey, P., Klein, A., & Wakeley, A. (2004). Enhancing young children's mathematical knowledge through a pre-kindergarten mathematics intervention. *Early Childhood Research Quarterly, 19*(1), 99–120. doi:10.1016/j.ecresq.2004.01.002

Stedron, J. M., & Berger, A. (2010). *NCSL Technical Report: State Apporaches to School Readiness Assessment.* Retrieved from http://www.ncsl.org /documents/ Educ/ KindergartenAssessment.pdf

Stockall, N. S., Dennis, L., & Miller, M. (2012). Right From the Start;Universal Design for Preschool. *Teaching Exceptional Children, 45*(1), 10-17.

Tavacol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55. doi: 10.5116/ijme.4dfb.8dfd

REFERENCES (CONT.)

UNESCO Institute for statistics. (2019). *Education and Literacy:Participation in Education.* Retrieved from http://uis.unesco.org/en/country/bt

UNESCO. (2004). *EFA Goal Monitoring Report 2005; Education For All The Quality Imperative.* Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000137

United Nations Children's Fund. (2018). *Learning through Play; Strengthening learning thorugh play in early childhood education programs*. Retrieved from https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf

Vygotsky, L. (1978). *Mind in Society; The Development of Higher Psychological Process.* Cambridge, Massachusetts: Harvard University.

Wangchuk, D. (2018) *School Principals Perceptions towards Instructional Leadership Proactices; A Case Study from the Southern District in Bhutan* (Unpublished Master's thesis). Rangsit University, Thailand.

Wangmo, T., & Brooks, M. (2016). Early Childhood Care and Development in Bhutan: Mind the Gap(s). In M.J. Schuelka & W.T. Maxwell (Eds.), *Education in Bhutan. Education in the Asia-Pacific Region; Issues, Concerns and Prospects* (pp. 199-213). Singapore: Springer. doi:10.1007/978-981-10-16493

Wechsler, M., Melnick, H., Maier, A., & Bishop, J. (2016). *Learning Policy Institute*: *The Building Blocks of High-Quality Early Childhood Education Programs.* Retrieved from https://learningpolicyinstitute.org/product/building-blocks-high-quality-early -childhood-education-programs

Yoshikawa, H., Weiland, C., & Brooks-Gunn, J. (2016). When Does Pre-School Matter? *The Future of Children, 26*(2), 21-65. doi:10.1353/foc.2016.0010

Yoshikawa,, H., Weiland, C., Brooks-Gunn, J., Burchinal, M. R., Espinosa, L. M., Gormley, W. T., Zaslow, M. J. (2013). Investing in Our Future:The Evidence Base on Preschool. *Society for Research in Child Development,4,* 1-21. Retrieved from https://files.eric.ed.gov/fulltext/ED579818.pdf

Zigler, E., Gilliam, W. S., & Jones, S. M. (2006). *A Vision for Universal Preschool Education.* New York, US: Cambridge University Press.

APPENDICES

APPENDIX A
APPROVAL LETTERS

The Director General
Department of School Education
Ministry of Education
Thimphu, Bhutan

Date: 2 July 2019

Subject: Request for Permission to Collect Data for M. Ed. Theses

Dear Sir/Madam,

Suryadhep Teachers College for the M. Ed. Program in Curriculum and Instruction would like to request your permission for ten M. Ed. candidates to collect data in Bhutan in the period of 29 July 2019 – 1 September 2019. The details of the candidates are shown below:

Sl. No	Name	Research Title	Research School
1	Chhimi Dorji	The Use of Project-based Learning on Understanding Scientific Concepts of Grade VI Bhutanese Students	Tencholing Primary School, Wangduephodrang
2	Buddha Singh Tamang	Application of Content and Language Integrated Learning (CLIL) Approach for English Learning of Secondary School Bhutanese Students	Punakha Central School, Punakha
3	Cheki Wangmo	The Use of Numbered Heads Together (NHT) on the Learning Achievement of Bhutanese 6th Grade Students in Science	Tongmijangsa Primary School, Trashiyangtshe
4	Damber Singh Mongar	The Use of Animated Movies to Enhance Narrative Writing Skills of Grade 6 Bhutanese ESL Students	Gaselo Central School, Wangduephodrang
5	Lhadon	The Use of Visual Imaginary Strategy to Enhance English Reading Comprehension Skills of Grade Four Bhutanese Students	Trashiyangtshe Lower Secondary School, Trashiyangtshe
6	Namkha Wangdi	Motivation Among ESL learners: An Investigative Study of Grade 12 Students in Bhutan	Karmaling Higher Secondary School and Orong Central School, Samdrupjongkhar
7	Norbu Kezang	The Application of Place-based Inquiry Approach on Grade 6 Bhutanese Students in Learning Environmental Science	Udzorong Central School, Tashigang
8	Pema Wangzom	The Use of Graphic Organizers in Teaching History to Grade Seven Students in Bhutan	Dekiling Middle Secondary School, Sarpang
9	Tenzin Jamtsho	The Effect of Using Games Incorporating Manipulatives in Geometry for Grade 6 Students in Trashiyangtshe, Bhutan	Trashiyangtshe Lower Secondary School, Trasgiyangtshe
10	Tshering Denkar	Teachers' Perception of Early Childhood Care and Development Centers: Effects on Pre-Primary Students in Bhutan	Paro district

Thank you for your kind consideration.

Truly yours,

Assistant Professor Anchalee Chayanuvat, Ed.D.
Dean of Suryadhep Teachers College
Rangsit University
Muang-Ake. Paholyothin Road
Lakhok, Pathumtani 12000 THAILAND
Tel +662-997-2222 ext. 1275, 1276 Fax +662-997-2222 ext. 1277

དཔལ་ལྡན་འབྲུག་གཞུང་ཤེས་རིག་ལྷན་ཁག།

Ministry of Education
Department of School Education
School Planning and Coordination Division

DSE/SPCD/SLCU(2.1)2019/ 1645

August 2, 2019

The Principal
All the Participating School(s)

Subject: Approval to conduct research and collect data for M.Ed. Theses

Dear Sir/Madam,

The following group of teachers are currently undergoing M.Ed Program in Curriculum and Instruction at Suryadhep Teachers College in Rangsit University, Thailand. As part of the study program, they will be collecting data from the students and teachers for their research project from August 5 through September 30, 2019.

SL NO	NAME	RESEARCH TITLE	RESEARCH SCHOOL
1	Chhimi Dorji	The Use of Project-Based Learning on Understanding Scientific Concepts of Grade 6 Bhutanese Students	Tencholing Primary School, Wangdue Phodrang
2	Buddha Singh Tamang	Application of Content and Language Integrated Learning (CLIL) Approach for English Learning of Secondary School Bhutanese Students	Punatsha Central School, Punatsha
3	Cheki Wangmo	The Use of Numbered Heads Together (NHT) on the Learning Achievement of Bhutanese 6th Grade Students in Science	Tongmijangsa Primary School, Trashiyangtse
4	Darrber Singh Mongar	The Use of Animated Movies to Enhance Narrative Writing Skills of Grade 6 Bhutanese ESL Students.	Gasetso Central School, Wangdue Phodrang
5	Lhadon	The Use of Visual Imaginary Strategy to Enhance English Reading Comprehension Skills of Grade Four Bhutanese Students	Trashiyangtse Lower Secondary School, Trashiyangtse
6	Namkha Wangdi	Motivation Among ESL Learners: An Investigation Study of Grade 12 Students in Bhutan.	Kanmaling Higher Secondary School and Orong Central School, Samdrupjongkhar
7	Norbu Kezang	The Application of Place-based Inquiry Approach on Grade 6 Bhutanese Students in Learning Environmental Science.	Udzorong Central School, Tashigang
8	Pema Wangzom	The Use of Graphic Organizers in Teaching History to Grade 7 Students in Bhutan	Dekiling Middle Secondary School, Sarpang
9	Tenzin Jamtsho	The Effect of Using Games Incorporating Manipulatives in Geometry for Grade 6 Students in Trashiyangtse, Bhutan	Trashiyantse Lower Secondary School, Trashiyangste
10	Isharing Denkar	Teachers' Perception of Early Childhood Care and Development Centers: Effects on Pre-Primary students in Bhutan	Pero Dzongkhag Schools

In this regard, you are kind y requested to facilitate them to collect data as per their schedule with minimal disruption to instructional time of the school.

Thanking you

Sincerely yours,

(Kinley Gyeltshen)
Chief Program Officer

Copy to:
1. Chief DEO, Dzongkhag Administration, for kind information.

APPENDIX B

RESEARCH SCHOOLS

Schools with access to ECCD Centers in one of the Western Districts in Bhutan

Sl.no	Schools
1	Bitekha Middle Secondary School
2	Wanakha Central School
3	Dawakha Lower Secondary School
4	Shaba Primary School
5	Woochu Lower Secondary School
6	Khangkhu Middle Secondary School
7	Taju Primary School
8	Olathang Primary School
9	Gaupel Lower Secondary School
10	Doteng Lower Secondary School
11	Lango Middle Secondary School
12	Drukgyel Lower Secondary School
13	Ramchetsekha Primary School
14	Gunitsawa Primary School

APPENDIX C
RESEARCH INSTRUMENTS

PRE-PRIMARY TEACHER SURVEY QUESTIONNAIRE

Instructions: The purpose of this survey is to study the teachers' perception on the effects of Early Childhood Care and Development (ECCD) Centers on the Pre-Primary Bhutanese students. It aims to find out the students' preparedness to start Pre-Primary after attending ECCD centers. It consists of 28 statements that describe students' skills in the five domains namely Gross and Fine Motor Development, Literacy and Language, Numeracy, Socio-Emotional Development and Approaches to Learning. The confidentiality of your answer will be strictly safeguarded as per the research ethics:

Part I

Please tick and fill in as appropriate:

1. Gender: a. Male b. Female	**2.** School Location: a. Rural b. Urban
3. Teaching experience: ☐ yrs	**4.** Pre-primary teaching experience: ☐ yrs

Part II

Please put the tick mark (√) for each statement as per your observation of those students who **attended ECCD centers** prior to starting their formal schooling in Pre-Primary level.

Rate your response to each statement on the scale of 1-5. The rating scale is as follows:

Scale		
Very Well prepared: 5	Well prepared: 4	Prepared: 3
Slightly prepared: 2	Not prepared: 1	

	Very Well Prepared	Well Prepared	Prepared	Slightly Prepared	Not Prepared
	5	**4**	**3**	**2**	**1**
The students' are able to:					
I. GROSS & FINE MOTOR DEVELOPMENT					
1. Participate in activities involving basic movements such as running, walking, jumping, skipping and hopping.					
2. Use hand-eye coordination to perform simple tasks (example: copying a shape)					
3. Hold and use pencils and colors to draw simple pictures or shapes					
II. LITERACY AND LANGUAGE					
a. Listening& Speaking					
4. Use variety of words and phrases to communicate and ideas					
5. Listen and respond to simple questions appropriately					
6. Understand and follow directions/instructions					
b. Reading					
7. Identify and name the alphabets/letters					
8. Identify the letter sounds					
9. Open the book appropriately and point to texts on the page					
c. Writing					
10. Understand that printed symbols such as letters, words and pictures convey a message					
11. Knowledge on left to right writing orientation					
12. Write some alphabets and numbers					

	Very Well Prepared	Well Prepared	Prepared	Slightly Prepared	Not Prepared
	5	**4**	**3**	**2**	**1**
The students' are able to:					
III. NUMERACY					
13. Count to ten or more					
14. Identify and name the numbers up to ten or more					
15. Compare objects based on one or more attributes (big, small, long, short)					
16. Sort similar and different objects based on its attributes (size, colour, shape)					
17. Identify the shapes such as circle, rectangle, triangle, square					
18. Basic idea of addition and subtraction (2+2, 3-1)					
IV. SOCIO-EMOTIONAL DEVELOPMENT					
19. Interact easily with peers and teachers					
20. Work/play cooperatively with their peers and team					
21. Tell basic information of self, such as name, age, gender, parents.					
22. Show care and respect for others feelings and needs					
23. Adapt to the rules and routines of the school					
24. Express their needs and feelings openly					
V. APPROACHES TO LEARNING					
25. Pay attention to the instructions and activities					
26. Focus on the work/task assigned					
27. Stay motivated to complete the task					
28. Show interest and curiosity in learning activities					

SEMI-STRUCTURED INTERVIEW QUESTIONS

Part I: Demographic information of the interview participants.

Directions: Tick or fill in as appropriate:

Date of interview: ☐

Time of interview: ☐

Place of interview: ☐

1. Gender: a. Male b. Female	2. School Location: a. Rural b. Urban
3. Teaching experience: ☐ yrs	4. Pre-primary teaching experience: ☐ yrs

Part II: Interview questions

1. In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
2. How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
3. Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
4. How can the ECCD centers further facilitate the students' preparedness for formal schooling?
5. Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?

APPENDIX D

INSTRUMENT VALIDATORS

Sl.no	Name	Position Title	Institutes
1	Prayuth Chusom	Assistant Professor, Ed.D	Thailand
2	Ms. Dechen Peldon	Teacher	Tencholing Primary School, Wangdi Phodrang: Bhutan
3	Mr. Karma Gayleg	Deputy Chief Program Officer	ECCD & SEN Division, Ministry of Education, Thimphu: Bhutan

APPENDIX E

IOC FOR RESEARCH INSTRUMENTS

Item Objective Congruence (IOC) of Survey Questionnaire

Developmental Skills	Expert 1	Expert 2	Expert 3	IOC	Remarks
I. GROSS AND FINE MOTOR SKILLS					
Question 1	+1	+1	0	0.67	Congruent
Question 2	+1	+1	+1	+1	Congruent
Question 3	+1	+1	+1	+1	Congruent
II. EMERGENT LANGUAGE AND LITERACY					
a. ***Listening& Speaking***					
Question 4	+1	+1	+1	+1	Congruent
Question 5	+1	+1	+1	+1	Congruent
Question 6	+1	+1	0	0.67	Congruent
b. Reading					
Question 7	+1	0	+1	0.67	Congruent
Question 8	+1	0	+1	0.67	Congruent
Question 9	+1	+1	+1	+1	Congruent
c. Writing					
Question 10	+1	+1	+1	+1	Congruent
Question 11	+1	0	+1	0.67	Congruent
Question 12	+1	+1	0	0.67	Congruent
III. EMERGENT NUMERACY					
Question 13	0	+1	+1	0.67	Congruent
Question 14	+1	+1	+1	+1	Congruent
Question 15	+1	+1	+1	+1	Congruent
Question 16	+1	+1	+1	+1	Congruent
Question 17	+1	+1	0	0.67	Congruent
Question 18	+1	+1	+1	+1	Congruent

IV. SOCIO-EMOTIONAL SKILLS					
Question 19	+1	+1	+1	+1	Congruent
Question 20	+1	+1	+1	+1	Congruent
Question 21	+1	+1	+1	+1	Congruent
Question 21	+1	+1	0	0.67	Congruent
Question 23	+1	+1	+1	+1	Congruent
Question 24	+1	+1	+1	+1	Congruent
V. APPROACHES TO LEARNING					
Question 25	+1	+1	+1	+1	Congruent
Question 26	+1	+1	+1	+1	Congruent
Question 27	+1	+1	+1	+1	Congruent
Question 28	+1	+1	+1	+1	Congruent
Average				**0.89**	**Congruent**

Item Objective Congruence (IOC) Of Semi-Structured Interview Questions

Semi-Structured Questions	**Expert 1**	**Expert 2**	**Expert 3**	**IOC**	**Remarks**
Question 1	0	+1	+1	0.67	Congruent
Question 2	+1	+1	+1	+1	Congruent
Question 3	+1	+1	+1	+1	Congruent
Question 4	+1	+1	+1	+1	Congruent
Question 5	+1	+1	+1	+1	Congruent
Average				**0.89**	**Congruent**

APPENDIX F

RELIABILITY TEST SCORES

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.887	0.91	28

Summary Item Statistics

	Mean	Std. Deviation	N
i. Gross and fine motor development	12.452	2.278	31
ii. Emergent Literacy and Language	31.774	5.914	31
iii. Emergent Numeracy	20	4.524	31
iv. Socio-emotional development	21.484	4.311	31
v. Approaches to learning	14.129	3.373	31

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
99.8387	311.74	17.656	28

APPENDIX G

EXCERPTS OF SEMI STRUCTURED INTERVIEWS

Q. No	Teacher 1
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	The skill which are the most enhanced in the ECCD attendees is that they are very sociable, acceptable in nature and very open. They also have basic alphabet and number knowledge. They are also very prompt at responding to the queries and accommodate to the classroom well as they understand the needs of the new environment and are ready.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	As students build on their experiences from ECCD Centers, they are more enthusiastic about learning and are also seen assisting their peers in the team upon teacher's encouragement. As these students have a strong foundation, they are well prepared and most of the academic toppers in my class and in the other class are also students who attended ECCD Centers. It even helps boost their self- esteem.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	ECCDs are doing a good job. They are covering all the aspects of essential needs for preparing children. That I feel is mainly because they align with policies of the government. Moreover they are also seen collaborating with the specialists who specialize in child development. I noticed a particular ECCD proprietor emphasizing on professional development programs. She is seen attending such programs and seems to be systematic. I am not sure if it's the same all around the country, but if it's done in this way, it would definitely boost children's development.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling? Answered in question 3.

Q. No	Teacher 1
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	Yes, I think it is very crucial for children to attend ECCDs as it prepares the children in their overall development. It is like a foundation and prepares the children for the school environment.

Q. No	Teacher 2
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	I think important skills such as fine motor skills, social skills and communication skills are well developed in the students who attended ECCD prior to starting class PP.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	It is easier for the PP teachers to cater to the needs of the students as they are well equipped with the basic skills necessary for PP and they are more ready for school. Their performance level is also enhanced.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	These students need to work on their social etiquettes. They need to learn to be more well-behaved and respectful.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	The ECCD facilitators need to create conducive and safe learning environments so that children feel like coming to the center. Likewise, they need to create teaching learning materials using locally available resources for engaging the children.
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	It is important for students to attend ECCD Centers because most of the skills are developed in the centers and therefore it is easy for the teachers to focus more on the academics.

Q. No	Teacher 3
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	The children who came from ECCD have well developed motor skills and speaking skills.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	Attending ECCD Centers does influence their learning as they are already exposed to some essential basics such as fine motor and communication skills necessary for PP, it becomes easy to guide them. Similarly since maximum number of student's have ECCD experience, lesson delivery is made easier and it benefits the flow of the lesson. Personally, I feel attending ECCDs may not directly influence the achievement of a particular child as it also depends upon their individual capability and parents educational background too. However, it does uplift the overall performance of the class, as most of the children recapitulate their prior experiences and knowledge form the center and they are able to cope well at the same pace.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	Children are mostly exposed to play and they have the right to do things their way. So as they transit to school, it gets difficult to gain their attention.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	I feel that for the optimal development of a child, enough resources and professional development programs for the ECCD facilitators is necessary. Likewise, timely orientation on the policies and curriculum could be helpful.

Q. No	Teacher 3
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	Yes, I think it is very important for children to attend such centers especially as a means of getting prepared for the formal schooling. However, we need to bear in mind that it has to be done with proper guidance and knowledge of children's developmental needs.

Q. No	Teacher 4
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers? Responses:
	The students who attended ECCD Centers are equipped with basic pre-writing skills, are frank and open and have pencil skills.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	Since the students are prepared, the teachers can carry out their activities as planned. For example, since the student's already have the pencil holding skills, the teacher can directly start teaching writing. Otherwise, when the teachers have to start from such basic levels, we cannot carry out lessons as planned. Since these children are equipped with the basic skills, they have a sense of confidence when they are able to do things. Moreover, it's like they are building on their prior knowledge from the ECCD in class PP. This impacts their learning as they are academically advantaged. The position holders in my class are those who attended ECCD.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	Since they have learned most of the things in the center, for example rhymes, they seem to look down on others who don't know. At times they overtake the flow of the lessons and it gets disruptive.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	I think that the ECCD Centers are already following the policies and it does help prepare children for school. However, there are some private centers that are too academic oriented and even go to the extent of teaching spellings of colours and many other things which are not developmentally appropriate. This I think creates a fear in the children for the school education.

Q. No	Teacher 4
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	Yes, it is important because now the students who attended such centers have no problem coming to school. In the past we used to have children who would cry for 2 to 3 days in the beginning of the school year. Parents had to accompany the children and be by their side until they got used to the school environment. Now we don't have such problems.

Q. No	Teacher 5
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	Most of the children who attended ECCD Centers have well developed motor skills (use of pencil). They are easily able to interact with their friends which the students who did not attend ECCD Centers face difficulty especially in the first few weeks of the session.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	It definitely has an advantage. Since they are able to socialize, they are able to render help to others and also seek help and learn from others when in need. They even don't hesitate to ask help from the teachers too. I think they developed these skills from the center.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	Students are already introduced to basic writing in the ECCD centers. But the letter formation that they are taught in the centers do not correspond with the one in PP curriculum. Once they are in school, it becomes difficult to convince them to correct it.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	There is a mismatch in the ways some things are taught. So maybe the centers need to collaborate with the school curriculum.
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	It is necessary for students to attend ECCD but it all depends upon the parents. Some children come from far places and do not have access to centers.

Q. No	Teacher 6
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	Children who come from ECCD are good at shape, color, alphabet and number recognition. They are also very open and can communicate their needs well with anyone. This creates a scope of becoming skillful.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	In PP, we start with basic things and since they already know these basic things, teachers can build on what they already know and it becomes easier.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	A disadvantage is that some children from ECCD come with wrong letter formation. Correct letter formation in PP is essential for their handwriting. Sometimes it is difficult to undo what has already been done, than to teach new things.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	If all the correct things are happening in the ECCD, there would be only advantages. For that we need trained ECCD facilitators and they need to be aware of the education policies and development needs of the children according to their age. Some ECCD focus only on play and some do all the pre-teaching. . They need to leave the pre-teaching for the school and just build on the skills. There is an overlap in the things taught in the ECCD and schools. What needs to be taught in PP is already taught in ECCD. Therefore, there is a need for close link between the ECCDs and the primary schools. ECCD's could also work towards building the moral values and behavior of the children as this is a crucial stage and once these children come to PP.

Q. No	Teacher 6
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	Yes, it is important provided that it is done in the right way. If children attend ECCD at the right stage, they would be engaged in the right way and be prepared for PP. If so, in the near future, we might not have students dropping out. Their developmental need would also be fulfilled at the right stages. For instance, right now there are some children who are left alone at home to tend to themselves as parents are engaged elsewhere.

Q. No	Teacher 7
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	Communication skill is the most enhanced in the students who attended ECCD Centers. They can understand and share their opinions with their friends and teachers easily.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	Since ECCD centers focus on the overall development of the children, they are well prepared to face the formal classroom setting. They are taught basic communication skills, exposed to basic greetings and to tackle simple conversations. Because they are equipped with these basic skills they enjoy the process of learning as well as do better. They can understand the concepts taught faster and better.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	There is a need to focus on their behavior, pre-reading and pre-writing skills.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	ECCD Centers need to create conducive learning environment, need trained facilitators and need follow the ECCD curriculum guidelines.
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	Yes, it is very much important since many skills are learnt and they are well prepared for the Pre-Primary.

Q. No	Teacher 8
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	Hand coordination and social skills are the most developed in the students who attended ECCD centers. They are open, confident and ready to accept new learning.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	As these children have the basic skills, they are very comfortable and ready to begin their formal schooling.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	There is a need to emphasize on the listening skills of these students. They need to be more patient.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	The ECCD Centers can promote active listening skills in the children. The facilitators need to attend workshops to be able to facilitate such skills in the children.
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	Yes, it is very much important as it enables students to be ready, independent and confident.

Q. No	Teacher 9
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	The communication and social skills are the most enhanced in the PP students who attended ECCD Centers.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	Students who attended ECCD centers can open up easily, interact easily with teachers and with peers. They can adapt to the rules easily and they don't feel tortured in the class. For teachers, it is easy to teach them.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	They are quite restless and naughty.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	They should invite resource persons from relevant organizations for the ECCD facilitator's professional growth. This would enhance children's learning.
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	Yes, it is important as it helps children develop essential skills which also prepares them for the school.

Q. No	Teacher 10
1	In your opinion, which skill is the most enhanced in the Pre-Primary students who attended ECCD centers?
	The student's fine motor skills and communication skills are the most enhanced.
2	How does attending ECCD centers influence the learning of the students as they start their formal schooling in Pre-Primary?
	When these students come to school with ECCD experience, we can easily manage the class. They can follow the instructions easily which enhances the whole teaching learning process altogether.
3	Which skill needs to be emphasized for improvement in the Pre-Primary students who attended ECCD centers?
	The students come to school with wrong letter formation concepts.
4	How can the ECCD centers further facilitate the students' preparedness for formal schooling?
	There is a need to train the ECCD facilitators. It is especially necessary to orient the ECCD facilitators on the letter formation.
5	Do you think it is important for children to attend ECCD centers prior to starting their formal schooling? Why?
	Yes, I think it is important for students to attend ECCD centers prior to starting their formal schooling because it gives them an opportunity to be prepared for school. And overall, it makes the teaching learning process very easy.

BIOGRAPHY

Name	Tshering Denkar
Date of Birth	May 3, 1990
Place of Birth	Tshongdue, Hungrel, Paro, Bhutan
Institutions Attended	Paro College of Education, Paro, Bhutan Bachelor of Education, 2011 Rangsit University, Thailand Master of Education in Curriculum and Instruction, 2019
Scholarship	Thailand International Cooperation Agency (TICA)
Address	Tshongdue, Hungrel, Paro: Bhutan
E-Mail Address	tdenkar00gmail.com
Position and Office	Teacher Gaupel Lower Secondary School, Paro, Bhutan