

แนวทางพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวม  
ในโรงเรียนอนุบาลเอกชน

นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์

สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาครุศาสตรมหาบัณฑิต  
สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย  
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APPROACHES TO THE DEVELOPMENT OF UNIVERSAL DESIGN FOR LEARNING TO  
PROMOTE CHILDREN'S HOLISTIC DEVELOPMENT IN PRIVATE KINDERGARTENS

MRS. RATTANATORN KERDDUAYBOON METZGER

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โดย	นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์
สาขาวิชา	บริหารการศึกษา
อาจารย์ที่ปรึกษาสารนิพนธ์	รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย

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คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย อนุมัติให้รับสารนิพนธ์ฉบับนี้เป็นส่วนหนึ่งของ  
การศึกษาตามหลักสูตรปริญญาโทบริหารการศึกษา

..... คณบดีคณะครุศาสตร์  
(รองศาสตราจารย์ ดร.ศิริเดช สุชีวะ)

คณะกรรมการสอบสารนิพนธ์

..... ประธานกรรมการ  
(ศาสตราจารย์ ดร.พฤษี ศรีบุญรัตนพิทักษ์)  
..... อาจารย์ที่ปรึกษา  
(รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย)  
..... กรรมการ  
(ผู้ช่วยศาสตราจารย์ ดร.นันทวัฒน์ เจริญกุล)

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อาจารย์ที่ปรึกษาสารนิพนธ์: รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย, 274 หน้า

บทความนี้มีวัตถุประสงค์เพื่อ 1) ศึกษาสภาพปัจจุบันและสภาพที่พึงประสงค์ของการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน และ 2) นำเสนอแนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน รูปแบบการวิจัยเป็นการวิจัยเชิงปริมาณ ใช้แนวคิด Block Two: Inclusive Instructional Practice โดย Katz (2012) เป็นกรอบการวิจัย กลุ่มตัวอย่างที่ใช้ในการวิจัยครั้งนี้ คือ โรงเรียนอนุบาลเอกชน 581 โรงเรียนในกรุงเทพมหานคร ผู้ให้ข้อมูล คือ ผู้บริหาร หัวหน้าวิชาการ และครู จำนวน 379 คน ที่ได้รับการเลือกผ่านการสุ่มอย่างง่าย เครื่องมือที่ใช้ในการวิจัย คือ แบบสอบถาม และแบบประเมินความเหมาะสมและความเป็นไปได้ของ (ร่าง) แนวทางฯ สถิติที่ใช้วิเคราะห์ข้อมูล คือ ค่าความถี่ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน และดัชนีความต้องการจำเป็น (PNI<sub>modified</sub>) ผลการวิจัย พบว่า

1. สภาพปัจจุบันของการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชนอยู่ในระดับกลาง ส่วนสภาพที่พึงประสงค์ของการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชนอยู่ในระดับมากที่สุด

2. ความต้องการจำเป็นของการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชนสูงสุด 5 ด้าน คือ ด้านการเรียนรู้ร่วมกัน ด้านการเลือกเรียนตามความสนใจ ด้านการจัดการเรียนรู้แบบสืบเสาะหาความรู้ ด้านการเรียนรู้ร่วม และด้านหลักสูตรบูรณาการ ตามลำดับ โดยด้านพัฒนาการแบบองค์รวมที่มีความต้องการในการพัฒนาสูงสุด คือ ด้านสติปัญญา ด้านสังคม ด้านร่างกาย และด้านอารมณ์ตามลำดับ

3. แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน มีทั้งหมด 5 แนวทางหลัก 10 แนวทางย่อย และ 20 วิธีดำเนินการ โดยแนวทางหลักประกอบไปด้วย 1) สร้างทัศนคติเชิงบวกต่อการเรียนรู้ผ่านการเรียนรู้ร่วมกันและสังคมการศึกษาแบบเรียนรวม 2) ส่งเสริมการเลือกเรียนตามความสนใจและการพึ่งพาตนเองผ่านวัฒนธรรมโรงเรียนแบบประชาธิปไตย 3) ยกกระตือรือร้นการวัดประสิทธิผลการเรียนรู้แบบสืบเสาะหาความรู้ให้เป็นวิธีการหลักในห้องเรียน 4) จัดประสบการณ์เรียนรู้ที่ตอบสนองความแตกต่างระหว่างบุคคลเพื่อครอบคลุมนักเรียนที่มีความต้องการที่พิเศษในกิจกรรมต่างๆ และ 5) พัฒนาหลักสูตรบูรณาการที่ส่งเสริมการแสดงออกทางอารมณ์อย่างเหมาะสม

ภาควิชา นโยบาย การจัดการและความเป็นผู้นำทางการศึกษา

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ลายมือชื่อนิสิต .....

ลายมือ อ.ที่ปรึกษา .....

RATTANATORN KERDDUAYBOON METZGER: APPROACHES TO THE DEVELOPMENT OF  
UNIVERSAL DESIGN FOR LEARNING TO PROMOTE CHILDREN'S HOLISTIC DEVELOPMENT  
IN PRIVATE KINDERGARTENS

Advisor: Assoc. Prof. Sukanya Chaemchoy, Ph.D., 274 PP

This survey research aimed to, first, study the current and desirable levels of practice regarding the development of Universal Design for Learning (UDL) to promote children's holistic development in private kindergartens and, second, to recommend approaches to the development of UDL to promote children's holistic development in private kindergartens. It employed Block Two: Inclusive Instructional Practice by Katz (2012) as a research framework. The research population were 581 private kindergartens in Bangkok. The informants were 379 private kindergarten administrators, heads of the academics, and teachers obtained through random sampling. The research instruments were a questionnaire and a feasibility assessment form. Basic statistics used to analyze data included frequency, percentage, mean, standard deviation, and  $PNI_{\text{modified}}$ . The findings were as follows:

1. The overall current level of practice regarding the development of UDL to promote children's holistic development in private kindergartens was at a moderate level, whereas the overall desirable level of practice was at an extremely high level.


2. The five dimensions that showed the highest level of need for the development of UDL to promote children's holistic development in private kindergartens were flexible groupings/co-operative learning, student choice, discipline-based inquiry, social & academic inclusion of children with exceptionalities, and integrated curriculum, respectively. In contrast, the domains of holistic development that showed the highest need for development were the cognitive domain, the social domain, the physical domain, and the emotional domain, respectively.

3. The recommended approaches to the development of UDL to promote children's holistic development in private kindergartens included 5 main approaches, 10 sub-approaches, and 20 procedures. The main approaches were 1) enhancing positive attitudes toward learning through collaboration and inclusive school community; 2) optimizing student choice and autonomy to promote a democratic school culture; 3) Highlighting discipline-based learning as the main pedagogical approach in classroom; 4) differentiating instructions to include children with exceptionalities in a wider range of activities; and 5) developing an integrated curriculum that promotes healthy emotional expressions in holistic ways

Department: Education Policy, Management, and Leadership

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Student's Signature.....

Advisor's Signature.....

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## Chapter 1

### Introduction

#### 1.1 Background and Significance of Research

The foundations of brain functioning and subsequent lifelong learning are grounded within the early years of life through a developmental process that is highly sensitive to environmental influences (Yoshikawa & Kabay, 2015). This environmentally-based pruning of the brain's architecture in the early years determines a child's holistic development. According to Thailand's Early Childhood Curriculum B.E. 2017, holistic development consists of four main developmental domains that are intricately intertwined – physical, emotional, social, and cognitive domains (Ministry of Education, 2017). By recognizing that the human development areas are interconnected, a 'whole' child can then be considered at every level of professional practice: early childhood education becomes child-centered; the child becomes an active participant while adults aid learning; play is the natural medium for learning; learning occurs through interactions; and curriculum is a process rather than a mean end (Brody, 2018). Based on this perspective, a high-quality early childhood education program that celebrates the uniqueness of every child and seeks to nurture the child in all dimensions of his/her development is vitally needed to successfully promote children's holistic development.

To support children to reach their full potential through holistic development, many governments proposed inclusive education as a means to promote high quality in their early childhood education services. For example, New Zealand policymakers believe that inclusive education welcomes and supports every child to play, learn, contribute, and participate in all aspects of life at school (Ministry of Education, 2022). Similarly, inclusive education is recognized as a means to “ensure that all children participate meaningfully while learning and interacting in programs that acknowledge each child's strengths and interests so that they are supported to be active members of their community” (Early Childhood Australia, 2012, p. 2). From these examples, it is

clear that inclusive education is understood and translated by local policymakers and stakeholders into local definitions and educational policies (Hayes & Bulat, 2017). Being elusive and complex in nature, along with its lack of universally accepted definition, inclusive education in one country can ‘look’ completely different from that in other countries in both shapes and forms.

As governments around the world locally translated this international concept into local practices, inclusive education in Thailand, unfortunately, took its form as special education, which was built on the psycho-medical model of abnormality where behaviors that fall out of the ‘norms’ as abnormal and needed to be ‘fixed’ or ‘eliminated’ (Rieser, 2001). Based on this perspective, special education is often characterized by the segregation of children with disabilities from the mainstream class. It focuses on fixing ‘abnormal’ behaviors before reintegrating the children back into the class. (Hornby, 2021). Due to the acts of labeling and distorted perceptions toward children, teachers will likely believe that children with disabilities cannot meet the same academic standards as their non-disabled classmates (Hettleman, 2013). With their ‘non-traditional’ needs, it is not surprising that special education is disproportionately represented by children from low socioeconomic status, non-English speaking, and immigrant backgrounds.

In contrast to the psycho-medical model, which believes that behaviors that fall outside the norms need to be fixed, more recent studies have affirmed that all children naturally differ to varying degrees, and it is impossible to deny those differences (Hettleman, 2013). From this perspective, every child, with and without disabilities, requires some form of special individualized support that allows them to reach their full potential while fully embracing those unique characteristics of theirs (Rieser, 2001). Thus far, it may be concluded that the type of educational models that employ the principle of eliminating individual differences and victim-blaming may not be effective and rather hinders children’ progress. With Thai policymakers and educators struggling to translate inclusive education policies into effective practices, there is thus a call for an educational framework that embraces the individual

differences of every child regardless of their differences and promises equity in all mainstream classes through differentiated instructional practices.

In response to the growing need to promote children's holistic development and external pressures on increased accountability for the quality of early childhood educational services, Universal Design for Learning emerged as an educational framework designed specifically to guide an organization of learning environments that are flexible and responsive to all individual learning differences. Pioneered by David H. Rose in the 1990s, the Universal Design for Learning framework has its underlying philosophy in inclusive education, which believes that all individuals, regardless of their abilities and backgrounds, should and can learn with each other and from each other. Furthermore, its origin in neuroscience also suggests that different individuals learn differently; whereas some prefer listening to the lecturer over reading visual slides, some may prefer writing essays over producing a video presentation.

Although the term Universal Design for Learning implies everyday teaching and learning activities in classrooms, the concept of Universal Design for Learning is not limited to classroom activities and can be applied to all aspects of schooling. This is because Universal Design for Learning is based on the theoretical foundation that school experiences should be accommodating and tailored to each child's needs. To achieve that, it has been proposed by Davis et al. (2013) that Universal Design for Learning should be extended beyond class activities and toward school curriculum, pedagogies, assessments, and learning resources. From this system-wide Universal Design for Learning perspective, a universally designed instruction is a prescription and a description of what is to be learned and why and how it is to be learned by all children regardless of their abilities and needs.

While the majority of studies on the effectiveness of system-wide Universal Design for Learning have been done in the settings of elementary school, high school, and college levels, a body of literature also advocates the usefulness of system-wide Universal Design for Learning in early childhood educational settings. Critical for every early childhood teacher is the ability to promote children's holistic development that

surpasses their cognitive, social, emotional, and physical development through authentic hands-on experiences (Stockall et al., 2012). For this reason, a Universal Design for Learning framework can aid teachers in accomplishing this through multiple means of engagement. First, teachers should allow children to choose assignment format and offer choices in activities, especially during free play (Dalton & Proctor, 2007). Secondly, young children's motivation for learning is increased when they are allowed to monitor both their behaviors and learning (Dalton & Proctor, 2007). Thirdly, young children are more engaged when they have real opportunities to learn new concepts (Stockall et al. 2012). Finally, student motivation is enhanced when teachers take the time to build relationships with children (Davis et al., 2013).

With its renowned success and effectiveness, implementing Universal Design for Learning in Thai early childhood classrooms may not only help to promote children's holistic development but also the overall transformational process of school reform. Because Universal Design for Learning is a relatively new educational framework with an extensive amount of research on its applications and implications being underway, however, implementing Universal Design for Learning in a Thai early childhood educational setting inarguably requires deep understanding, creative leadership, and proactive support from school administrators. According to Sterrett and Irizarry (2015), the administrative team is vital to successful programs at any school as they determine the directions of the school and orchestrate all school activities. Thus, it is vital that administrators, as the leaders of the learning community of a school, express their willingness to learn with and from children and teachers (Fullan, 2014). By participating visibly in a collaborative process, children and teachers will see the results of this collaboration working at all levels. As a result, traditional barriers are broken down as children, teachers, and administrators effectively communicate with each other with mutual respect.

To organize these fragmented principles of Universal Design for Learning for education into a practical framework for administrators, Katz (2012) developed the Three-Block Model of Universal Design for Learning to assist school administrators and

Three-Block Model of Universal Design for Learning to assist school administrators and teachers in promoting children's outcomes within their own contexts. Built on the original design of Universal Design for Learning by CAST (2003), the model expanded traditional Universal Design for Learning principles that heavily focus on technology and differentiation to include both social and academic aspects of the classroom. In addition, the model organizes the Universal Design for Learning theory and practices into three blocks of practice: creating the community, inclusive instructional practice, and systems and structures. It is believed that employing the model in early childhood educational settings would increase the effectiveness of the programs and children's outcomes (Katz, 2012).

Unfortunately, evidence has shown that there is only a small number of schools in Thailand that have the capability to offer full inclusive education regardless of the legal requirement that all schools in Thailand must provide inclusive education (Vorapanya & Dunlap, 2011). A number of reasons have been claimed to be responsible for this phenomenon. First, Thai teachers and administrators were neither professionally prepared for nor adequately advised in advance about teaching children with diverse backgrounds and needs (Chantarabuttra, 2018). Second, there appears to be limited access to quality teaching-and-learning resources in Thailand for meeting a wide range of diverse needs of children due to their high prices and scarcity (Vorapanya & Dunlap, 2011). Third, Thai parents place a high value on academic excellence and competition over personal growth and creativity, making it harder for schools to promote holistic development (Vorapanya & Dunlap, 2011). Finally, Thai educational stakeholders place minimal emphasis on the importance of effective school leadership and administrative support for holistic development and other school transformational philosophies (Sanrattana, 2009). With such weak and unsteady school leadership and administration, it may be unlikely for stakeholders to tackle other factors that may be hindering the attempt to implement high-quality early childhood education and care in Thai kindergartens.



Taking into consideration the above reasons that may explain the slow progress toward holistic development of children in Thailand, gaining insights into the gaps between the current and desirable levels of practice regarding the development of Universal Design for Learning in private kindergartens may serve as a foundation for recommending approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens. For the purpose of this research, Block Two of the Three-Block Model of Universal Design for Learning by Katz (2012) will be examined as it directly focuses on the management of inclusive instructional practices, which seem to be the weakest aspect of early childhood education practices in private kindergartens. Ultimately, gaining insights into the practice of inclusive instruction practices is believed to inform school administrators about the obstacles and needs of their teachers that have to be addressed prior to the enactment of Universal Design for Learning in private kindergartens.

### **1.2 Research Questions**

1) What are the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens?

2) What are recommended approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens?

### **1.3 Purposes of Research**

1) To study the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

2) To recommend approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

### **1.4 Scopes of the Research**

1) The research population of this study are 581 private Thai kindergartens, registered under the Office of the Private Education Commission (OPEC), in Bangkok.

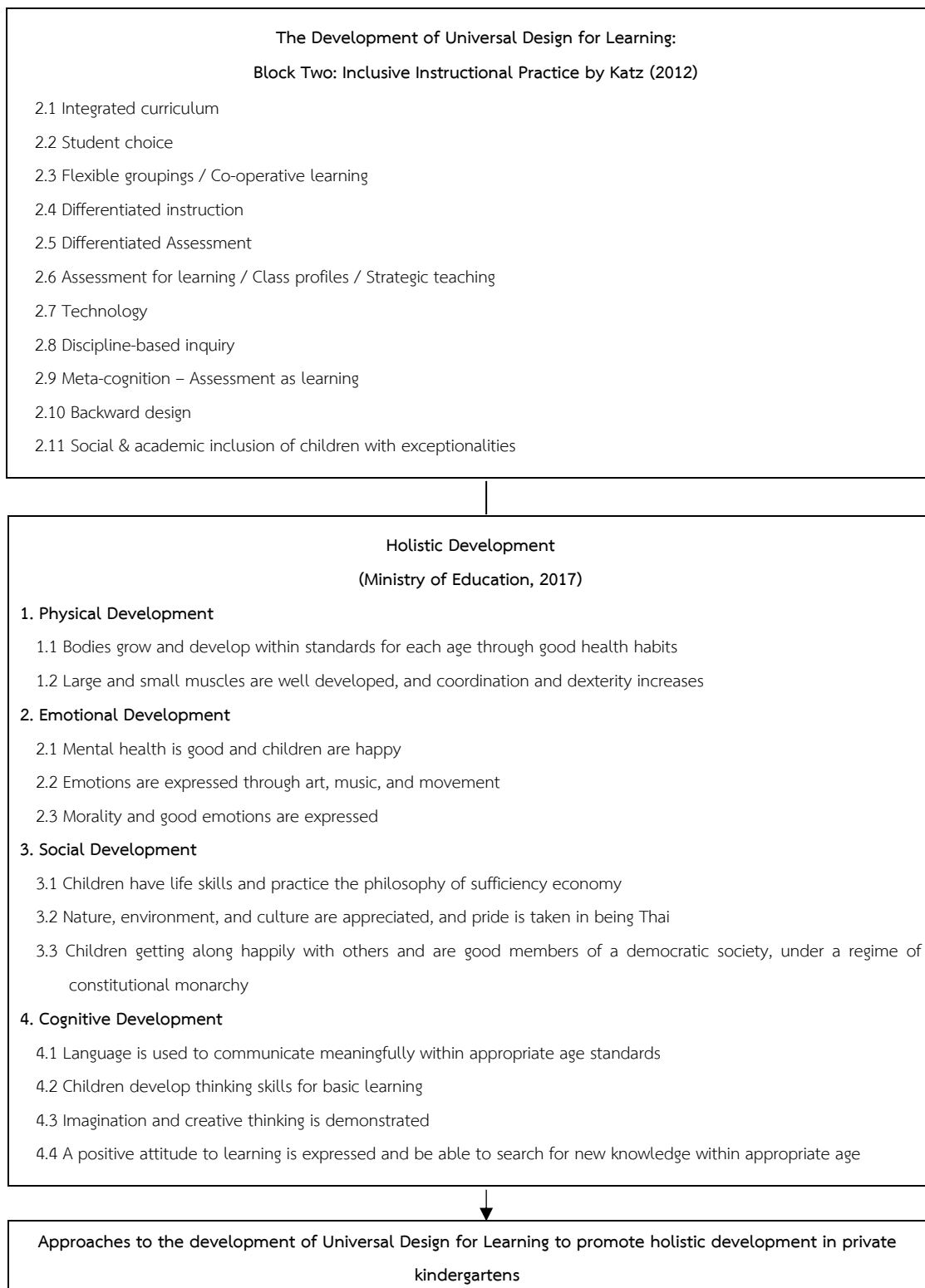
Using a simple random sampling method, 379 private kindergarten teacher and administrator informants from 20 private kindergartens were obtained.

2) To recommend approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens, there are two content scopes for this study: 1) Holistic development; and 2) the development of Universal Design for Learning. Within the first scope, holistic development consists of four main components: 1) Physical development; 2) emotional development; 3) social development; and 4) cognitive development. Within the second scope, the development of Universal Design for Learning, there is one main component which is Block-Two: Inclusive Instructional Practice.

3) The study period starts in January 2022 and expected to be finished in July 2022.

## 1.5 Conceptual Framework

**Table 1: Conceptual Framework**



## 1.6 Definition of Terms

**Holistic Development** refers to a child's learning, growth and development that, simultaneously and dynamically, occurs across all developmental domains that are interconnected, unseparated, and interdependent. These development domains include physical, emotional, social, and cognitive domains.

**Physical Development** refers to the advancements and refinements in children's motor skills, and the abilities to use and control their bodies. Indicators of physical development are as follows:

- 1) Bodies grow and develop within standards for each age through good health habits.
- 2) Large and small muscles are well developed, and coordination and dexterity increases.

**Emotional Development** refers to the emergence of the experience, expression, understanding, and regulation of emotions throughout childhood. Indicators of emotional development are as follows:

- 1) Mental health is good and children are happy.
- 2) Emotions are expressed through art, music, and movement.
- 3) Morality and good emotions are expressed.

**Social Development** refers to children's emerging capacity to interact with others around them and develop close and satisfying relationships with other children and adults. Indicators of social development are as follows:

- 1) Children have life skills and practice the philosophy of sufficiency economy.
- 2) Nature, environment, and culture are appreciated, and pride is taken in being Thai.
- 3) Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy.

**Cognitive Development** refers to long-term changes in children's ability to consciously cognize, understand, and articulate their understanding about the world. Indicators of cognitive development are as follows:

- 1) Language is used to communicate meaningfully within appropriate age standards.
- 2) Children develop thinking skills for basic learning.
- 3) Imagination and creative thinking is demonstrated.
- 4) A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age.

**Universal Design for Learning** refers to a educational approach for reducing learning barriers and providing inclusive learning experiences for all children with diverse needs through the implementation of Block Two: Inclusive Instructional Practice.

**Block Two: Inclusive Instructional Practice** refers to step-by-step planning guidelines and pedagogical practices that are responsive to the diverse needs of children in kindergarten classrooms.

**Integrated Curriculum** refers to an early childhood curriculum that incorporates a wide range of experiences and skills across learning contents in meaningful, hands-on activities to holistically promote all areas of development.

**Student Choice** refers to autonomous learning opportunities in which children are free to choose any activity to engage with.

**Flexible groupings/Co-operative learning** refers to a learning strategy of cooperative learning that is flexible in a way that children with diverse abilities and interests are given options to learn alongside and with each other.

**Differentiated instruction** refers to teaching instructions that utilize varying teaching strategies, teaching styles, curriculum content, and resources to meet individual needs of each child.

**Differentiated Assessment** refers to an ongoing process through which teachers gather data before, during and after learning from multiple sources to identify children's needs, strengths, and growths.

**Assessment for learning** refers to an ongoing assessment that allows teachers to collect data regarding children's learning on a day-to-day basis by which the data is used to modify teaching strategies in order to help children become successful.

**Meta-cognition – Assessment as learning** refers to formative assessment that occurs when children are responsible for their own learning and monitoring their own thought processes.

**Technology** refers to technological tools that provide an assistive and supportive classroom environment for all needs.

**Discipline-based Inquiry** refers to a teaching and learning enquiry based on the acknowledgement that children learn best when the learning experiences mimic real-life problems and are meaningful to them.

**Backward Design** refers to a curriculum design approach that considers learning goals and how children will be assessed prior to the consideration of how to deliver curriculum content.

**Social & Academic Inclusion of Students with Exceptionalities** refers to the full involvement of children with special needs in general early childhood education classrooms.

**Inclusive education** refers to an ongoing process aimed at offering quality education to all children and responding to their diverse needs regardless of their abilities, characteristics and backgrounds.

**Early Childhood Education and Care (ECCE)** refers to all private and governmental programs providing education and care for children from birth through age 6 in schools, centers and home.

**Current practices** refer to the degree to which Universal Design for Learning is being performed to promote holistic development at private kindergartens.

**Desirable practices** refer to ideal practices of Universal Design for Learning in which private kindergarten teachers and administrators wish to achieve.

**Private Kindergartens** refer to private kindergartens in Bangkok, Thailand that are registered under the Office of the Private Education Commission (OPEC) and offer education and care for children aged 3-6.

**Kindergarten children** refer to children aged 3-6 years that are enrolled at kindergartens in Bangkok, Thailand that are registered under the Office of the Private Education Commission (OPEC).

**Kindergarten teachers** refer to classroom teachers, who hold a teaching license, at private kindergartens in Bangkok, Thailand that are registered under the Office of the Private Education Commission (OPEC).

**School Administrators** refer to heads of the academics and principals at private kindergartens in Bangkok, Thailand that are registered under the Office of the Private Education Commission (OPEC).

### 1.7 Anticipated Benefits Gained

1) Knowledge about the gaps between the current and desirable practice of Universal Design for Learning in private kindergartens can identify barriers may or may not be hindering the practices of inclusive education in Thailand, potentially leading to a revision of current school policies, systems and structures so that they can become more facilitating of flexible and equitable learning experiences.

2) Knowledge about the gaps between the current and desirable practice of Universal Design for Learning in private kindergartens can inform administrators and teachers about the priority needs for improving the management Universal Design of Learning, which can help to assist them re-evaluate and adjust their instructional practices and teaching resources.

3) Through programs that are tailored and responsive to individual needs, children are expected to become fully engaged with their school lives, feel belonged, and meaningfully contribute to the community.

## **Chapter 2**

### **Literature Review**

Literature and research containing concepts, theories, and practices related to approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens have been reviewed and presented under four sections as follows:

#### Section 1: Management of Universal Design for Learning

- 1.1 Backgrounds of Universal Design for Learning
- 1.2 Definitions of Universal Design for Learning
- 1.3 The Impact of Universal Design for Learning
- 1.4 The Management of Universal Design for Learning
- 1.5 Universal Design for Learning in Contexts

#### Section 2: Holistic Development

- 2.1 Backgrounds of Holistic Development
- 2.2 Definitions of Holistic Development
- 2.3 Elements of Holistic Development

#### Section 3: Private Kindergartens in Thailand

- 3.1 Backgrounds of Private Kindergartens in Thailand
- 3.2 Current Practices of Private Kindergartens in Thailand
- 3.3 Implications of Private Kindergarten Practices in Thailand

#### Section 4: Related literature and research

- 4.1 History of Inclusive Education
- 4.2 The Rise of Inclusive Early Childhood Education
- 4.3 Implications of Inclusive Early Childhood Education



## Section 1: Management of Universal Design for Learning

### 1.1 Backgrounds of Universal Design for Learning

Having been promoted as both a philosophical and practical tool for an effective implementation of inclusive education, Universal Design for Learning or UDL emerged from the architectural concept of universal design. The pioneer of the concept of universal design, Ronald Mace, envisioned a universal design of products that would be applicable for all users while meeting the requirements of the Americans with Disabilities Act (ADA) (Burgstahler, 2009). He then developed seven principals of Universal Design, which were used widely for the development of products and facilities:

- **Equitable use:** The design is planned and useful for a wide range of needs and abilities.
- **Flexibility in use:** The design can be used by a wide range of abilities, preferences, needs, knowledge and other backgrounds.
- **Simple and intuitive use:** The design is simple and easy to understand.
- **Perceptible information:** The design communicates information in a way that matches the user's sensory abilities or environmental conditions.
- **Tolerance for error:** The design minimizes hazards or accidental actions that may occur.
- **Low physical effort:** The design can be used effectively and efficiently.
- **Size and space for approach and use:** The design offers appropriate size and space for approach, reach and use.

Although it originated from the field of architect in the late 1900s, the principals of universal designs established a stepping stone for developing design standards that allow a larger degree of access to a wider range of individual needs in other fields of businesses. As for this, the concept of universal design began to gain recognition in schools to enable physical access to classrooms and other facilities as more schools started to embrace the philosophy of inclusive education by including children with a

wide range of abilities, ethnicities, learning styles, interests and language skills in their classrooms (Burgstahler, 2009).

To apply the concept of Universal Design to education, the Centre for Applied Special Technology (CAST) first applied the concept of Universal Design to the process of curriculum development in the field of education (CAST, 2022). In accordance to Vygotsky's prerequisites for learning, CAST has identified three brain networks that coincide with Vygotsky's theory of learning:

**1) Affective networks:** These networks are responsible for motivation, engagement, attention, perseverance and enthusiasm to learn. CAST proposes that these networks can be activated when children are empowered to make choices and opportunities to engage in meaningful topics and activities.

**2) Recognition networks:** These networks are responsible for knowledge acquisition and information processing through our senses. Therefore, providing information through multiple means of visual, auditory, tactile and multi-sensory formats is crucial for the development of these networks.

**3) Strategic networks:** These networks are responsive in forming strategies for overcoming challenges. Thus, these networks are developed when children are given different modes of expressing and representing their understandings of what they have learned.

According to CAST (2022), everyone's brain is operated through an intertwine of affective, recognition, and strategic networks; however, individual brains receive and process information incoming into these networks very differently. As a result, CAST (2022) has argued that curriculum, pedagogies, instructions and resources must be designed in a way that can accommodate differences in how individuals engage themselves in a task, process information, and express their understandings. In this end, the goal of Universal Design for Learning is to respect individual differences of each child and to promote their autonomy and personalization (Meo, 2008). These collectively influence the underlying concept of Universal Design for Learning, which is to provide flexible learning platforms that are accessible for all.

## 1.2 Definitions of Universal Design for Learning

Although Universal Design for Learning appears to be a straightforward educational tool that can be used to guide the implementation of inclusive education, literature has used different keywords to define Universal Design for Learning – from principles, pedagogy, approach, framework and guideline. Starting from philosophical definitions, CAST (2022) proposed Universal Design for Learning as a framework to improve and optimize teaching and learning to ensure that all learners have access to participate in meaningful and challenging learning opportunities. Likewise, Katz (2012) views Universal Design for Learning as a framework for creating a truly inclusive learning community where all children have an equal access to meaningful learning opportunities. This is in line with the description of Universal Design for Learning provided by Mavrou and Symeonidou (2014), which defined Universal Design for Learning as a research-based and brain-based framework that guides the design of learning experiences to proactively meet the needs of all learners. From these philosophical definitions of Universal Design for Learning, Universal Design for Learning can be seen as a research-based and brain-based educational framework for optimizing inclusive pedagogies and creating a truly inclusive learning community by designing learning experiences that are meaningful and accessible by all learners.

From a more descriptive point of view, Universal Design for Learning has been defined by Mangiatordi and Serenelli (2013) as a set of principles for designing curriculum that provides all children with equal opportunities to learn. Through the design of a curriculum, Rose and Meyer (2002) also refers to Universal Design for Learning as a framework for guiding the development of curricula and instructions based upon the needs of each child. Similarly, McGhie-Richmond and Sung (2012) has defined Universal Design for Learning as an educational framework that creates opportunities for all children to access, participate in, and progress in the general-education curriculum by reducing barriers to instructions and activities. Katz & Sokal (2016) also defines Universal Design for Learning as an inclusive pedagogy that eliminates barriers to education and offers physical, academic, social spaces that

promote meaningful access and learning for a wide range of diverse learners. A more complete definition of Universal Design for Learning has been given by Conn-Powers et al. (2006) who defined Universal Design for Learning as an educational approach that places an emphasis on planning learning activities and creating universally designed settings in which all children can fully participate from the beginning instead of adapting a curriculum to meet the needs of each children as the program advances. From this perspective, Universal Design for Learning can be seen as educational framework that helps to remove barriers to the general-education curriculum and instructions and promote physical, academic, social spaces in which all children can fully participate and have their individual needs met.

While many theorists and educators have defined Universal Design for Learning as an access to the general-education curriculum, other educators have provided a wider concept of Universal Design for Learning by extending the concept beyond curriculum and toward physical spaces, learning environments, relationships, school culture, pedagogies, instructions, assessments and resources (Conn-Powers et al., 2006; Mavrou & Symeonidou, 2014). From this perspective, Universal Design for Learning is no longer viewed as a set of principles used to guide teaching and learning activities in classrooms, but a system-wide educational approach that is applied to all aspects of school systems to promote a truly inclusive educational community. For the purpose of this study, Universal Design for Learning refers to a system-wide educational approach for reducing learning barriers and providing inclusive learning experiences for all children through the use of a universally designed school culture, policy, visions, curriculum, physical spaces, learning environments, relationships, pedagogies, instructions, assessments and resources.

### **1.3 The Impact of Universal Design for Learning**

As the main goal of Universal Design for Learning is to provide equal learning opportunities to all children regardless of their needs, there are a number of positive impact to the implementation of system-wide Universal Design for Learning. In terms of learning experiences, it simplifies learning and makes learning more accessible in

traditional classrooms, which are usually rigid and inflexible for diverse needs (Rao et al., 2014). For example, the intervention program developed by Taunton et al. (2017), called SKIP-UDL, was designed based on evidence practice of physical education, motor education, and the three universal principles of Universal Design for Learning. There were six weeks of intervention during Physical Education classes, which had external observers to ensure that the teacher was applying the UDL-based motor intervention. At the end, intra-observer agreement was performed which corresponded to 95%. The statistically analyzed results showed differences in motor skill acquisition between the participants of the experimental group and the control group. However, when the groups with disabilities and non-disabilities were analyzed, participants with no disabilities had superior performance in the proposed tests. The authors concluded that, in addition to the intervention improving children' overall motor skills, planning an intervention in Physical Education based on the principles of Universal Design for Learning favors the participation and engagement of children in the proposed activities.

Second, it provides children with more than one way to engage with materials, which enables children to use their strengths to work on their weaknesses. To achieve this, information is presented to children in ways that are flexible to learners as opposed to requiring the learners to adapt to the information, which helps to prevent undesirable behaviors. For example, Loman et al., (2018) used an experimental model (multiple baseline single subject design) to assess the effects of adapted lesson plans and inappropriate behaviors of children with severe disabilities in the school context. The inadequate behaviors of the three children analyzed decreased with the insertion of the Universal Design for Learning principles in the lesson plans and school daily life.

Third, it allows children to express their learning and knowledge in ways that truly reflect their strengths and aspirations, which potentially helps to increase their engagement and autonomy in classroom. It has been suggested by Mangiatordi and Serenelli (2013) that children become more engaged and empowered to learn when they are given a choice by adults to direct their own learning. In the study by Katz (2013), 631 children from ten schools were assigned to UDL-intervention and control

groups. The study found that the Universal Design for Learning intervention significantly increased children's engagement behaviors and promoted social engagement through peer interactions, student autonomy, and inclusivity. In this sense, system-wide Universal Design for Learning not only allows children to choose they wish to engage with the tasks, but also provides all kinds of support needed to achieve their academic and personal goals.

In terms of social interactions, system-wide Universal Design for Learning has the potential to help reduce stigmatization and eliminate discrimination in classrooms (Katz, 2012). By giving a variety of options for children to participate in classroom activities, Universal Design for Learning does not single out children who struggle to adjust to the mandatory mainstream options; every option holds the same value and quality as one other. This can essentially provide children with a sense of acceptance and belonging as they feel safe and valued to choose from any of the options available. Most importantly, children tend to develop a higher level of social skills with system-wide Universal Design for Learning because teachers constantly adopt the role of a facilitator and a role model, instead of a director normally seen in traditional schooling. This role as a facilitator and a role model allows children to observe, mimic and practice their social cues and skills, which in turn help to promote their relationships with both teachers and peers.

#### **1.4 Management of Universal Design for Learning**

Regardless of the global attempts to include diverse children in mainstream classrooms in the past decades, however, simply including children in mainstream classrooms did not ensure equal and equitable access to the general curriculum or learning opportunities (Katz, 2012). To this end, issues regarding social justice, equality, equity and democracy remain a challenge in the educational sector around the world. Because of this, effective school administration of Universal Design for Learning that employs a proactive approach to providing school administrative support for the implementation of Universal Design for Learning is essentially required. As a result, eight principles of Universal Design for education were developed based on the original

principles of Universal Design as an alternative for planning inclusive educational programs for children (Burgstahler, 2009):

- **Class climate:** The programs and practices are based on core values, such as respect to diversity and inclusiveness.
- **Interaction:** The programs encourage regular communications and interactions between children, between children and teachers, and among teachers themselves.
- **Physical environments and products:** The programs ensure that all resources, facilities and activities are safely accessible and usable by all children.
- **Instructional standards:** The programs places high expectations for all learners and provide supports to help them reach those expectations.
- **Delivery methods:** The program employs multiple means of instructional practices to ensure that the curricular content can be accessed by all learners. Theoretically, Universal Design for Learning is based on three main principals of brain functioning: 1) representation; 2) action and expression; and engagement. Thus, Universal Design for Learning believes that children's brains have different preferences on how they receive information; some are visual, some are sensory. Therefore, Universal Design for Learning recommends offering information in more than one format. For example, textbooks are primarily visual. But providing text, audio, video and hands-on learning gives all kids a chance to access the material in whichever way is best.
- **Information resources and technology:** The programs ensures that all resources and course materials are flexible, engaging and accessible for all. It is believed that children express their learning and thoughts differently (Rao & Bryant, 2014). Because of this, Universal Design for Learning suggests giving children more than one way to interact with the material and to show what they've learned. For example, children might

get to choose between taking a pencil-and-paper test, giving an oral presentation or doing a group project.

- **Feedback:** The program ensure constructive and formative feedbacks on a regular basis.
- **Assessment:** The programs utilizes a wide variety of assessment tools to assess student progress regularly, and adjust instructions accordingly. Universal Design for Learning believes that the ways children get motivated to learn can vary greatly from one to another. Therefore, Universal Design for Learning encourages teachers to look for multiple ways to motivate children. Letting kids make choices and giving them assignments that feel relevant to their lives are some examples of how teachers can sustain children' interest. Other common strategies include making skill-building feel like a game and creating opportunities for children to get up and move around the classroom.

### ***The Three-Block Model of Universal Design for Learning***

To organize these fragmented principles of Universal Design for Learning for education, which was created by Burgstahler (2009), into a practical framework, Katz (2012) developed the Three-Block Model of Universal Design for Learning to assist school administrators and teachers in managing the implementation of inclusive education within their own contexts. Built on the original design of Universal Design for Learning by CAST (2003), the model expanded traditional Universal Design for Learning principles that heavily focus on technology and differentiation to including both social and academic aspects of the classroom. It aims at meeting the needs of all diverse learners in inclusive settings through administrative and pedagogical frameworks that promote the social-emotional and belonging needs of children, as well as offering them authentic, differentiated instructions. Ultimately, the model endeavors to uphold the principles of whole schooling by removing barriers to full participation at all levels of the school system. Thus, the model organizes the Universal Design for Learning



theory and practices into three blocks of practice: creating the community, inclusive instructional practice, and systems and structures.

**Table 2: The Three-Block Model of Universal Design for Learning**

Block One: Creating a Community	Block Two: Inclusive Instructional Practice
<ul style="list-style-type: none"> <li>• Respecting Diversity Program (RD)</li> <li>• Developing self-concept</li> <li>• Valuing Diversity</li> <li>• Democratic classroom management</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated curriculum</li> <li>• Student choice</li> <li>• Flexible groupings / Co-operative learning</li> <li>• Differentiated instruction</li> <li>• Differentiated Assessment</li> <li>• Assessment for learning / Class profiles / Strategic teaching</li> <li>• Technology</li> <li>• Discipline-based inquiry</li> <li>• Meta-cognition – Assessment as learning</li> <li>• Backward design</li> <li>• Social &amp; academic inclusion of children with exceptionalities</li> </ul>
Block Three: Systems and Structures	
<ul style="list-style-type: none"> <li>• Inclusive policy</li> <li>• Administrators with expertise / vision</li> <li>• Distributed leadership</li> <li>• Professional development</li> <li>• Staffing for collaborative practice</li> <li>• Budgeting and funding allocations</li> </ul>	

### 1) Block One: Creating a Community

At the heart of inclusive education is the aim to nurture children to become compassionate, kind, and responsible citizens of their communities. As research shows, fostering children' sense of self in their school community can significantly increase their motivation to learn, engagement with school, and their aspirations for greater academic achievement (Zins et al., 2004). Katz (2012) also suggested that children' sense of belonging also determines their attendance rates. These research outcomes confirms that there is a connection between social and emotional learning (SEL) and academic learning. To promote children' SEL, Block One of model proposes creating a compassionate learning community through Respecting Diversity Program (RD) and democratic Classroom Management.

### **1.1) Respecting Diversity Program (RD)**

Respecting Diversity (RD) program is an educational program that can be used to assist teachers in creating a classroom climate that improves children's self-concept, sense of belonging, and respect for diverse others and reduces challenging and aggressive behaviors (Katz & Porath, 2011). Specifically, the RD program has the goals of developing specific components of self-awareness, social awareness, and respect for diversity: self-efficacy, goal setting, emotional resiliency, perspective-taking, empathy, valuing diversity, and creating positive, inclusive classroom climate (Katz, 2012). Thus, encouraging children to develop understanding that the advantages of having diverse learners in a classroom community may in turn help them to develop self-respect, emotional resiliency and acceptance of others.

To teach children to recognize that all kinds of strengths and intelligences are equally valid and valuable, Katz (2012) incorporated the concept of multiple intelligences as part of the RD program to help create a climate for student self-acceptance and acceptance of others; it allows children to explore their own interests, talents, abilities, feelings and strengths that describe their current learning profile. As a result, children learn to experience the diversity of intelligences in the learning profiles of fellow children who make up their school community. Students then learn to support each other in the shared space through positive feedbacks, potentially creating a support network and a sense of community in the classroom. As children become aware that a community requires diversity in order to function, they learn to value themselves as well as people who are different from them. This ultimately helps create social awareness of the value of diversity and helps children develop respect for others.

### **1.2) Developing Self-Concept**

"Self-concept, broadly defined, can be thought of as a student's self-perception of who they are, including their behaviors, abilities, needs, characteristics, aspirations, beliefs, and values, which formed through individual experiences and interactions with the environment" (Rosen et al., 2010, p. 118). Cokley and Chapman

(2008) showed that positive self-concept is related to higher academic achievement. Furthermore, the authors also found that self-concept was affected by ethnic identity, which is a variable of interest in our increasingly diverse classrooms. Low self-concept has also been associated with more aggressive behaviors in middle school children (Taylor, Davis-Kean, & Malanchuk, 2007). Moreover, Mbekou et al. (2006) hypothesized that academic interests and self-concept together were important determinants of children's academic achievements. For this reason, Katz (2012) has proposed that promoting children's self-concept through an inclusive school community is vital to a successful implementation of Universal Design for Learning as the corner stone of inclusive education is to value diversity and advocate for acceptance of differences.

### **1.3) Valuing Diversity**

As one of the highest goals of inclusive education is to teach children to respect and value diversity in the society, it is therefore recommended by Katz (2012) that multiple intelligences theory (MI) is used as a framework for discussing learning profiles and diversity with children. The aim is to help children recognize that everyone has strengths and challenges, and that a learning community requires this diversity in order to successfully work collaboratively, think critically (as multiple perspectives are needed), and master the curriculum (as multiple skills are needed) (Katz & Porath, 2011). Ultimately, this idea that diversity is necessary for the functioning of a community, and that everyone contributes to the richness of the experience, can then be used to discuss what different cultures, races, genders, and other demographic differences contribute to the richness of the larger community.

### **1.4) Democratic Classroom Management**

Apart from creating a sense of community in the classroom, a democratic classroom is a vital part of Universal Design for Learning because it allows children to take ownership of their learning and to develop pro-social problem-solving skills (Katz, 2012). In a democratic environment, children learn how to consider the needs of others, voice their own needs in appropriate ways, and find solutions that are mutually acceptable. This classroom culture is believed to encourage student

autonomy, which is integral to an individual's development of intrinsic motivation and self-efficacy (Katz & Porath, 2011). As children become motivated and empowered, children assume a degree of social responsibility, as they recognize how their contributions, either positive or negative, affect others in the community. Thus, effective management of a democratic classroom should provide a support structure that develops moral reasoning by strengthening the sense of community and holding community members accountable to practice respect and responsibility (Katz, 2012). Katz (2012) has identified five characteristics of a democratic classroom and six teaching strategies in a democratic classroom:

#### **1.4.1) Five Characteristics of a Democratic Classroom**

- 1) Students and teachers work together to make children's learning a contribution to their community, i.e. praise for children across intelligences and service projects.
- 2) Students demonstrate their learning in public settings and receive public feedback, i.e. in-class presentations or presentations to other classes.
- 3) Students have escalating degrees of choice, both as individuals and as groups, i.e. input into schedules, grouping structures, methods of learning, and methods of representing understanding
- 4) Students actively work with problems, ideas, materials, and people as they learn new skills and content, i.e. a problem-based learning approach
- 5) Students are held to a high degree of excellence in both their academic objectives and their social contributions to their larger community, i.e. having high expectations for every student.

#### **1.4.2) Six Teaching Strategies in Democratic Classrooms**

- 1) Class Meetings: Such meetings build community, create a positive climate for learning, and reinforce academic and social skills.
- 2) Rules and Logical Consequences: A clear and consistent approach to discipline fosters individual responsibility and self-control. The rules and consequences are decided at class meetings, and then consistently implemented.

3) Guided Discovery: An instructional pedagogy that encourages inquiry, heightens interest, and teaches care of the school environment. It requires teachers to step back and let children take ownership.

4) Academic Choice: Devise approaches to give student choice in their learning that help them become engaged, self-motivated learners.

5) Classroom Organization: Implement strategies for arranging materials, furniture, and displays to encourage independence and maximize learning and positive social interactions for all children.

6) Family Communication Strategies: Devise ways for involving families as true partners in their children's education.

## **2) Block Two: Inclusive Instructional Practice**

While Block One of the model sets a foundation for inclusion through the development of inclusive school culture and community, Block two of the model identifies step-by-step planning guidelines and pedagogical practices that allow for student choice so that children are able to develop conceptual understanding and access activities and materials in ways that work for them. This instructional framework proposed by Katz (2012) synthesizes evidence-based practices for the planning and the development of curriculum, instruction, assessment, environment and resources for diverse learners in ways that reduce teachers' workload and facilitate teachers' ability to instruct small groups according to children's learning styles.

### **2.1) Integrated Curriculum**

Katz (2012) proposes a curriculum that integrates knowledge and skills across multiple intelligences as an ideal curriculum for inclusive programs. It is believed that multiple intelligence-based curriculum provides a theoretical foundation for recognizing different abilities and talents of children who are differently able. Inclusive education is a developmental approach seeking to address the learning needs of all children with a specific focus on those who are differently able in reading, writing and arithmetic. A multiple intelligence-based curriculum not only satisfies the needs of the cognitive domain, but it also deals with the affective and psychomotor domains

of learners (Gardner, 2006). When all abilities and talents are equally valued, it then becomes possible to cater the needs of all learners who possess differential learning styles. Thus, Gardner's multiple intelligence-based curriculum paves way to enhance inclusive education at a school level.

## **2.2) Student Choice**

From a neuroscience perspective, it is believed that an individual's brain is operated through an intertwine of affective, recognition, and strategic networks; however, how individual brains receive and process information incoming into these networks may vary across individuals (CAST, 2022). As a result, Katz (2012) has argued that pedagogies and instructions must be designed in a way that can accommodate differences in how individuals engage themselves in a task, process information, and express their understandings. By allowing student to design their learning through student choice, or the autonomy of choice and option in learning, it is believed that children will become more engaged with schooling in general (Katz, 2012). These collectively influence to the underlying concept of Universal Design for Learning, which is to provide flexible learning platforms through student choice that are accessible for all in three distinctive ways: multiple means of engagement, multiple means of representation, and multiple means of expression.

**2.2.1) Multiple Means of Engagement** is underpinned by the belief that learners are different in the ways they become engaged or motivated to learn (CAST, 2022). For example, some learners become stimulated and engaged by novel and spontaneous events, whereas some prefer well-planned activities and instructions. Factors that are believed to influence these individual variation may include background knowledge, personality traits, subjectivity, culture, neurology and personal relevance. It has been argued by CAST (2022) that there is not an optimal means of engagement that suits every learner's preferred engagement style; it is essential to provide multiple means of engagement to ensure that all individual needs for optimal engagement means are met. This can be achieved by, firstly, offering choices in learning, in the context for learning, and in the tools available. Offering choices is

believed to promote student motivation, self-determination, independence, autonomy, and pride in accomplishment (CAST, 2022).

Secondly, children become more engaged when tasks are relevant, authentic, personally meaningful, and valuable to their aspirations (CAST, 2022). This can be achieved by ensuring that activities and sources of information are culturally responsive, socially relevant, ability appropriate, and contextualized to learners' backgrounds.

Thirdly, children become engaged when potential threats and distractions in the learning environments are minimized (CAST, 2022). To providing a safe learning space for learners, it has been recommended that the level of novelty, sensory stimulation, social demands, support, and requirements for public display are discussed in whole class discussions and adjusted to meet the needs of each learner.

Other strategies for increasing student engagement and persistence include heightening salience of goals, varying demands to optimize challenge, fostering collaboration, increasing mastery-oriented feedback, promoting high expectations, teaching self-regulation skills, facilitating personal coping skills, and developing self-reflection skills (CAST, 2022).

**2.2.2) Multiple Means of Representation** is underpinned by the belief that all individual learners perceive and comprehend incoming information that is presented to them differently. For example, some children may grasp information efficiently when the information is presented visually, while others may prefer printed text. By being responsive to how information is presented to learners, educators ensure that all sensory needs of learners are met, including those with sensory disabilities, learning disabilities, and language differences.

To reduce barriers to grasping information and learning, it is essential that educators ensure that instructional content and information are perceptible to all learners regardless of their sensory, cultural, language, and learning needs. This can be achieved by 1) providing the same information through different formats (e.g., visual, auditory, or touch); 2) providing formats of information that can be adjusted by

learners; 3) clarifying vocabulary, symbols, structure, images, and syntax; 4) illustrating information through multiple media (e.g., simulations, graphics, activities, and videos); 5) using scaffolding techniques to activate background knowledge; 6) highlighting critical features and big ideas; 7) supporting the process of meaning-making through feedback and modeling; and 8) maximizing generalization of learning to new contexts.

**2.2.3) Multiple Means of Expression** are underpinned by the belief that all learners have varying preferences in the ways that they express what they know. For example, some children may prefer to express themselves and what they have learned through a public speech. In contrast, others may be able to express themselves more efficiently in written essays. Therefore, it is important that learners are provided with varied modalities for expressing their knowledge, ideas, and concepts to ensure that their comprehension and expression of their learning are optimized.

To ensure that every learner is provided with optimal means of knowledge expression and meets the goal of full participation in the classroom, educators need to recognize that action and expression require the acquisition of strategies, practices, and organizations – all of which can be prepared and arranged for each learner. This can be provided for learners through 1) optimizing access to a wide range of resources and assistive technologies; 2) providing multiple media for communication and construction of knowledge; 3) guiding appropriate goal-setting; 4) supporting planning and strategy development; 5) facilitating the management of information and resources; and 6) enhancing capacity for monitoring progress

### **2.3) Flexible Groupings/Co-operative Learning**

One of the ways that children may express their autonomy in learning is to be part of a learning group (Katz & Sokol, 2016). For this reason, Katz (2012) proposes a learning strategy of co-operative learning that is flexible in a way that children of diverse levels of ability and interests are given options to learn alongside and with each other. According to Dunn and Dunn (1992), children can be categorized between those who like to learn alone and those who prefer to work in groups. Using this dichotomy, Pitts (2009) showed that children who are allowed to



learn in ways that accommodate these preferences had better achievement. Thus, awareness of children's learning preferences may help to aid teachers' decision-making in diverse classrooms.

To explore the benefits of group learning, a study has shown that children benefited more from group learning compared to those that were placed in individualistic learning (Bertucci et al., 2010) or competitive learning (Johnson & Johnson, 2005). In their other study, they also discovered that children experienced gains in their social skills from group learning that are unavailable through individualistic pedagogies, supporting the whole schooling principle of building community within our classrooms (Bertucci et al., 2012).

#### **2.4) Differentiated Instruction**

The concept of differentiation is derived from the belief that instructions should be differentiated to take advantage of the diversity of children's needs, abilities, interests, and learning styles (Jackson & Davis, 2000). Murray and Moore (2012) argued that 'taking advantage of diversity' is fundamental to inclusive schooling as it encourages all children to challenge themselves to reach their highest potential. It involves teachers clearly identifying the needs, abilities, interests, and learning styles of individual children before making modifications to the learning environment, teaching style, curriculum content, and learning resources to meet the needs of every child (Tomlinson, 1999). At the practice level, differentiated instructions should be flexible, varied, and personally relevant to all children (Heacox, 2002). When classroom instructions cater to children's individuality, their motivation to learn is enhanced, which builds on their holistic development (Ginsberg, 2004).

#### **2.5) Differentiated Assessment**

Differentiated assessment is the modification of assessment strategies to meet the varied characteristics and needs of each child to enhance their learning and boost their ability to show what they have learned (Katz, 2012). Children differ in their previous learning experiences, readiness, learning styles, preferences, academic standing, abilities, strengths and weaknesses, culture, race, and backgrounds.

By differentiating assessments, teachers help diverse children successfully demonstrate their competencies in ways that are fitting and effective for them (Katz, 2012). By offering various assessment strategies, the teachers are able to meet the children's individual needs, thereby helping them to be successful in their learning. Examples of differentiated assessments are designing tiered activities, scaffolding struggling learners, challenging advanced learners with more mid-stimulating activities, adjusting questions, compacting, flexible grouping, flexible assignments and tasks based on children's learning styles, learning contracts, role-playing, unit college, individual projects, visual presentations, oral presentations, written presentations, summaries and reflections, lists, charts and graphic organizers, group/collaborative activities, comic books, raps/songs/dances/other performances (Katz, 2012).

## **2.6) Assessment for Learning**

Assessment for learning is an ongoing assessment that focuses on monitoring children's learning progress and giving both teachers and children timely feedback to improve their performance to become successful (Yocum, 2010). According to Yocum (2010), an assessment for learning is an assessment that aims to promote children's learning and motivation to learn. Therefore, it differs from an assessment designed primarily to serve the purposes of accountability, ranking, or certifying competence. When teachers provide assessment for learning, both teachers and children receive feedback regarding their performance which is then used to inform the modification of their teaching and learning in which they are engaged. Such assessment becomes 'formative assessment' when information and feedback are used to adjust teaching instructions to meet the learning needs of each child (Black, Harrison, Lee, Marshall, & William, 2004).

## **2.7) Meta-Cognition – Assessment as Learning**

Assessment as learning is a type of formative assessment that occurs when children are responsible for their own learning and monitoring future directions and become metacognitive of their own thought processes. According to Katz (2012), self-regulated learners have agency over their learning before, during, and after learning

experiences. They are able to evaluate their knowledge effectively and the gaps in their knowledge, determine the effectiveness of their learning strategies and make changes to increase the effectiveness in future learning experiences. In the long-term, the self-regulated learner becomes an adaptive expert who is able to troubleshoot problems, propose creative and innovative solutions, and able to overcome diversity (Bain, 2004). Moreover, the ability of children to effectively self-regulate their learning is dependent on their metacognitive or awareness of one's own learning or thinking process. The lack of metacognitive ability prevents children from not only succeeding at an academic level but also hinders the self-regulated learning that is needed to be a lifelong learner capable of adapting to any learning situation. It is recommended that metacognition can be promoted when children are encouraged to examine their current thinking, recognize the conceptual change of self, reflect on their learning, and actively plan for future directions (Katz, 2012).

## **2.8) Technology**

Technology is essential to Universal Design for Learning because it is used as a means to provide a supportive classroom environment (Katz, 2012). Older fixed technologies, such as print, demanded approaches to teaching and learning; on the other hand, the newer technologies allow and encourage flexibility and diversity instead. This flexibility of technological tools greatly enhances the teachers' ability to individualize and customize learning experiences for diverse children.

Moreover, technology can also be used to align with the various networks of the brain. The recognition network can be activated by providing multiple means of presentation (CAST, 2022). For instance, an educator can use a PowerPoint presentation that can engage multiple senses by using animation, audio, and video clips. The strategic network which controls the planning and executing of plans can also be activated by technology in the same manner. Teachers can give children the option of creating videos, songs, and animations of content to represent their knowledge. Lastly, the effective network can be engaged by technology because the use of technology itself provides motivation to children. From these examples, technology seems to support the thinking of the brain because it delivers the learning

content in various ways and provides for the activation of different senses, which creates engagement.

### **2.9) Discipline-based Inquiry**

Discipline-based inquiry is the acknowledgment that children learn best when the activities are meaningful to them. According to Friesen and Jardine (2009), learning experiences must have authenticity in the sense that the learning which occurs at the school must reflect the real-life problems of the topic being taught. When children become curious and pose questions that are regarded as relevant and important, they become motivated to engage in learning experiences that are personally meaningful, sophisticated, and powerful.

This purpose of learning is supported by a growing body of literature urging educators to design learning experiences where children engage in authentic hands-on tasks and opportunities for genuine knowledge creation (Bransford, Brown, & Cocking, 2000). The job of teachers thus becomes to apprentice children into practices as teachers need both disciplinary knowledge and pedagogical knowledge and the ways in which these interact together in order to create the conditions for learning to occur.

### **2.10) Backward Design**

Originally developed by Wiggins and McTighe (2011), the backward design approach suggests that teachers should consider the learning goals of the lesson first before designing the lesson. These learning goals embody the knowledge and skills intended for children to have developed by the end of the school year. After establishing the learning goals, the next stage of curriculum development involves assessment design. Lastly, teachers can design instructions and activities that are congruent with the learning goals and the assessments. In other words, the backward design suggests that teachers should consider these overarching learning goals and how children will be assessed before designing how to teach the content. For this reason, backward design is considered a much more intentional approach to curriculum design than traditional methods of design (Katz, 2012).

### **2.11) Social & academic inclusion of children with exceptionalities**

Inclusion involves keeping children with additional needs in general education classrooms and providing support services within the same setting, rather than taking the child out of the classroom setting to the support services (National Association of Special Education Teachers, 2004). Effective inclusion improves the educational system for every child by placing them together in general education classrooms regardless of their learning ability, race, linguistic ability, economic status, gender, learning style, ethnicity, cultural background, religion, family structure, and sexual orientation (Katz, 2012). Therefore, inclusive schools must welcome, acknowledge, affirm, and celebrate the value of all learners by academically and socially educating them together in high-quality, age-appropriate general education classrooms in their neighborhood schools.

## **3) Block Three: Systems and Structures**

### **3.1) Inclusive Policy**

Access to inclusive education has been referred to as the degree to which all children, regardless of their abilities, are physically, socially, academically, and emotionally allowed and welcomed to participate in contextually relevant learning opportunities across all settings (DEC/NAEYC, 2009). In early childhood settings, access refers to the degree to which school administrators and teachers intentionally plan to provide equitable access to learning opportunities to children with diverse needs (Conn-Powers et al., 2006). According to Katz (2012), access to an early childhood education program involves the development of a program philosophy, policies, and standards on inclusion. In terms of a program philosophy, there needs to be an agreed-upon definition of inclusion that guides the development of a program's own philosophy on inclusion. To develop a program philosophy, schools should first create high expectations for every child regardless of their abilities. Having these shared expectations will then lead to shared visions and the support of involved personnel to advocate for high-quality inclusion (Catlett, 2022). In this sense, high-quality inclusive

early childhood education programs require a refined educational philosophy as a foundation of the program's mission to identify and ensure quality inclusive practices.

Furthermore, a clear program philosophy is believed to be a basis for guiding the development of subsequent program policies and standards (McLaughlin, 2000). Having a consensus on program philosophy can influence school policies and accountability standards related to increasing the number of children with diverse needs enrolled in their early childhood education programs. Simultaneously, schools should also pay attention to the enhancement of the quality and anticipated outcomes of the services that children experience. In this sense, high-quality early childhood education programs should employ accountability systems that reflect both the need to increase the number of children with diverse needs in the programs, as well as to incorporate considerations to address the individual needs of every child.

### **3.2) Administrators with Expertise and Visions**

Various supports from administrators and program leaders play a central and unique role in inclusive education (Gupta & Rous, 2016; Leatherman, 2007). One of the roles which administrators play is to support teachers' positive attitudes toward inclusive education. Leatherman (2007) interviewed early childhood educators about their perceptions of inclusion and the factors that contributed to teachers' attitudes and self-efficacy. She found that having administrators who prioritize the inclusion of children with disabilities and provide the necessary support for practitioners was important for teachers' positive views of inclusion and feelings of self-efficacy. Further, the teachers also named administrators as being responsible for positioning inclusion as a core philosophy of the program.

The importance of administrators in prioritizing inclusion and shaping positive attitudes towards inclusive education has been a consistent focus of the literature (e.g., Barton & Smith, 2015a; Gupta & Rous, 2016; Purcell et al., 2007). For example, in the survey conducted by Barton and Smith (2015a), the most common challenge for inclusion that respondents named was negative attitudes and beliefs. Many of the solutions to this specific barrier implicated the role of administrators in

promoting inclusion: solutions included educating local administrators about the benefits of inclusion; providing opportunities for administrators to discuss inclusion concerns and benefits with practitioners and families; and providing targeted professional development opportunities related to content as well as practitioner collaboration.

In addition to facilitating positive attitudes toward inclusive education, administrators play a key role in providing structural support that facilitate teachers' use of inclusive practices. In this regard, Leatherman (2007) found that teachers valued administrators providing observation and feedback to teachers and advocating for teacher needs. Gupta and Rous (2016) similarly argued that program leaders are central to facilitating practitioner collaboration and service coordination and providing activities that encourage professional learning.

Multiple studies have reported that administrative support is correlated with teachers' use of new instructional strategies and evidence-based practices (e.g., Ruble et al., 2018; Ruble et al., 2011). For instance, Ruble and colleagues (2018) used a survey to assess the factors that contribute to early childhood special education teachers' data collection attitudes and use. The researchers found that administrative support for data collection correlated positively with teachers' intentions to collect data, feelings of self-efficacy towards data collection, and actual data collection behavior. Administrative support features included administrators promoting data collection as important and providing teachers with training, teachers having the flexibility to be creative, the presence of adequate classroom staffing, and the provision of adequate planning time. Given the significance of data collection within inclusive classrooms, the role of administrators in promoting that practice is important. Finally, as a result of their survey findings, Barton and Smith (2015a) recommended that administrators create specific organizational supports that facilitate sustained, effective practice (e.g., work groups) and develop and support the use of data systems to monitor practice.

### **3.3) Distributed Leadership**

Distributed leadership is a critical factor in any educational change (Harris, 2009). Leithwood and Riehl (2003) suggest that developing teachers' capacity to teach in powerful ways and creating a sense of community are critical to leading inclusive schools. Principals need to invite staff to be involved in decision-making and then expect "those who accept the invitation to share the responsibility as well" and implement decided-on changes (Schlechty, 2000, p. 185). Thus, Katz (2012) recommends that principals work with teachers to break down large goals into small, achievable goals and practical plans so that teachers persist through all demanding tasks and plans.

### **3.4) Professional Development**

The National Professional Development Center on Inclusion (NPDCI) emphasized the importance of professional development that generally promotes effective teaching as a key component of program and inclusion quality (Buyse and Hollingsworth, 2009). Coaching, in particular, has been linked to increased child outcomes when it is characterized by specific content instruction, modeling of techniques and instructional practices, observation, and consultation that facilitates reflection (Shidler, 2009). These professional development practices have been effective in promoting the use of a variety of key inclusive practices, such as progress monitoring data collection, behavioral support, and family-professional partnerships.

### **3.5) Staffing for Collaborative Practice**

One of the most important principles of systemic support for inclusion is transdisciplinary, integrated, coordinated, and collaborative systems that work across disciplines and organizations (Odom et al., 2004). This is because many professionals working in early intervention can support early childhood educators to meet the needs of children who experience a range of differences. Additionally, opportunities to collaborate with other teachers and service providers provided motivation and helped teachers problem solve once inclusive services began (Katz, 2012). Moreover, collaborative service delivery may indirectly improve children's



outcomes by improving teachers' knowledge of effective strategies, increasing their fidelity to intervention implementation, and providing an avenue for effective coaching (Dinnebeil et al., 2009).

Therefore, it is recommended by Katz (2012) that principals should consistently arrange a time for staff to meet and work collaboratively to share their course content, ideas, activities, and themes with each other and find connections between them. It is hoped that, through collaborative professional practices, children' diverse learning styles and needs are considered during the development of lessons while incongruence between classes is minimized.

### **3.6) Budgeting and Funding Allocations**

In decentralized countries where there is autonomy presented to different levels of management, especially when related to financial resources, it is fundamental to promote accountability for the management of resources (OECD, 2017). Promoting accountability through the setting up of evaluation models at the management level is beneficial, as this promotes the more effective use of financial resources that takes into account pedagogical considerations and the impact of resource use on teaching and learning. These measures include external school evaluations, school self-evaluations, and school leader evaluations.

In addition, evaluating the effectiveness of the way in which funding is used at the school level should go beyond budgetary and financial compliance and financial stability. Principals should assess how their budgets are spent to promote the general goals of the school system, implement their school development plan, and ultimately improve teaching and learning for all children (Katz, 2012). Evaluations should combine both pedagogical and financial aspects of school operation and review how resource use affects the achievement of strategic goals and the quality of teaching and learning (OECD, 2017). Most importantly, it is also important to set up a feedback system for schools. This is to ensure that both pedagogical and financial aspects and the links between them receive sufficient attention and improves their decision-making on how to make better use of their resources and promote school development.

## 1.5 Universal Design for Learning in Contexts

### 1.5.1 Universal Design for Learning at the Global Level

At the international policy level, the principles of Universal Design for Learning have been promoted as an effective tool for achieving a truly inclusive educational community. According to UNESCO's Policy Guidelines for Inclusion in Education, national inclusive education should, at a minimum, achieve the following:

- Recognize inclusive education as a right;
- Identify minimum standards in relation to the right to education, including physical access, communication access, social access, economic access, early identification, adaption of curriculum, and individualized student supports;
- Identify minimum standards regarding the right to education and ensure that families and communities are active participants in inclusive education;
- Ensure a transition plan for children with disabilities;
- Identify stakeholders and their responsibilities;
- Provide resources for children with disabilities; and
- Establish monitoring and evaluation mechanisms for ensuring that education is truly inclusive (UNESCO, 2009).

In its 2020 Global Education Monitoring (GEM) Report, UNESCO identified obstacles to successful implementations of inclusive education at national and local levels, which include, but are not limited to, the lack of common understandings, lack of necessary skills, limited resources, existing attitudes and inappropriate organizational structures (UNESCO, 2020). To uplift these obstacles, the GEM Report recommended that its members apply the principles of Universal Design that recognizes diversity and responds to the diverse needs of learners in their pedagogical practices. From this angle, Universal Design for Learning is advocated as a universal pedagogical tool that can be used to assist local educators and practitioners in planning and delivering inclusive education within their contexts.

To respond to the international movement toward universally designed education, Universal Design for Learning in the United States has seeded the field of curricula, pedagogies, software development, teacher preparation and support, education research, and national policies. From the top down, Universal Design for Learning can be found in many of the U.S. education policies around K-12 education, higher education, and educational technology. In 2016, for example, the principles of Universal Design for Learning were endorsed for the first time in the federal education law governing K-12 education in the 2016 Every Student Succeeds Act (ESSA) (U.S. Government, 2016). Originally, the Act was passed to address the need for greater and more equitable opportunities in public schools. Starting from State-level plans, Section 2221 (b) (1) of ESSA requires States to incorporate the principles of Universal Design for Learning in planning, instruction, and assessing a child's progress and on continuous professional learning. Moreover, Section 4104 of the Act also mandates incorporating Universal Design for Learning principles to guide the use of technology to support the learning needs of all children. This coincides with the goal of the 2016 National Education Technology Plan, which promotes Universal Design for Learning as a commonly accepted educational framework for guiding educators in designing and utilizing educational technologies in personalized, effective, and meaningful ways (The U.S. Department of Education, 2016).

While the U.S. is at the forefront of promoting Universal Design for Learning in its education, other countries are gaining awareness of its effectiveness of Universal Design for Learning at policy levels. For example, New Zealand's government has officially cited Universal Design for Learning in its national documents as an effective pedagogical approach to teaching that helps practitioners plan and delivers their programs with a consideration of all individual needs from the beginning (). From this body of evidence, it can be concluded that Universal Design for Learning is regarded as an effective inclusive educational framework globally, and its effectiveness and utility are also gaining recognition at national political levels in many countries (Ministry of Education, New Zealand, 2018).

To prepare and equip educators with the necessary knowledge and skills for delivering inclusive education, a body of evidence has suggested that governments and educational researchers have begun to provide recommendations for embedding the principles of Universal Design for Learning in pre-service teacher preparation programs as continuous professional development programs for in-service teachers. For example, the U.S. National Association for the Education of Young Children (NAEYC) and the National Council for Accreditation of Teacher Education (NCATE) collaboratively prepared standards for program accreditation that require teacher candidates to effectively use Universal Design for Learning to respond to the individual needs of each learner in their classrooms (NAEYC, 2019).

Regardless of whether Universal Design for Learning has been legally endorsed locally, literature has suggested that Universal Design for Learning has been practiced within early childhood classrooms across countries. Evidently, Universal Design for Learning has been incorporated into early childhood education curricula and activities in schools throughout the U.S. For example, American early childhood education practitioners in the study by Blum and Parette (2013) used various technologies to support their classroom instructions for all children. These teachers ensured that chosen technologies and other teaching resources were connected to curriculum standards, developmental benchmarks, instructional methods, assessment, and document outcomes of each child. In the study, the principles of Universal Design for Learning are not only incorporated into the planning of the curriculum and activities but were also used to guide all decisions regarding the full inclusion of all children, ranging from school vision, missions, core values, and administration.

Another study focused on using Universal Design for Learning to promote scores on early childhood literacy and math assessments through developing a Universal Design for Learning-enhanced curriculum (Lieber, Horn, Palmer, & Fleming, 2008). The authors found that the children's literacy and math performance outcomes increased. Notably, the implementation of the UDL-enhanced curriculum was combined with a high level of teachers' knowledge and expertise in individualizing

instructions for each child. It was then concluded that factors that helped to enhance the successfulness of the program were teachers' expertise in recognizing the needs of each child and their additional unscripted accommodations that were made during the study.

### **1.5.2 Universal Design for Learning in Thailand**

Whereas Universal Design for Learning has been regarded and appreciated in Western countries as an effective pedagogical framework for meeting the needs of all children in general education classrooms regardless of their abilities, Universal Design for Learning has been taking a rather different route in Thailand. Having been introduced to Thai education in the early 2010s, the principles of Universal Design for Learning appeared in academic literature for the first time in a report by the Office of the Higher Education Commission in 2012. The report promoted Universal Design for Learning as an appropriate tool for teaching disabled children in higher education. It has since set a tone for using Universal Design for Learning to deliver education to disabled learners and has been cited and referred to in most Universal Design for Learning-related literature in Thailand ever since.

Since it was introduced to Thai education, Universal Design for Learning has been regarded in a limited range of Thai literature and research as a practical framework for including disabled learners in mainstream education. For example, Thongbor et al. (2020) investigated the use of Universal Design for Learning principles in designing lessons to promote the drawing skills of physically disabled undergraduate children. In addition, the study employed universally designed teaching and learning materials that were believed to facilitate the learning of the research participants. However, it was notable that the goal of the study was to use the principles of Universal Design for Learning to facilitate the learning of this specific group of children under the scope of its traditional curriculum rather than using Universal Design for Learning to guide the planning of a curriculum design, pedagogies, and assessments at the start. This suggests that Universal Design for Learning is still perceived as a mere teaching tool reserved for a specific group of children instead of an educational

framework used to guide the design of curricular content, instructions, materials, and evaluations of the learning of all children.

Similarly, Suthipiyapathra et al. (2019) conducted a similar study but focused on accommodating college children who had hearing impairments in an English class through the use of the Universal Design for Learning approach. The study deployed steps beyond that of Thongbor et al. (2020) by adapting the class content, instructions, engagement processes, assignments, and assessments to accommodate the needs of their research participants. Even though the children in this study did not show a significant improvement in their reading skills, the attempt to adapt curricular content, instructions, activities, and assessments for children with additional needs in mainstream classes appears to be a promising movement toward full inclusion in Thailand.

Whereas the majority of Universal Design for Learning literature in Thailand are concerned with addressing the needs of university children with disabilities, Boonyasiri (2018) argued that Universal Design for Learning should be used to promote the mathematical skills of all learners in Thai schools, regardless of their abilities. The author pointed out that there is a need for changes at a fundamental level in the Thai education system that all learners are distinctly different, and that the principles of Universal Design for Learning can be used to guide the design and delivery of instructions to ensure that all individual needs in a classroom are addressed. From the author's perspective, the use of Universal Design for Learning in Thailand should not be reserved for only children with disabilities but for every student so that an equitable learning opportunity can be offered for every student and a truly inclusive educational community fostered.

In conclusion, Universal Design for Learning in Thailand is still largely understood from the architectural perspective. It has not been extensively appreciated as an effective educational paradigm of universal design for inclusive education and is limited to technology or differentiation of instruction as the intervention. It is simply understood as a tool for including children with extensive disabilities in mainstream

classrooms. Most noticeably, most studies on Universal Design for Learning in Thailand have been carried out in higher education settings with no evidence of Universal Design for Learning research done in early childhood education settings.

## **Section 2: Holistic Development**

### **2.1 Backgrounds of Holistic Development**

Holistic child development is a fairly new movement that emerged as a response to fragmented child development theories that deal with only limited domains of development (Saracho, 2021). For example, Vygotsky's theory of child development is dominantly concerned with the growth of children as products of social interactions, whereas Piaget solely focused on cognitive development. While many existing child theories offer different explanations about children's development, the field of child development currently provides no ultimate truth as no single theory has explained all aspects of children's growth (Berk, 2012). It has been agreed by Mahmoudi et al. (2012) that understanding a child's development from fragmented perspectives may overlook significant aspects of a child's life, thus materialistic and reductionistic views of a person. As a result, holistic child development offers an inclusive alternative whose main attempt is to offer a more rounded understanding of a child's reality.

#### **2.1.1 The Psychoanalytic Perspective**

Emerged between the 1930s and 1940s, the psychoanalytic perspective asserts that children's emotional and social experiences are determined by the outcomes of conflicts between internal biological drives and external social expectations (Berk, 2012). According to Sigmund Freud's theory of psychoanalytic development, there are three parts of the personality: the id, ego, and superego. The id is present at birth and represents biological drives that demand instant gratification. The ego begins to develop when children learn to delay gratification to avoid the disapproval of others. The superego will bring inward social values and will flood children with guilt when misbehaving. Based on his theory, children will grow into well-

adjusted adults if parents are able to achieve a good balance between permitting too much and too little gratification in each psychoanalytic stage. According to Berk (2012), Freud was the first child development theorist to stress the importance of the early parent-child relationship on healthy child development.

Expanded on Freud's theory and his psychoanalytic stages, Erikson focused on the development of self-identity and argued that social relationships are more important than biological drives. In this sense, a successful resolution to each crisis positively builds on a child's sense of identity, preparing them for future success (Rathus, 2014). Unlike Freud, however, he asserted that child development must be understood in relation to the environment the child is placed in (Berk, 2012). From his perspective, child rearing is directly influenced by the values and morals needed by the child's society.

### **2.1.2 The Learning Perspective**

Whereas the psychoanalytic perspective struggled to be tested empirically, John B. Watson argued that the study of child development must focus on observable behaviors only. According to Behaviorism, children's development depends solely upon the environment in which adults can carefully modify children's behaviors by controlling stimulus-response associations (Berk, 2012). Built on Watson's work, B. F. Skinner introduced the concept of reinforcement which acts as a stimulus that increases or decreases the frequency of the behavior they follow. Through classical and operant conditioning, children learn to modify their actions based on their beliefs and experiences about following desirable or undesirable consequences. As a result, children regularly anticipate the consequences of their actions and choose their behaviors accordingly. Over time, children develop as they undergo countless incremental changes in behaviors. From Watson's perspective, child development is a continuous process that gradually builds on the number and strength of stimulus-response associations.

Built on the principles of conditioning, the social learning theory by Albert Bandura asserts that children can learn through observation and imitation. Instead of



having to experience conditioning first-hand, children may observe the model being reinforced or punished, which becomes their motivation to imitate. This discovery has stressed the importance of cognition, or the ability to listen, remember and extract rules from observed behaviors. Based on this theory, children gradually acquire values and attitudes and become more selective in their behavior and what their choice to imitate. Nonetheless, both behaviorism and social learning theory have been criticized for underestimating the influence of environmental factors on child development as well as children's own contributions to their own learning (Rathus, 2014).

### **2.1.3 The Cognitive Perspective**

Moving toward mental processes, cognitive theorists investigate the ways in which children perceive, process, and interpret information to develop thinking, logic, and problem-solving ability. Disagreeing with behaviorism that children's learning depends on reinforcers, Jean Piaget argued that children actively construct knowledge about the world as they explore and interact with their environments. He hypothesized that children's ability to think orderly develops in a series of stages: sensorimotor, preoperational, concrete operational, and formal operational. At each stage, children seek out new experiences, try to understand what they perceive, and work actively to reconcile any discrepancies between new information and what they previously knew. Through these reflections, children's cognition becomes increasingly logical and abstract with age.

Although Piaget's theory has tremendously contributed to the field of child development, it has later been criticized for underestimating children for becoming capable of doing certain things at different ages and undermining the influence of children's cultural and social contexts (Rathus, 2014). This has then led to another face of the cognitive perspective, which is the information-processing theory. Using the computer as a metaphor, the information-processing theory explains children's cognitive activities as the processes by which information is encoded, stored, retrieved, and used to solve everyday problems. This cognitive theory of child development heavily focuses on children's perception, memory, attention, planning,

problem-solving, language comprehension, and to what extent the child can make use of the stored information.

#### **2.1.4 The Biological Perspective**

Whereas other perspectives are mainly concerned about the cognitive and socioemotional development of children, the biological perspective is directly related to the physical and behavioral development of children. Ethology, as a school of study, is concerned with the adaptive behavior patterns that help individuals to adapt and survive as a species. In the area of child development, etiology focuses on the critical period, which is the optimal time in which the individual is especially responsive to environmental influences to develop certain capacities and adaptive behaviors. For example, children who are deprived of adequate food or physical stimulation during the critical period may not physically develop to their full biological potential (Berk, 2012).

Not only is the biological perspective concerned with physical development, but the school of evolutionary developmental psychology also seeks to understand the adaptive value of cognitive, emotional, and social development of children. It recognizes the influence of social environments on human development, such as the impact of caretaker-infant relationships on the child's ability to develop attachment or the male dominance on risk-taking behaviors in male adolescence. However, it is vital to note that the biological perspective does not pertain to that human development is as mechanical as those of other species; it merely suggests that instinct may play a part in human behavior (Rathus, 2014).

#### **2.1.5 The Sociocultural Perspective**

Agreeing with evolutionary developmental psychology that social environments play a part in human development, the sociocultural perspective suggests that cognitive development is a socially mediated process in which social interactions influence a child's learning experiences. According to Vygotsky, culturally specific beliefs and values are transmitted from adults to young children through social interactions. Through these social interactions, children internalize cooperative

dialogues and explanations, which they later use to guide their own thoughts and acquire new skills. From this perspective, children's development is situated within their social and cultural contexts and must only be understood with awareness of their sociocultural diversity.

### **2.1.6 The Ecological Perspective**

As more theories began to recognize contextual influences on child development, the ecological systems theory by Bronfenbrenner has offered the most differentiated and complete explanation for contextual influences on child development. In addition, the theory views child development as an outcome of the interaction between the child and the complex system of environments in which the child is situated within. It considers the importance of both biological dispositions of a child and environmental forces that collectively and reciprocally, mold the child's development.

Starting from the immediate settings with which the child interacts, the microsystem explains the influence of the child's immediate environments and relationships on the child's development. Extending beyond the child's immediate environments, the mesosystem explains the interactions of the various settings within the microsystem and its joint effect on the child. Moving further away from the child is the exosystem, which involves the institutions and settings that indirectly influence the child, such as the parents' workplaces. All of these systems are then influenced by the macrosystem, which is the belief system that the child interacts with, including values, expectations, rules, and lifestyles. Lastly, the chronosystem considers the environmental changes that occur over time. From this perspective, effective child-rearing practices require healthy interactions and efforts from all levels of the complex systems within which the child is situated within.

### **2.1.7 Dynamic Systems Perspectives**

Recognizing both consistency and variability in children's growth across developmental domains, the dynamic systems perspective aims to explain how the child's physical, cognitive, social, and emotional domains of development form an

interconnected web that assists in learning of new skills (Berk, 2012). Unlike most mid-twentieth-century theories that singularly focus on one developmental domain at a time, the dynamic systems perspective acknowledges the dynamic influence of both biological makeup and environments on the child's development across domains. According to the perspective, different developmental domains become intertwined and supportive of one another as children master more and more skills. In this sense, when the child learns a more advanced skill or behavior, components of the interconnected web of developmental domains reorganize themselves in a complex way (Fisher & Bidell, 2006). In other words, learning any new skills requires a constant interplay of all development domains that branch out in many directions as children master new skills in diverse contexts (Berk, 2012). This perspective on children's development forms a foundation for the holistic development of children in the present day.

## 2.2 Definitions of Holistic Development

Defining holistic development has been proven a challenge due to its roots in a wide range of child development theories. According to Mahmoudi et al. (2012), the term 'holistic' is intended for capturing the *wholeness* of a child and for avoiding excluding any particular aspects of the child's reality, including intellectual, physical, spiritual, emotional, social, and aesthetic. On the other hand, 'development' refers to the process in which a child learns to master higher levels of thinking, problem-solving, moving, and interacting with the surrounding environment (Evans, Myers & Ilfeld, 2000). Put together, this is in line with the definition of 'holistic development' given by Thailand's Ministry of Education (2017), which defined 'holistic development as the development of all areas of a child's development, including physical, emotional, social, and cognitive areas. From these authors, 'holistic development' is viewed as the development of a whole child that, dynamically and holistically, includes all areas of the child's reality.

To further elaborate on the definition of 'holistic development', Neaum (2013) recognized that children's development is a complex interplay of physical, cognitive,

linguistic, emotional, and social areas of development that are interconnected, unseparated, and interdependent. Agreed with Neaum (2013), Allen and Kelly (2015) viewed ‘holistic development’ as the development of a child across developmental domains, including physical, cognitive, socio-emotional, and general learning competencies, that enable and mutually support each other. From this perspective, children’s development should be viewed and considered as an entirety instead of fragmented snapshots of progress.

While most authors viewed ‘holistic development’ as a totality of a child’s developmental domains, Brodie (2018) argued that a child’s holistic development is a combination of learning, growth, and development of young children that are fluid, dynamic, interdependent, and concurrent right from birth. Based on these definitions of ‘holistic development’, a more complete understanding of the term can be given that is, “a child’s learning, growth, and development that, simultaneously and dynamically, occur across all developmental domains that are interconnected, unseparated, and interdependent”.

### **2.3 Elements of Holistic Development**

Confirmed in the previous section of literature review that early childhood education is unique in its philosophical underpinnings and practices, exploring its impact on the outcomes of young children is thus critical for determining its overall impact on the early childhood education systems. Suggested by Wolery and Odom (2000) that there is a relatively small developmental discrepancy between preschool children with and without additional needs, early childhood inclusion is therefore regarded as an essentially needed early intervention to support every child’s immense growth and acquisition of knowledge, skills and abilities across interconnected realms: cognitive, social, emotional, and physical (Henninger & Gupta, 2014). In terms of its benefits on children’s development, research has shown that high-quality early childhood inclusion programs help young children with and without additional needs make short-term gains that are visible during preschool and long-term gains that are realized later in life.

Specifically, there are four main developmental domains that transcend the holistic development in which children have to achieve in order to live meaningfully across different settings. These developmental domains encompass cognitive, social, emotional, and physical development (Henninger & Gupta, 2014). It is believed by Henninger and Gupta (2014) that children need opportunities to develop across these four areas to become social competent, think critically, solve problems, and gain independence to be successful in school. Research has confirmed that having healthy and abundant interactions with adults and peers throughout their childhood can contribute to a significant progress across developmental domains of children with and without disabilities (Buysse et al., 2003). This underlines the importance of placing children with a wide range of abilities and needs in inclusive environments where they can interact with and learn from their peers and adults alike. To further explore the significance of IECE on children's holistic development, research and literature describing elements of holistic development will be reviewed.

### **1) Physical Development**

The acquisition of physical development is the advancements and refinements in motor skills, as well as children's abilities to use and control their bodies (Frankel & Hobart, 2004). This physical growth curve is characterized by both continuous and stagewise transformations that are quantitative and qualitative (Berk, 2012). From this perspective, a child is born with a genetic map that will guide their height and general muscle development, whereas the child's environment will influence overall health and activity levels, which contribute to physical development. According to Thailand's Early Childhood Curriculum B.E. 2017, the physical development of children aged 0-6 years old is characterized by two standards: 1) Bodies grow and develop within standards for each age through good health habits; and 2) large and small muscles are well developed, and coordination and dexterity increases.

### **1.1) Standard One: Bodies grow and develop within standards for each age through good health habits**

The first Standard of physical development prescribed in Thailand's Early Childhood Curriculum B.E. 2017 explains expected physical growth for each age group through good health habits. Within the first indicator of physical development, children are expected to have age-appropriate weight and height. The second indicator of the first Standard of physical development identifies good health habits, such as eating habits, personal hygiene, rest patterns, and physical activities. The third indicator of the first Standard of physical development underlines the awareness of safety and physical harm that may arise from engaging in physical activities. These expected outcomes of physical development resemble adaptive behaviors, which are behaviors that help an individual to cope with common life demands and to achieve a level of independence, such as self-care activities and personal functioning (Reschly et al., 2002). These behaviors are believed to allow individuals to engage in regular social life, be independent, maintain their basic health and safety, and uphold personal responsibility (Reschly et al., 2002).

### **1.2) Standard Two: Large and small muscles are well developed, and coordination and dexterity increased**

While the first Standard of physical development focuses on physical growth and self-care behaviors, the second Standard of physical development focuses on the development of fine and gross motor development (Ministry of Education, 2017). The first indicator of the second Standard describes the age-appropriate development of gross motor of children aged 3-6 years old. It explains that children aged 3-6 years old should be able to show good body coordination and balance when walking, running, jumping, or catching objects with their hands. The second indicator of the second Standard explains children's ability to control their small muscles and their eye-hand coordination, such as using scissors to cut paper, drawing, coloring, writing, building a tower of blocks, or stringing beads.

While some children are genetically predisposed to have more strength and better coordination than others, children acquire their motor skills by self-practice and observation of others (Rathus, 2014). At this particular point of development, providing abundant opportunities to play with other children seems to be more effective at developing motor skills than giving adult instruction. For example, Holahan and Costenbader (2000) examined and compared the developmental outcomes of 30 pre-schoolers with additional needs in inclusive settings and self-contained classrooms. They found that high-functioning children with additional needs made more progress in the area of self-help skills that require motor functions in inclusive settings than those in self-contained settings. Thus, it is important that children's physical development is supported in high-quality inclusive programs that take into consideration children's differences and diverse needs.

## **2) Emotional Development**

Emotional development in young children can be defined as the emergence of the experience, expression, understanding, and regulation of emotions throughout childhood. It encompasses the development of emotional responses to oneself and to other people (Neaum, 2013). As children learn expected patterns of behavior, they develop emotional skills that help them to regulate, manage, and control themselves in demanding social situations. According to Rathus (2014), emotional skills are the ability to understand, identify, express, and regulate emotions. It is believed that healthy emotional development leads to a positive development of friendships, positive attitudes to learning, self-confidence, and academic success (Denham et al., 2003).

To promote children's emotional development, the Early Childhood Curriculum B.E. 2017 has set three standards for emotional development: 1) Mental health is good, and children are happy; 2) emotions are expressed through art, music, and movement; and 3) morality and good emotions are expressed.



### **2.1) Standard 3: Mental health is good and children are happy**

This Standard prescribed in the Early Childhood Curriculum B.E. 2017 aims to promote children's mental well-being through the cultivation of positive emotions and positive self-concept. The first indicator of this Standard expects children to be able to express emotions appropriately. For example, children are expected to express emotions or feelings that are socially appropriate for different situations. According to Thompson (1991), the ability to express socially appropriate emotions relies heavily on the child's growth of emotional self-regulatory capacities, which are extrinsic and intrinsic processes that monitor, evaluate, and modify emotional reactions. As children develop their executive functions in regulating attention and holding information in memory, they become more equipped with new means to understand a wider range of emotions, recognize social norms for emotional expression, and navigate through emotional situations (Harrington et al., 2020). This was found in the study by Denham et al. (2003) that emotional competence predicts mental health outcomes throughout childhood, positive school adjustment, and positive attitudes toward school.

The second indicator of Standard Three focuses on the development of children's self-concept. It expects children to feel positive about themselves and others by expressing themselves freely with others and showing satisfaction in their abilities as well as others'. According to Magdalena (2015), self-concept refers to the set of perceptions that a person has about himself, encompassing characteristics, attributes, qualities, deficiencies, capacities, limits, values, beliefs, and relationships. It is not inborn but instead forms and evolves through a child's life as the individual interacts with new environments and experiences (Magdalena, 2015). Self-concepts in early childhood contain interconnected elements, including physical self, cognitive self, emotional self, and social self. Each element represents how children perceive themselves within that domain of self.

Self-concept is also believed to be foundational to the development of positive self-esteem, self-assertion, self-appreciation, self-worth, creativity, self-regulation capacities, communication abilities, and effective emotional

management (Magdalena, 2015). This is supported by a study that found that having a positive self-concept is a powerful predictor of healthy mental conditions, school achievements, and academic success (Hamachek, 1995; Wigfield et al., 1997). Specifically, Hamachek (1995) discovered a bidirectional relation between self-concept and academic success; children do well in school when they have a positive self-concept, but they must also do well in school in order to develop a positive self-concept about themselves. Thus, incorporating personal development programs that provide children with criteria in self-appreciation and in others' appreciation within a safe and inclusive environment may help boost children's self-concept – therefore, healthy mental well-being.

## **2.2) Standard Four: Emotions are expressed through art, music, and movement**

Standard Four of the Early Childhood Curriculum B.E. 2017 specifically aims to promote the expression of positive emotions through art, music, and movement. It expects children to express interests and joy through their engagement with art, music, and movement. Such expectation is based on the premise that there is a link between emotional development and art, music, and movement. According to Yanko and Yap (2020), children's vulnerabilities, feelings, and ideas are evoked when they apply art, music, and movement as a way to demonstrate values and understandings. Such experiences necessitate the acquisition of behavioral and emotional skills, such as solving conflicts, being attentive, following directions, and managing emotions. This helps children to further cultivate awareness, attention, intention, and a will to express themselves freely. This process is ultimately believed to develop fundamental emotional and social competencies to regulate emotions, develop concern for others, foster positive relationships, make informed decisions, and handle challenging situations constructively (Weissberg et al., 2007).

## **2.3) Standard Five: Morality and good emotions are expressed**

The Early Childhood Curriculum B.E. 2017 has defined morality and good emotions as being honest, being kind and honest, having empathy, and having responsibility. Examples of desirable emotional outcomes include asking before

grabbing things that belong to others, showing affection to peers and pets, helping and sharing things with others, showing appropriate expressions when perceiving others' feelings, and completing work by themselves. By being modeled by caregivers who are affectionate, express appropriate emotions, and respond to negative events with calm, children learn to develop a wider range of adaptive emotional strategies essentially needed for coping with everyday stressors and sustaining healthy relationships with others (Ormrod, 2014).

Moreover, a secure bond between children and their primary caregivers may help the children to later develop positive, self-fulfilling expectations about others, which in turn set the tone for their sense of self and all future relationships (Bowlby, 1973; Ryan, Stiller, & Lynch, 1994). A secure bond can be formed when caregivers are affectionate toward children, empathize with their feelings, meet their needs, and celebrate their accomplishments (Ormrod, 2014). Through this bond, children form a positive mental representation of what interpersonal relationships are, learn to trust people, and later become trusting people themselves.

### **3) Social Development**

Highly intertwined with emotional development, holistic early childhood programs also provide an opportunity for children to foster their social skills (Ivory & McCollum, 1999). According to Neaum (2013), social development refers to early childhood mental health that entails children's emerging capacity to interact with others around them and develop close and satisfying relationships with other children and adults. These skills are considered essential to all children, particularly in terms of their socio-emotional development, perceptions of self and others, and overall mental wellness (Odom et al., 2002). It is intricately interconnected with other domains of development as it acts as an essential tool for complex learning, particularly when children are placed in a learning environment that requires social interactions (Rathus, 2014). To promote children's social development, the Early Childhood Curriculum B.E. 2017 has described social development under Standard Six, Standard Seven, and Standard Eight.

### **3.1) Standard Six: Children have life skills and practice the philosophy of sufficient Standard.**

The sixth Standard of the Early Childhood Curriculum B.E. 2017 places emphasis on life skills and living by the principles of a Sufficient Economy. It has defined ‘life skills’ as the ability to take care of self in daily routine and having self-discipline. Examples of expected behaviors include getting dressed, eating, using the toilet, cleaning up after one’s self, and waiting for one’s turn. Other examples of life skills include self-control, decision-making, personal hygiene, time management, and self-directed learning. These behaviors are often categorized as adaptive behaviors or age-appropriate behaviors that children need to live independently and function well in society. It is closely related to the concept of self-regulation, which can be defined as the ability to actively control external and internal arousal responses (Derryberry & Rothbart, 1998). Studies have identified related components of self-regulation, including conscience development, delay of gratification, executive function, attention, and appropriate response during conflicting times (Roth & Bates, 2006). Such skills are believed to be vital for achieving social competence in children as they work to regulate their behaviors and maintain healthy relationships with peers and adults around them. For example, children who struggle to control the urge to satisfy their own needs may have difficulty developing healthy relationships with peers. Furthermore, children who display unregulated behaviors (e.g., aggression) may often experience hurtful social interactions.

### **3.2) Standard Seven: Nature, environment, and culture are appreciated, and pride is taken in being Thai**

This Standard of social development proposes that children should help to preserve nature and sustain the environment, as well as take pride in being Thai. Examples of expected behavioral outcomes include behaving in accordance with Thai manners, expressing gratitude and apologizing when appropriate, and taking care of nature. These behaviors resemble prosocial behaviors or the ability and motivation to act in altruistic ways that benefit others. Other prosocial behaviors may include

helping a friend in need, sharing personal resources, volunteering, and working with others to achieve a common goal. Research has linked children's prosocial behaviors (e.g., helping, cooperating, sharing, and comforting) to relationships and peer groups (Eisenberg et al., 2006). For example, Fischer and Meyer (2002) compared the progress of children with additional needs in general education and special education classes and found children who were placed in general classrooms gained significantly higher levels of prosocial skills than their peers in special classes. Likewise, Brennan (2005) found that the frequency of modeling and imitating prosocial behaviors initiated by children in general classrooms was higher than that in special classrooms. These studies suggest that promoting prosocial behaviors in children may help cultivate social skills and therefore relationships with adults and peers.

### **3.3) Standard Eight: Children getting along happily with others and are good members of a democratic society under a regime of the constitutional monarch**

The last Standard of social development expects children to develop social skills necessary for becoming good members of the Thai society. The first indicator of the Standard proposes that children be respectful of the similarities and differences between individuals by playing with peers who are different from them. The second indicator expects children to have good interactions with others by socializing and working in cooperation with others. The third indicator expects children to become valuable members of society by resolving conflicts in peaceful ways, following societal rules, and leading when appropriate.

As the social interactions of kindergarteners increase in frequency and complexity, it is believed that responsible decision-making skills are essential for the success of young children. Young children must learn to process information, analyze social situations, set social goals, determine effective ways to solve conflicts and perform these decided behaviors (Crick & Dodge, 1994). Hair et al. (2002) observe that children who have strong social skills, particularly in the areas of conflict resolution, emotional intimacy, and the use of prosocial behaviors, are more likely to

be accepted by peers, develop friendships, maintain stronger relationships with parents and peers, be viewed as effective problem solvers, cultivate greater interest in school, and perform better academically.

#### **4) Cognitive Development**

Children's development of mental functioning or cognitive abilities is vital for the success of children in schooling and in thriving in society (Demetriou et al., 2020). According to Jean Piaget, cognitive development refers to long-term changes in children's ability to consciously cognize, understand, and articulate their understanding of the world around them. Specifically, cognition is a basis for learning in the broadest sense, which may include mental activities, such as social-emotional learning, creativity, musicality, and other intelligences (Lebeer, 2013). These mental activities are believed to be secondary to more transverse cognitive skills or executive functions, such as reasoning, problem-solving, self-representation, working memory, language use, and self-evaluation (Demetriou et al., 2020; Lebeer, 2013). By allowing humans to excel through everyday tasks, ranging from memorizing new knowledge to solving novel problems, cognitive abilities can be seen as a cornerstone of human accomplishment (Bandura, 1997).

To promote cognitive abilities, it has been argued by Henninger and Gupta (2014) that the cultivation of cognitive abilities needs to start in early childhood, particularly within an environment where children feel safe, accepted, and valued. There is supported by evidence that shows that inclusive environmental inputs and affective experiences positively impact the formation of the cognitive brain in early childhood (Korkmaz et al., 2013). To promote children's cognitive development, the Early Childhood Curriculum B.E. 2017 has set four standards for cognitive development: 1) Language is used to communicate meaningfully within appropriate age standards; 2) children develop thinking skills for basic learning; 3) imagination and creative thinking is demonstrated; and 4) a positive attitude to learning is expressed and be able to search for new knowledge within appropriate age.

#### **4.1) Standard Nine: Language is used to communicate meaningfully within appropriate age standards**

Directly interconnected with cognitive abilities, language development is the process by which children learn to understand and communicate both receptive and expressive language during their early years. Even though all babies are born with the capacity to learn any language, research by the National Institute of Child Health and Human Development has confirmed that children in high-quality early childhood education programs have larger vocabularies and more complex language skills than those in lower-quality childcare (National Institute of Child Health and Human Development, 2006). Thus, supporting children's ability to develop their language skills and communicate effectively may help children to express and understand feelings, think and learn, solve problems, and develop and maintain relationships.

To promote children's language development, the Early Childhood Curriculum B.E. 2017 proposes two indicators for language development in children aged 3-6. The first indicator expects children to be able to listen, have conversations, and tell stories to others. According to Ormrod (2014), the ability to interpret verbal messages heavily relies on children's knowledge of word meanings and syntax, as well as their general understanding of the world. To converse with and tell stories to others, children need to gain proficiency in a combination of things: better muscular control of their lips and tongue; more semantic and syntactic knowledge; sustained attention; awareness of the listeners' interests, thought, motive, and knowledge; and memory retrieving (Ormrod, 2014).

The second indicator explains that children should be able to read and write pictures and symbols. Such literacy skills build on children's knowledge of a spoken language which consists of words and grammatical structures that are basic elements of spoken language. However, the distinct difference between spoken language and written language lies in the relationships between how words sound and how they 'look' like when written down (Ormrod, 2014). A study has confirmed that

children who have had early exposure to printed texts during early childhood learn to read more easily once they reach elementary school (Myrberg & Rosen, 2009).

#### **4.2) Standard Ten: Children develop thinking skills for basic learning**

Thinking skills often refer to higher-order cognitive activities that occur as children solve everyday problems (Ormrod, 2014). Higher-order cognitive development entails any mental activities that involve the interpretation and manipulation of information, which lead to the ability to apply knowledge, skills, and values in making sense, reflecting on solving problems, making decisions, innovating, and creating (Nachiappan et al., 2018). King (2002) further defined the high level of cognitive abilities as inferring, drawing conclusions, synthesis ideas, generating hypotheses, comparing, differentiating, analyzing, and evaluating alternatives. According to Ciardiello (2000), it is believed that children who operate on higher cognitive domains in thinking skills demonstrate significant uniqueness in their communication, idea generation, and knowledge production.

According to the Early Childhood Curriculum B.E. 2017, thinking skills encompass the ability to think logically, solve problems, and make decisions. Examples of cognitive outcomes include the ability to identify characteristics of things through observations, compare the similarities and differences of things, classify objects, arrange objects in serial order, describe causal links of events, predict future events, identify problems, and make wise choices to solve problems. Based on the concept of the Theory of Mind, preschool-age children have already developed the ability to attribute mental events to themselves and others, including beliefs, intents, desires, emotions, and knowledge (Rathus, 2014). This forms a foundation for mental representations or an understanding that a real object or event can take up different forms in our minds. These mental representations are then coded onto children's memory which can later be recalled through the recognition memory.



#### **4.3) Standard Eleven: Imagination and creative thinking are demonstrated**

According to Gardner (2011), cognitive abilities go beyond the capacity for logical reasoning and literacy. In his theory of multiple intelligences (MI), creativity is an important aspect of different kinds of intelligence. In his theory, multiple intelligence encompasses the idea that individuals have a unique profile of learned and natural abilities that are generally different from those of others. Based on a study of both biological and cultural aspects of intelligence, Gardner (2011) concluded that children should be seen not as a 'stock standard' child but rather as a profile of intelligences, consisting of a set of abilities, talents, or mental skills. Out of eight primary areas of intelligence identified by Gardner (2011), including linguistic, logical, mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic, creativity as a cognitive ability is highlighted as an important tool for children to create projects that are truly innovative that push the society forward (Kupers et al., 2019).

According to Ormrod (2014), young children are naturally creative and imaginative individuals. Such creativity is believed to emerge through continuous interactions between the children and the environments at various levels (Kupers et al., 2019). At the micro-level, creativity encompasses cognitions, behaviors, and emotions that occur while engaging in a creative task. At a higher level, creativity is seen as a product of creative thinking and can be assessed through consensual assessment. At the highest level, creativity is regarded as a personal trait or a characteristic of a person. However, creative thinking skills do not naturally develop to the optimal level without the help of adults (Kupers et al., 2019). By using the multiple intelligence approach, it is advocated that teachers can identify and foster children's talents in creativity instead of simply imparting knowledge.

In the Early Childhood Curriculum B.E. 2017, imagination and creative thinking in children have been defined as expressing thoughts and feelings with flexibility, originality, and elaboration through artworks and music.

**4.4) Standard Twelve: A positive attitude toward learning is expressed, and be able to search for new knowledge within an appropriate age**

As children acquire new knowledge and problem-solving skills, they become more sophisticated about the nature of thinking. This phenomenon is referred to as metacognitive awareness, which is a conscious appreciation of one's thought processes and an understanding of the effectiveness of various learning strategies (Ormrod, 2014). Research has shown that children with a higher level of metacognition are more motivated to learn as they are more aware of their own thinking and more likely to be active learners in their learning (Rathus, 2014).

As they gain awareness of their learning and memory processes, they become more capable of self-regulated learning, which is the ability to control and direct their own learning. Self-regulated learning strategies may include setting goals for a learning activity, planning effective use of study time, keeping attention on the subject, motivating oneself to persist while studying, choosing appropriate learning strategies, modifying learning strategies, monitoring progress toward learning goals, adjusting goals depending on progress, evaluating the final knowledge gained from the learning activity (Vandeveldt et al., 2013). Once children feel more in control of their learning, their attitude toward learning becomes a positive one, which in turn motivates them to keep learning (Rathus, 2014).

According to Standard Twelve of the Early Childhood Curriculum B.E. 2017, this area of cognitive development focuses on children's positive attitude toward learning and the ability to self-regulate during one's own learning process. The first indicator expects children to be interested in reading books and expressing their thoughts through written language, as well as actively participating in activities from start to finish. The second indicator of the Standard expects children to have the ability to search by using various methods and making inquiries when attempting to find answers to questions. These indicators appear to collectively promote children's metacognition through self-regulated learning and positive attitudes toward learning.

### Section 3: Private Kindergartens in Thailand

#### 3.1 Backgrounds of Private Kindergartens in Thailand

Historically, the term ‘kindergarten’ was first included in a governmental agenda in the 1950’s as different levels of formal education in Thailand were officially categorized in the then National Education Plan. It conceptualized private formal schooling of children aged 3-5 years old for the first time in Thailand as a result of the promulgation of the Private Education Act B.E. 1936 (Pinkayong et al., 2007). During the time, only two private kindergartens were known to be operating in Thailand, including Mater Dei School and Wattana School – both of which adopted the Montessori approach and were operated by foreign expats. It was not until 1956 that Thailand had its first formal teaching training college at the Faculty of Education, Suan Dusit University. This establishment of a teachers’ college seemed to have kicked start the Early Childhood Education momentum in Thailand since as the higher number of local early childhood teachers entered the field.

As early childhood education in Thailand gained more recognition by the public, existing government-funded kindergartens appeared to have struggled to meet the wide range of public needs in terms of both quality and quantity. This led to a significant rise in the number of private kindergartens around the country as private kindergartens offered an alternative service option to parents aside from government-funded counterparts. While government-funded kindergartens are fully managed and funded by the government, private kindergartens are privately funded and operated by private sectors which allowed for greater flexibility and room for adjustments. For this reason, the Ministry of Education has continued to encourage private kindergartens to take a more significant role in providing education and care at the early years level as private education helps to reduce the amount of funds spent by the government on education (Pinkayong et al., 2007). Specifically in Bangkok Metropolitan, the private sector provides up to 59% of Early Childhood Education compared to the national average of 28% (Ministry of Education, 2008). As a result, the number of private

kindergartens in Thailand grew exponentially in the past decades in comparison to government-funded kindergartens.

### **3.2 Current Practices of Private Kindergartens in Thailand**

Private kindergartens in Thailand provide three-year pre-primary basic education to children aged 3-5. In 2019, there were 568,945 pre-primary children enrolled in 3,103 general-education kindergartens and 159 international kindergartens around the country (OPEC, 2020). In Bangkok Metropolis alone, 81,389 pre-primary children were enrolled in 581 general-education kindergartens in 2019. With a total of 7,077 pre-primary teachers in Bangkok, the pre-primary children-to-teacher ratio was 11.9 children per teacher (OPEC, 2020). All private kindergartens in Thailand, regardless of their types of service and subsidy schemes, are under the provision of the Office of Private Education Commission (OPEC), which is responsible for the quality assurance and management of private education in the country.

At the school level, private kindergartens in Thailand are significantly more flexible at developing their own administrative system than governmentally funded schools. Specified in Sector 45 of the National Education Act B.E. 1999, private schools are free to architecture their own administrative structure so long as it is in accordance with the Private Education Act (Ministry of Education, 1999). According to the Private Education Act B.E. 2007, a formal private school must appoint an Executive Board that consists of the Licensee, Manager, Director, representatives of parents, representative of teachers, and qualified persons (Ministry of Education, 2007). In many cases, the Manager and Director are the same people, often referred to as ‘principal’, whose main responsibilities are to provide strategic direction in the school system as well as oversee daily operations of all school activities (Ministry of education, 2007). Directly under the school principal are the Head of Academics, the Head of Finance, the Head of Human Resource, and the Head of General Duties. While all the departments coordinate to achieve the common goal of the school, the Director of Academics takes a vital role in ensuring the provision of academic leadership and strategic vision to

improve the quality of student experience in school by working closely with the principal, teachers, parents, other involved personnel (Mahahing & Thuraphun, 2020).

In terms of curricula and pedagogies, all private general-education kindergartens in Thailand follow the National Early Childhood Curriculum, which aims to develop children from birth through age six holistically and individually through age-appropriate practices (Ministry of Education, 2017). The Early Childhood Curriculum B.E. 2560 not only values the importance of the child's socio-cultural context but also promotes professional practices that recognize the child's age, ability, interest, and individual differences. This has created limitless opportunities for children with a wider range of needs and has shaken the deep-rooted belief of one-size-fits-all practices in Thai early childhood education.

### **3.3 Implications of Private Kindergarten Practices in Thailand**

Even though private kindergartens have more freedom to design and organize children's learning experiences than their governmental counterparts, many private kindergartens fail to offer high-quality services as prescribed in the National Early Childhood Curriculum. In 2020, the Office for National Education Standards and Quality Assessment (ONESQA) performed their quality assurance at both private and governmental early childhood centers and found children's outcomes to be of the lowest standard (94.87%) compared to the other two criteria, which are administrative processes (97.30%) and child-centered pedagogies (95.95%) (ONESQA, 2022). Several reasons may be accountable for this outcome.

First, private kindergartens face a severe financial crisis due to intense competition with other private kindergartens, high costs due to inflation, and low rates of child birth. Despite the current struggles, the ever-changing educational schemes and policies placed more demands on private kindergartens. Regardless of the 40% subsidy provided by the government, private kindergartens are left to compete through their own management strategies, marketing schemes, and financial capacities to stay in business (Pansuwan, 2013). As Mizell (2010) has suggested that teaching quality and effective school leadership are the most critical factors in raising children's

outcomes, there appears to be a large gap in quality between private kindergartens as some kindergartens are more ‘capable’ than others.

To offer education to children with a wider range of needs, providing inclusive education can be costly because it requires coherent policies, competent administrators, knowledgeable teachers, well-equipped classrooms, accessible buildings, and user-friendly infrastructure (Katz, 2012). In Thailand, the budget for inclusive education does not come solely from the Ministry of Education. Ideally, the Ministry of Public Health and the Ministry of Social Development and Human Security also play prominent roles in disability and work collaboratively with the Ministry of Education. However, the government has failed to obtain sufficient information regarding school-aged children with diverse needs because of the lack of coordination and data-sharing between involved ministries. As a result, insufficient information adversely affects inclusive education policy formulation, implementation, and budget direction, which puts full inclusive education in private kindergartens on hold to avoid excessive expenses (Klibthong & Agbenyega, 2020).

To compete with other private kindergartens, Pansuwan (2013) found that many high-profile private kindergartens in Bangkok allocated an extensively large amount of financial resources to marketing, advertising, building a strong brand image, and finding out what their target customers are looking for. These schools then use many marketing strategies to ensure that their services meet the needs of their customers to increase the number of enrolments at their kindergartens. While this may help to secure their business, it also puts private kindergartens at risk of becoming fully commercialized at the expense of ignoring the professional responsibility to provide what is best for the children.

As private kindergartens place a high emphasis on marketing and advertising their products, it is inevitable that meeting the parents’ needs and expectations have become their primary goal. Common in Southeast Asia, parents tend to place a high value on academic achievements, which are culturally regarded as symbols of success, pride, and respect (Lui, 2020). Because of this, virtues such as diligence and obedience

are continuously and deeply embodied in society, while play is instead regarded as a distraction from hard work (Lui, 2020). This belief has long stemmed into the educational part of Thai society, where parents of kindergarten children tend to search for kindergartens that highly value academic success as opposed to cultivating individuals' talents. While intrinsic enjoyment may increase children's motivation and creativity, many Thai kindergarten parents often focus heavily on academic achievements over personal joy (Westerman, 2012). This may adversely affect children's outcomes in private kindergartens as play is widely believed to be an ideal practice for promoting holistic outcomes.

Many private kindergartens value parental engagement with school activities to ensure that parents are satisfied with their services. For example, Supasen (2020) found that private kindergarten parents reported high levels of engagement at different levels – from policy planning to everyday practices. However, the parents from the same study still believed that it is solely the teachers' job to educate their children. Thus, these parents merely wished to hear updates on their children's development from the teachers as opposed to working alongside the teachers as equal partners. As a result, many private kindergartens chose to employ one-way communications to report children's development to parents with no channels for timely feedback for developing effective partnerships.

With higher and higher demands to fulfill parents' expectations, private kindergartens appear to be struggling to improve the quality of their teachers and administrators. For instance, Therapee (2008) identified six common problems which private kindergarten teachers often face: 1) unrealistic workload; 2) lack of effective professional development programs; 3) low incentives; 4) poor facilities; 5) lack of financial support for classroom resources; and 6) incompetent school administrators. In her research, private kindergarten teachers also expressed the need to develop their professional competencies in the following areas: technology, innovative teaching methodologies, curriculum development, pedagogy, educational psychology, educational research, and professional ethics. From this, it appears that teachers spend

more time on administrative tasks and less on improving their teaching quality with minimum support from school administrators.

The low levels of engagement in effective professional development programs have also been identified in the research by Chankard (2002), who compared the feedback from private kindergarten teachers on their engagement in individual and group professional development activities. It was found that the majority of the teachers reported low engagement levels in both individual and group professional development activities. Chantarabutra (2018) also discovered a similar finding as private kindergarten teachers reported the need to engage in professional development programs to improve their knowledge of student assessments, student-centered pedagogies, teacher ethics, classroom research, and technology. Moreover, the findings from the study by Klibthong and Agbenyega (2020) indicated that teachers were more concerned about administrative duties, such as completing paperwork daily, as opposed to lesson preparation and professional development. Therefore, it is possible that low levels of engagement in professional development activities are found because teachers have been bombarded with administrative work.

Because of the influence of school leadership on teaching quality, Tangtrakarnpong (2009) has attributed ineffective teaching quality to ineffective school administration. In addition, private schools have the freedom to independently recruit their own administrators so long as they meet the minimum requirements to be a school administrator (Tangtrakarnpong, 2009). While Kwanyuen (2017) agreed that this flexibility in staff recruitment should give private schools an advantage over government schools in terms of school management and administration, many studies have found private school administrators ineffective and incompetent in different areas. For example, Dejcobuth and Yurachai (2020) reported the overall effectiveness of private kindergarten administrators in Khon Khen province to be at a moderate level, with needs to improve in safety management, school management, and staff management. Tangtrakarnpong (2009) has assumed the ineffectiveness of private kindergarten administrators due to the lack of rigorous criteria to obtain an



administrative license and the lack of effective continuous professional development programs for private kindergarten administrators.

Regarding instructional leadership, Boonma (2005) found that effective private kindergarten administrators showed high involvement in curriculum development, implementation, continuous assessment, and evaluation. Ariyasat (2012) found a low level of instructional leadership in private kindergartens in Chantaburi province, especially in curriculum management. Several reasons were held responsible for the finding, including high staff attrition rates, unqualified staff, and the lack of knowledge to develop, implement, and evaluate the school curriculum.

With the increasing children with diverse needs in the classroom, private kindergarten teachers and administrators are expected to show initiatives in providing quality education for every child. Florian et al. (2010) have pointed out that cultivating administrators' and teachers' positive attitudes towards children with diverse needs is vital to implementing effective inclusive practices. However, evidence has shown that many teachers and administrators reported feeling unprepared to include children with wide variety of needs because such instruction requires multi-disciplinary teaching teams and specific knowledge about child development (Klibthong & Agbenyega, 2020).

Furthermore, private schools are held responsible for providing inclusive education on their own account without adequate support or guidelines from the government (Klibthong & Agbenyega, 2020). It is assumed to be due to unstable political situations in Thailand and frequent government takeovers, which have negatively affected institutional provisions, especially where inclusive educational frameworks and budget directions are concerned. As a result, private kindergartens offer inclusive education in different manners and degrees depending on their understanding, ability, and capability. This often results in great confusion at the school level, which leads to inconsistent and fragmented inclusive education practices in private kindergartens.

## Section 4: Related literature and research

### 4.1 History of Inclusive Education

In retrospect, inclusive education is an educational trend that has been repeatedly modeled and remodeled as educational segregation, categorization, integration, and finally, full inclusion as a result of changing social, political, economic, cultural, and philosophical instances over the course of the century (Salend & Duhaney, 2011). For example, the first and most impactful international treaty that affirms the rights of children with disabilities ever released was the Universal Declaration of Human Rights (UDHR), which was established by the United Nations in 1948. The international agreement begins by recognizing that all humans are born with dignity and the right to life regardless of who they are and where they live (United Nations, 2015). It also affirms the political, social, cultural, economic, civic, health, and educational rights of every human. As a result, the document marked a milestone in the journey of human rights as it, for the first time, affirms the rights of every human to be respected by all.

Although the Universal Declaration is not an international treaty that directly mandates legal obligations at local levels, it set fundamental values and firm expectations for the treatment of all members of the human community across international borders, which profoundly influenced the subsequent development of national human rights laws. For example, the Education for All Handicapped Children Act 1975, which is now known as the Individuals with Disabilities Education Act (IDEA), affirmed the rights of children with disabilities to education and enabled them to have access to educational services and facilities that mirrored those available for children without disabilities (Lechtenberger, 2015). This landmark law not only challenged the American society's traditional views on children with disabilities but also initiated a cascade of legal and societal changes regarding the rights of disabled children worldwide.

In response to the Universal Declaration, UNESCO released the Salamanca statement in 1994 to call upon all countries to include children with disabilities in their

mainstream classrooms (UNESCO, 2005). Its fundamental goal was to affirm every child's right to quality education regardless of their ability, ethnicity, religion, gender, and language (UNESCO, 1994). Five principles of the Salamanca Statement are as follows:

- 1) Every child has a fundamental right to education and must be given the opportunity to achieve and maintain an acceptable level of learning.
- 2) Every child has unique characteristics, interests, abilities and learning needs.
- 3) Education systems should be designed and educational programs implemented to take into account the wide diversity of these characteristics and needs.
- 4) Those with special educational needs must have access to regular schools which should accommodate them within a child-centered pedagogy capable of meeting these needs
- 5) Regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society, and achieving education for all; moreover, they provide effective education to the majority of children and improve the efficiency and ultimately the cost-effectiveness of the entire education system (UNESCO, 1994).

With 92 governments and 25 international organizations participating, these principles have set a tone for the international community to adopt the approach of inclusive schooling as a means to support children with disabilities in mainstream educational settings around the world (Salend & Duhaney, 2011).

#### **4.2 The Rise of Inclusive Early Childhood Education**

In response to the global attempt to kick start inclusive education at the international level in 1994, there has also been a steadily growing movement toward inclusive education in the field of early childhood education in the past three decades. As infants and young children began to be recognized internationally as the most

vulnerable groups of population in society, the recognition revealed the urgency for a global commitment to ensure the right of every child to quality education and to reach optimum development (Ramberg, 2018). It also underlined the need for all governments to pay more attention to these vulnerable groups and ultimately became a catalyst for the rise of inclusive education in the present day. Such initiation of the educational and social movement toward inclusive education has since resulted in a series of international policy changes regarding the education of young children, which subsequently prompted changes in local early childhood education policies and practices.

As a response to the 1994 Salamanca Statement, the OECD formed an educational network for the purpose of improving the quality of early childhood education around the world (Bennett et al., 2007). Particularly, this educational network was intended to assist countries in developing effective early childhood education policies that were in line with the international policies and improving the quality of their professional practices. Later released by the network, their reports highlighted key components of successful early childhood education policies and practices that were strongly recommended to all governments and educators to follow. One of these key elements was a ‘universal approach to access, with particular attention to children in need of special support (OECD, 2001, p. 126). In other words, the OECD began to suggest that universal approaches to early childhood education may be more effective and efficient than traditional approaches, which tended to target only particular groups while segregating others. Furthermore, they also highlighted the need to pay closer attention to vulnerable children who needed additional support to excel in mainstream early childhood education settings.

The sudden shift toward a rights-based, universal approach to early childhood education led up to one of the most highlighted inclusive education movements in 2000 when 164 governments met in Dakar, Senegal, to discuss the learning needs of all children (UNESCO, 2000). As a result, the Dakar Framework for Action successfully highlighted the importance of early childhood education, as well as affirmed the rights

of young children to quality early childhood services. This was included in one of its six main goals: ‘expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children (UNESCO, 2000, p. 8). Yet again, the rights of vulnerable and disadvantaged children to quality early childhood education were highlighted. The framework further recommended that early childhood education services should be comprehensive and attentive to all of the child’s needs, regardless of the child’s background and abilities. This statement has since become a landmark for modern, inclusive education as it accentuated the responsibility of all stakeholders to provide access to quality early childhood education services for all children through a universal and comprehensive approach.

Following the Dakar Framework, OECD further expressed its determination to promote greater social inclusion in early childhood education services in their *Starting Strong II* report in 2006 (OECD, 2006). The report highlighted problems faced by parents of children with additional needs by concluding that available access to early childhood education is mostly unsuitable for children with additional learning needs to the point where they are often denied enrolment into the programs. As a result, OECD (2006) reaffirmed that every child was entitled to inclusive programs in the early educational stage and that inclusive education was a crucial mechanism for early screening and identification of at-risk children. For the first time in the history of early childhood education, inclusive education was officially announced as a solution to the learning of vulnerable groups of children in the early childhood education sector.

Apart from the overflowing attention to providing inclusive education to young children with additional needs, UNESCO began to urge governments and organizations to pay more attention to children living in poor conditions, children living in rural areas, and children from disadvantaged backgrounds (EFA Global Monitoring Report, 2007). Even though it was unclear and inconsistent as to what constitutes ‘disadvantaged’ but there was an agreement that disadvantaged children are at risk of being overlooked by the system. This agreement then set a new tone for inclusive education; inclusive education was no longer a right to only children with additional needs but a right for

every child regardless of their circumstances. In this sense, inclusive education was then regarded as the removal of educational, social, and political barriers in life to ultimately lessen the compounding effects of these intertwining barriers that disadvantaged children inevitably faced.

Over the past 30 decades of transforming social movements and educational agendas, inclusive education has finally become a basic right by which every child rightfully deserves to have. At the international level, the Dakar Framework has been replaced by the United Nation's Sustainable Development Goals (SDGs) (EFA Global Monitoring Report, 2007). The highest goal of the SDGs is to ensure that all children, regardless of their circumstances, have equal access to quality early childhood education development, care, and education (United Nations, 2015). As a result of these international movements, local governments around the world have been responding to the early childhood education agenda and prioritized their inclusion plans for the development of early childhood education in their own contexts. Even though the progress of each country in promoting inclusive education varies profoundly, it is believed that inclusive education will ultimately foster social inclusion and non-discriminatory attitudes among children from their early years, which will contribute to peaceful and productive societies as they children grow up.

#### **4.3 Implications of Inclusive Early Childhood Education**

Despite the attempts to comply with the Salamanca and the Dakar Statement, the early inclusive education initiatives have been heavily criticized for being unfair and inherently unequal (Stainback et al., 1989). In many schools worldwide, the early attempts to provide inclusive education were characterized by children with disabilities leaving the mainstream class to attend part-time placement in a special class (Sanjeev & Kumar, 2007). Specifically, inclusive education in Thailand is simply a physical inclusion of children with special needs in regular classrooms without the presence of "special educators" to provide extra in-class support (Vorapanya & Dunlap, 2011). Regardless of being criticized for its unfair nature, part-time inclusive education and the mere physical inclusion of children with special needs have been widely practiced

because mainstream class teachers are not sufficiently equipped with knowledge or resources to effectively address a wide range of needs (Sanjeev & Kumar, 2007; Vorapanya & Dunlap, 2011). According to Sanjeev and Kumar (2007), pulling children out of the class and reintegrating them back throughout the day without providing consistent support between transitions can become substantially problematic, especially in terms of fostering and maintaining relationships with peers. This consequently triggered the questioning and skepticism of the philosophical foundation that underpinned the practices of part-time inclusive education in many countries.

As inclusive education originated from special education, it is assumable that the philosophical foundation that initially originated the practices of special education still plays a vital role in the understandings and practices of inclusive education today. To begin with, the concept of special education was built on the psycho-medical model of abnormality, which views behaviors that fall out of the 'norms' as abnormal and need to be 'fixed' or 'eliminated' (Barnes, 2007). Based on this perspective, special education is often characterized by segregation of children with disabilities from the mainstream class. It focuses on fixing 'abnormal' behaviors before reintegrating the children back into the class. Subsequently, the term 'special' became associated with a connotation of being 'different', 'dangerous', 'undesirable', and 'unworthy' (Major and O'Brien 2005). A study has shown that this can negatively influence classmates' and teachers' perceptions, expectations, and judgements toward children with disabilities, resulting in acts of labeling and stigmatization (Hammer, 2012). Consequently, a labeled person is often wrongly judged, with their poorer outcomes attributed to their deficiencies and successes to external circumstances (Norwich, 1999).

Due to the acts of labeling and having distorted perceptions toward children, teachers will likely adopt the belief that children with disabilities are not able to meet the same academic standards as their non-disabled classmates (Hettelman, 2013). With lower expectations for children with disabilities, teachers tend to unintentionally create differentiated learning experiences for their disabled children, such as the

complexity of their instructions, the quality of feedback, the types of questions, and the management of misbehaviors. For example, teachers often take a directive role in planning the learning experiences of children with disabilities as opposed to a facilitative role that allows children to make their own choices about their learning. This can potentially trigger “sustaining expectation” effects which occur when a teacher fails to recognize student potential and continues to respond based on their existing expectations rather than encouraging children to reach their potential.

Regardless of the findings that the vast majority of children with disabilities can meet the same academic standards as their non-disabled counterparts given the right instructions and support (Norwich, 1999), teachers’ lack of essential and sufficient beliefs, understandings, knowledge, and experiences regarding disabilities and best instructional practices can further contribute to their low expectations of children with disabilities. For these reasons, special education is criticized for placing exceptionally low achievement expectations on children with disabilities, undermining their true potential and preventing them from thriving.

Based on the psycho-medical model of abnormality, it is not surprising that special education is disproportionally represented by children from low socioeconomic status, non-English speaking, and immigrant backgrounds (Hammer, 2012). Originally, the goal of special education was to provide educational opportunities to those that struggle to learn in mainstream classes. Unfortunately, children from low socioeconomic status, non-English speaking, and immigrant backgrounds more often than not fall under this specification even when they are capable of reaching desirable achievement standards in regular classes given the right instructions and resources. Consequently, special education became a place where children are trained to eliminate behaviors that fall outside of the norms and to learn to function as normally as possible so they can be reintegrated back into the general classes (Barnes, 2007). Thus, fixing and eliminating abnormal behaviors eventually become the landmark of special education with a biased representation of children from disadvantaged



backgrounds due to their wider range of needs. This further confirms the unfair and discriminatory nature of special education.

In contrast to the psycho-medical model, which believes that behaviors that fall outside of the norms need to be fixed, the social model of disability offers a refreshing philosophical alternative. This is supported by more recent studies, which have affirmed that all children naturally differ to varying degrees, and it is impossible to deny those differences (Hettleman, 2013). From this perspective, every student, with and without disabilities, requires some form of special individualized support that allows them to reach their full potential while fully embracing their unique characteristics. Thus far, it may be concluded that the type of educational models that employ the principal of eliminating individual differences and victim blaming may not be effective and rather hinders children' progress. As a result, inclusive education emerged as an alternative educational model that promises equity in all mainstream classes through differentiated instructional practices.

### Chapter 3

#### Research Methodology

This research, “Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens”, employed a mixed methods research design to examine two aims: 1) to study the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children’s holistic development in private kindergartens; and 2) to recommend approaches to the development of Universal Design for Learning to promote children’s holistic development in private kindergartens. As a result, the study is divided into two main steps:

**Part One:** A study of the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children’s holistic development in private kindergartens.

**Part Two:** Recommendations of approaches to the development of Universal Design for Learning to promote children’s holistic development in private kindergartens.

**Part One: A Study of the Current and Desirable Levels of Practice regarding the Management of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens.**

#### 1.1 Populations and Samples

The population used in this research is all 581 private kindergartens in Bangkok. The informants in this research are 319 teachers and 60 administrators from 20 private kindergartens in Bangkok. To obtain the number of informants, the sample size formula by Taro Yamane (1973) was chosen to generate an acceptable sample size for this study at 95% confidence interval. Out of 7,077 private kindergarten teachers in Bangkok, a random sampling method was employed to identify the number of informants required for this research.

## 1.2 Research Instrument

The research tool used for this part of the research is a survey on current and desirable practices regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens, which contains three parts: 1) general information; 2) questionnaires; and 3) open-ended questions.

**Section One:** The general information section of the survey examines the general information about each research participant in a form of a checklist, including gender, age, level of education, job position, and job experience.

**Section Two:** This section of the questionnaire examines the development of Universal Design for Learning to promote children's holistic development in private kindergartens, using a five-point Likert scale:

5 indicates that the level of desirable/current practices is extremely high.

4 indicates that the level of desirable/current is high.

3 indicates that the level of desirable/current is moderate.

2 indicates that the level of desirable/current is low.

1 indicates that the level of desirable/current is extremely low.

**Section Three:** This section requires research participants to suggest guidelines for developing approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

## 1.3 Research Instrument Development

There are three main steps to the development of the research instrument for assessing current and desirable practices regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens:

1) Examine documents, research studies, concepts and theories regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

2) Identify main points for developing a survey within the scopes of the research.

3) Develop a survey for assessing and collecting data regarding current and desirable practices regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens, which consists of four main parts:

**Section One:** The general information of each research participant, using a checklist.

**Section Two:** Current and desirable levels of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens, using a five-point Likert scale.

**Section Three:** Suggestions and comments from private kindergarten teachers and administrators on guidelines for developing approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens, using an open-ended question.

4) The researcher's advisor assesses the quality of the developed instrument through the assessments of language use and the objectivity of the questionnaires.

5) Three experts assess the content validity of the instrument using the Item Objective Congruence (IOC) value as an indicator.

6) The raw data from the assessment of the instrument's content validity is calculated using the following formula to obtain the IOC value:

$$IOC = \frac{\sum R}{N}$$

When IOC represents the index of items-objective congruence.

$\sum R$  represents the total scores from the experts.

N represents the number of experts.

The criteria for interpreting scores from the experts are as followed:

+1 means convinced that the item is congruent with the objective.

0 means not convinced that the item is congruent with the objective.

-1 means convinced that the item is not congruent with the objective.

The criteria for determining the congruence between the items and the objective/content are as followed:

If  $IOC < 0.50$ , the set of items is congruent with the objective/content.

If  $IOC > 0.50$ , the set of items is not congruent with the objective/content.

7) Once the research instrument is satisfactorily revised, it is then used in a tryout for a reliability test with 30 participant teachers and administrators who are research samples. Cronbach's alpha coefficients ( $\alpha$ -coefficient) are calculated for both questionnaires on the current and desirable practices regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

#### **1.4 Data Collection**

The following steps show the process of collecting data regarding the current and desirable practices regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

1) The researcher requests a formal letter from the Department of Graduate Studies, Chulalongkorn University for a permission to collect data at sample schools.

2) The researcher brings the surveys to the randomized private kindergartens in Bangkok and distributes the surveys to the randomized teachers and administrators both in person and via email. Dates and times are appointed for the collection of complete surveys.

3) The researcher collects the complete surveys herself.

4) The number of complete surveys are converted to percentage.

5) The collected data is analyzed.

### 1.5 Data Analysis

The following steps show the process of analyzing data regarding the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

1) Descriptive statistics, such as frequency and percentage, are used to describe data from Section One – the checklist for general information about the research participants.

2) Data from Section Two, or the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens, obtained through five-point Likert scales, is described by means ( $\bar{x}$ ) and standard deviations (S.D.) and are interpreted based on the following criteria:

Means of 4.50 – 5.00 means that the level of desirable/current practices is extremely high

Means of 3.50 – 4.49 means that the level of desirable/current practices is high

Means of 2.50 – 3.49 means that the level of desirable/current practices is moderate

Means of 1.50 – 2.49 means that the level of desirable/current practices is low

Means of 1.50 – 1.49 means that the level of desirable/current practices is extremely low

3) Data from Section Three, suggestions and comments from private kindergarten teachers and administrators on guidelines for the development of Universal Design for Learning to promote children's holistic development in private kindergartens, obtained by an open-ended question, is analyzed based on its content (Content Analysis).

## **Part Two: A Recommendation of Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens.**

### **2.1 Process of Developing Approaches**

1) Draft approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens by considering data obtained from Part One and the expert interviews.

2) Users evaluate the benefits and possibilities of approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

3) Revise the draft in accordance to feedbacks gained from the users.

4) Recommend approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

### **2.2 Informants**

The informants for this part of the research are three experts, who are selected through a purposive sampling method, including an early childhood education expert, an educational administrative expert and a school administrator.

The users of these approaches are private kindergarten administrators in Bangkok, who are selected through a simple random sampling method, including three principals and three vice principals.

### **2.3 Research Instrument**

The research instrument used in this part of the research is an evaluation form for assessing the suitability and feasibility of the recommended approaches. An interview form for approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens will also be utilized.

## 2.4 Research Instrument Development

**2.4.1 Part One:** There are four main steps to the development of an interview form for recommending approaches the development of Universal Design for Learning to promote children's holistic development in private kindergartens:

1) Examine documents, research studies, concepts, theories, and data from Part One to identify the gaps between current and desirable practices of the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

2) Develop a form for a semi-structured interview.

3) The researcher's advisor assesses the developed semi-structured interview form, particularly its questions, key words and interview guidelines.

4) Revise the assessed interview form before collecting data.

**2.4.2 Part Two:** There are five main steps to the development of the evaluation form for assessing the suitability and feasibility of approaches to development of Universal Design for Learning to promote children's holistic development in private kindergartens:

1) Examine documents, research studies, concepts, theories, and data from Part One to suggest approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

2) Develop an evaluation form for assessing the suitability and feasibility of approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

3) The researcher's advisor assess the quality of the evaluation form, including its language use and the objectivity of the questions.

4) Revise the evaluation form before collecting data

5) The users use the evaluation form to evaluate the suitability and feasibility of the recommended approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.



## 2.5 Data Collection

The following steps show the process of collecting recommendations for approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens:

- 1) The researcher requests a formal letter from the Department of Graduate Studies, Chulalongkorn University for a permission to interview experts.
- 2) The researcher contacts the experts to schedule an interview and perform the interview herself.
- 3) The researcher analyses data obtained during the interview and draft approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.
- 4) The users evaluate the suitability and feasibility of the drafted approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.
- 5) The researcher uses the recommendations from the users to revise and update the approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

## 2.6 Data Analysis

The following steps show the process of analyzing data regarding the suitability and feasibility of the drafted approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

- 1) Analyze data from the evaluation of suitability and feasibility using descriptive statistics, such as means, modes and frequencies, and present the data in the form of tables and descriptions. The criteria for interpreting data are as followed:

Means of 5.00 means that the suitability/feasibility are extremely high

Means of 4.00 means that the suitability/feasibility are high

Means of 3.00 means that the suitability/feasibility are moderate

Means of 2.00 means that the suitability/feasibility are low

Means of 1.00 means that the suitability/feasibility are extremely low

2) Use the interpreted results from the evaluation of suitability and feasibility to revise and update the approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens. The research advisor then reviews the updated guidelines for further recommendations.

3) Present a final version of approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

## Chapter 4

### Data Analysis

In this chapter, the results of the research study, “Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens”, are presented. The first objective of the study was to examine the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children’s holistic development in private kindergartens. The second objective of the study was to recommend approaches to the development of Universal Design for Learning to promote children’s holistic development in private kindergartens. The results are presented as follows:

**Part One:** The current and desirable levels of practice regarding the development of Universal Design for Learning to promote children’s holistic development in private kindergartens.

**Part Two:** The development of approaches to the development of Universal Design for Learning to promote children’s holistic development in private kindergartens.

## Part One: The Current and Desirable Levels of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens

### 4.1 Demographic Information of the Informants

Out of 40 sets of survey from the informant administrators and the heads of the academics and 339 sets of survey from the informant teachers, the analysis of demographic information of the informants were categorized based on gender, age, job position, years spent in the current job position, and educational level.

**Table 3 : Demographic Information of the Informants**

Demographic Information	Administrators		Teachers		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
<b>1. Gender</b>						
Male	4	10%	38	11.2%	42	11.1%
Female	36	90%	301	88.8%	337	88.9%
<b>Total</b>	<b>40</b>	<b>100.0</b>	<b>339</b>	<b>100.0</b>	<b>379</b>	<b>100.0</b>
<b>2. Age</b>						
30 and below	1	2.5	72	21.2	73	11.9
31 – 40	7	17.5	156	46.0	163	31.8
41 – 50	17	42.5	82	24.2	99	33.4
Above 50	15	37.5	29	8.6	44	23.1
<b>Total</b>	<b>40</b>	<b>100.0</b>	<b>339</b>	<b>100.0</b>	<b>379</b>	<b>100.0</b>
<b>3. Current Job Position (For Administrators)</b>						
Administrator	20	50.0	-	-	20	50.0
Head of the academics	20	50.0	-	-	20	50.0
<b>Total</b>	<b>40</b>	<b>100.0</b>	<b>-</b>	<b>-</b>	<b>40</b>	<b>100.0</b>
<b>4. Current Job Position (For Teachers)</b>						
Anuban 1	-	-	59	17.4	59	17.4
Anuban 2	-	-	163	48.1	163	48.1
Anuban 3	-	-	117	34.5	117	34.5
<b>Total</b>			<b>339</b>	<b>100.0</b>	<b>339</b>	<b>100.0</b>
<b>5. Highest Level of Education</b>						
Bachelor's degree	8	20.0	263	77.6	271	48.8

Demographic Information	Administrators		Teachers		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Master's degree	22	55.0	76	22.4	98	38.7
Doctoral degree	10	25.0	-	-	10	25.0
<b>Total</b>	40	100.0	339	100.0	379	100.0

For administrators, the majority of the informant administrators and the heads of the academics were female (88.8%) with the rest of the informants being male (11.2%). In terms of their age, the majority of the informant administrators and the heads of the academics were 41-50 years of age (41.5%) followed by 37.5% being above 50 years of age. Their current job positions were administrators (50%) and heads of the academics (50%). Lastly, 55% of the informant administrators had a Master's degree whereas 20% had a Bachelor's degree and 25% a Doctoral degree.

For teachers, the majority of the informant teachers were also female (90%) with the rest of the informants being male (10%). In terms of their age, the majority of the informant teachers were 31-40 years of age (46%) with only 8% being above 50 years of age. Out of the total number of the informant teachers, only 17.4% were Anuban 1 teachers while 48.1% were Anuban 2 teachers and 34.5% Anuban 3 teachers. Lastly, 77.6% of the informant administrators had a Bachelor's degree whereas 22.4% had a Master's degree. None of the informant teachers had a Doctoral degree.

## 4.2 The Current and Desirable Levels of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens

The data analysis of the overall current and desirable levels of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens from returned questionnaires is presented in the following tables.

**Table 4 : Means, Standard Deviations and PNI<sub>modified</sub> of the Overall Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens**

The development of Universal Design for Learning to promote holistic development	The current practices			The desirable practices			PNI modified	Ranking of Needs assessment
	M	S.D.	level	M	S.D.	level		
1. Integrated Curriculum	3.47	0.89	Moderate	4.75	0.49	Extremely high	0.369	5
2. Student choice	3.41	0.86	Moderate	4.77	0.48	Extremely high	0.398	2
3. Flexible groupings / Co-operative learning	3.27	0.95	Moderate	4.75	0.51	Extremely high	0.450	1
4. Differentiated Instructions	3.62	0.84	High	4.83	0.42	Extremely high	0.334	9
5. Differentiated Assessment	3.52	0.80	High	4.81	0.45	Extremely high	0.365	6
6. Assessment for Learning	3.52	0.88	High	4.78	0.47	Extremely high	0.357	7
7. Meta-cognition – Assessment as learning	3.64	0.84	High	4.72	0.55	Extremely high	0.295	11
8. Technology	3.55	0.92	High	4.71	0.56	Extremely high	0.329	10

The development of Universal Design for Learning to promote holistic development	The current practices			The desirable practices			PNI modified	Ranking of Needs assessment
	M	S.D.	level	M	S.D.	level		
9. Discipline-based Inquiry	3.44	0.95	Moderate	4.75	0.49	Extremely high	0.381	3
10. Backward Design	3.50	0.91	High	4.75	0.51	Extremely high	0.356	8
11. Social & Academic Inclusion of Students with Exceptionalities	3.45	0.90	Moderate	4.74	0.52	Extremely high	0.375	4
<b>Average total</b>	<b>3.49</b>	<b>0.89</b>	<b>Moderate</b>	<b>4.76</b>	<b>0.50</b>	<b>Extremely high</b>	<b>0.360</b>	

From Table 4, the overall current level of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a moderate level ( $\bar{x} = 3.49$ ,  $SD = 0.89$ ). On the other hand, the overall desirable state of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.76$ ,  $SD = 0.50$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the dimension that showed the highest level of need was Flexible Groupings/Co-operative learning ( $PNI_{\text{modified}} = 0.450$ ), followed by Student Choice ( $PNI_{\text{modified}} = 0.398$ ), and Discipline-based Inquiry ( $PNI_{\text{modified}} = 0.381$ ), respectively. The dimension that showed the lowest level of need was Meta-cognition – Assessment as learning ( $PNI_{\text{modified}} = 0.295$ ).

**Table 5 : Means, Standard Deviations and PNI<sub>modified</sub> of the Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens – the Integrated Curriculum Dimension**

Integrated Curriculum	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
1. The use of an integrated curriculum to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.47	0.70	Moderate	4.74	0.52	Extremely high	0.366	2
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.39	0.95	Moderate	4.76	0.48	Extremely high	0.406	1
Average	3.43	0.83	Moderate	4.75	0.50	Extremely high	0.384	2
2. The use of an integrated curriculum to promote emotional development								
2.1 Mental health is good and children are happy	3.36	0.87	Moderate	4.68	0.52	Extremely high	0.390	2
2.2 Emotions are expressed through art, music, and movement	3.32	1.09	Moderate	4.85	0.42	Extremely high	0.461	1
2.3 Morality and good emotions are expressed	3.60	0.87	high	4.75	0.49	Extremely high	0.320	3
Average	3.43	0.94	Moderate	4.76	0.48	Extremely high	0.388	1
3. The use of an integrated curriculum to promote social development								
3.1 Children have life skills and practice the	3.54	0.97	high	4.74	0.49	Extremely high	0.340	3



Integrated Curriculum	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
philosophy of sufficiency economy								
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.54	0.93	Moderate	4.77	0.47	Extremely high	0.348	2
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.39	1.04	Moderate	4.73	0.50	Extremely high	0.397	1
<b>Average</b>	<b>3.49</b>	<b>0.98</b>	<b>Moderate</b>	<b>4.75</b>	<b>0.49</b>	<b>Extremely high</b>	<b>0.361</b>	<b>3</b>
<b>4. The use of an integrated curriculum to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within appropriate age standards	3.46	0.79	Moderate	4.75	0.48	Extremely high	0.376	3
4.2 Children develop thinking skills for basic learning	3.65	0.81	High	4.74	0.49	Extremely high	0.297	4
4.3 Imagination and creative thinking is demonstrated	3.39	0.81	Moderate	4.68	0.52	Extremely high	0.381	1
4.4 A positive attitude to learning is expressed and be able to search for	3.50	0.82	High	4.79	0.46	Extremely high	0.366	2

Integrated Curriculum	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
new knowledge within appropriate age								
Average	3.50	0.80	High	4.74	0.488	Extremely high	0.354	4
Average total	3.47	0.89	Moderate	4.75	0.49	Extremely high	0.369	

From Table 5, the overall current practice of the integrated curriculum dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a moderate level ( $\bar{x} = 3.47$ ,  $SD = 0.89$ ), whereas the overall desirable practice of the integrated curriculum dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.75$ ,  $SD = 0.49$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the integrated curriculum dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the emotional development ( $PNI_{\text{modified}} = 0.833$ ), followed by physical development ( $PNI_{\text{modified}} = 0.384$ ), social development ( $PNI_{\text{modified}} = 0.361$ ), and cognitive development ( $PNI_{\text{modified}} = 0.354$ ).

When considering the needs to utilize integrated curriculum to promote holistic development, the sub-domain of holistic development that showed the highest level of need was the emotional expression through art, music, and movement ( $PNI_{\text{modified}} = 0.461$ ), followed by the development of large and small muscles ( $PNI_{\text{modified}} = 0.406$ ), and the fostering of a democratic society ( $PNI_{\text{modified}} = 0.397$ ), respectively. The sub-dimension that showed the lowest level of need was the development of thinking skills ( $PNI_{\text{modified}} = 0.297$ ).

**Table 6 : Means, Standard Deviations and PNI<sub>modified</sub> of the Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens – the Student Choice Dimension**

Student Choice	The current practices			The desirable practices			PNI	Ranking of
	M	S.D.	level	M	S.D.	level	modified	Needs
1. The use of student choice to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.50	0.82	High	4.78	0.47	Extremely high	0.365	1
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.65	0.79	High	4.74	0.50	Extremely high	0.299	2
Average	3.58	0.81	High	4.76	0.49	Extremely high	0.329	4
2. The use of student choice to promote emotional development								
2.1 Mental health is good and children are happy	3.58	0.80	High	4.84	0.43	Extremely high	0.351	2
2.2 Emotions are expressed through art, music, and movement	3.68	0.82	High	4.80	0.46	Extremely high	0.305	3
2.3 Morality and good emotions are expressed	3.43	0.94	Moderate	4.78	0.48	Extremely high	0.393	1
Average	3.56	0.85	High	4.81	0.46	Extremely high	0.351	3
3. The use of student choice to promote social development								
3.1 Children have life skills and practice	3.31	0.93	Moderate	4.77	0.49	Extremely high	0.442	3

Student Choice	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
the philosophy of sufficiency economy								
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.27	0.89	Moderate	4.79	0.47	Extremely high	0.465	2
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.26	0.91	Moderate	4.82	0.45	Extremely high	0.478	1
<b>Average</b>	<b>3.28</b>	<b>0.91</b>	<b>Moderate</b>	<b>4.79</b>	<b>0.47</b>	<b>Extremely high</b>	<b>0.460</b>	<b>1</b>
<b>4. The use of student choice to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within appropriate age standards	3.28	0.83	Moderate	4.73	0.51	Extremely high	0.442	1
4.2 Children develop thinking skills for basic learning	3.37	0.86	Moderate	4.75	0.49	Extremely high	0.410	4
4.3 Imagination and creative thinking is demonstrated	3.32	0.82	Moderate	4.71	0.52	Extremely high	0.417	3
4.4 A positive attitude to learning is expressed and be able to search for	3.30	0.87	Moderate	4.75	0.53	Extremely high	0.440	2

Student Choice	The current practices			The desirable practices			PNI	Ranking of
	M	S.D.	level	M	S.D.	level	modified	Needs
new knowledge within appropriate age								
<b>Average</b>	<b>3.32</b>	<b>0.85</b>	<b>Moderate</b>	<b>4.74</b>	<b>0.51</b>	<b>Extremely high</b>	<b>0.428</b>	<b>2</b>
<b>Average total</b>	<b>3.41</b>	<b>0.86</b>	<b>Moderate</b>	<b>4.77</b>	<b>0.48</b>	<b>Extremely high</b>	<b>0.398</b>	

From Table 6, the overall current practice of the student choice dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a moderate level ( $\bar{x} = 3.41$ ,  $SD = 0.86$ ), whereas the overall desirable practice of the student choice dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.77$ ,  $SD = 0.48$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the student choice dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the social development ( $PNI_{\text{modified}} = 0.460$ ), followed by cognitive development ( $PNI_{\text{modified}} = 0.428$ ), emotional development ( $PNI_{\text{modified}} = 0.351$ ), and physical development ( $PNI_{\text{modified}} = 0.329$ ).

When considering the needs to utilize integrated curriculum to promote holistic development, the sub-domain of holistic development that showed the highest level of need was the fostering of a democratic society ( $PNI_{\text{modified}} = 0.478$ ), followed by an appreciation in nature and Thainess ( $PNI_{\text{modified}} = 0.465$ ), and the language learning ( $PNI_{\text{modified}} = 0.442$ ) and the fostering of life skills and sufficient economy philosophy ( $PNI_{\text{modified}} = 0.442$ ), respectively. The sub-dimension that showed the lowest level of need was the development of large and small muscles ( $PNI_{\text{modified}} = 0.299$ ).

Flexible groupings/co-operative learning	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
<b>1. The use of flexible groupings/co-operative learning to promote physical development</b>								
1.1 Bodies grow and develop within standards for each age through good health habits	3.31	0.94	Moderate	4.72	0.54	Extremely high	0.424	2
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.23	0.92	Moderate	4.73	0.56	Extremely high	0.466	1
<b>Average</b>	<b>3.27</b>	<b>0.93</b>	<b>Moderate</b>	<b>4.73</b>	<b>0.55</b>	<b>Extremely high</b>	<b>0.446</b>	<b>3</b>
<b>2. The use of flexible groupings/co-operative learning to promote emotional development</b>								
2.1 Mental health is good and children are happy	3.12	0.87	Moderate	4.70	0.59	Extremely high	0.505	1
2.2 Emotions are expressed through art, music, and movement	3.24	0.92	Moderate	4.76	0.54	Extremely high	0.469	2
2.3 Morality and good emotions are expressed	3.39	0.91	Moderate	4.75	0.50	Extremely high	0.402	3
<b>Average</b>	<b>3.25</b>	<b>0.90</b>	<b>Moderate</b>	<b>4.74</b>	<b>0.54</b>	<b>Extremely High</b>	<b>0.458</b>	<b>2</b>
<b>3. The use of flexible groupings/co-operative learning to promote social development</b>								

Flexible groupings/co-operative learning	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
3.1 Children have life skills and practice the philosophy of sufficiency economy	3.42	0.91	Moderate	4.77	0.51	Extremely high	0.395	3
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.33	0.89	Moderate	4.73	0.51	Extremely high	0.419	2
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.34	0.96	Moderate	4.74	0.50	Extremely high	0.421	1
<b>Average</b>	<b>3.36</b>	<b>0.92</b>	<b>Moderate</b>	<b>4.75</b>	<b>0.51</b>	<b>Extremely High</b>	<b>0.414</b>	<b>4</b>
<b>4. The use of flexible groupings/co-operative learning to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within appropriate age standards	3.23	1.02	Moderate	4.70	0.54	Extremely high	0.454	4
4.2 Children develop thinking skills for basic learning	3.22	1.03	Moderate	4.79	0.44	Extremely high	0.486	2
4.3 Imagination and creative thinking is demonstrated	3.22	1.00	Moderate	4.77	0.46	Extremely high	0.483	3

Flexible groupings/co-operative learning	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.25	1.07	Moderate	4.83	0.41	Extremely high	0.489	1
<b>Average</b>	<b>3.23</b>	<b>1.03</b>	<b>Moderate</b>	<b>4.77</b>	<b>0.46</b>	<b>Extremely High</b>	<b>0.477</b>	<b>1</b>
<b>Average total</b>	<b>3.27</b>	<b>0.95</b>	<b>Moderate</b>	<b>4.75</b>	<b>0.51</b>	<b>Extremely high</b>	<b>0.450</b>	

From Table 7, the overall current practice of the flexible groupings/co-operative learning dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a moderate level ( $\bar{x} = 3.27$ ,  $SD = 0.95$ ), whereas the overall desirable practice of the flexible groupings/co-operative learning dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.75$ ,  $SD = 0.51$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the flexible groupings/co-operative learning dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the cognitive development ( $PNI_{\text{modified}} = 0.450$ ), followed by emotional development ( $PNI_{\text{modified}} = 0.458$ ), physical development ( $PNI_{\text{modified}} = 0.446$ ), and social development ( $PNI_{\text{modified}} = 0.414$ ).

When considering the needs to utilize flexible groupings/co-operative learning to promote holistic development, the sub-domain of holistic development that showed the highest level of need was the development of good mental health



( $PNI_{\text{modified}} = 0.505$ ), followed by the cultivation of a positive attitude toward learning ( $PNI_{\text{modified}} = 0.489$ ), and the language learning ( $PNI_{\text{modified}} = 0.442$ ), respectively. The sub-dimension that showed the lowest level of need was the fostering of life skills and sufficient economy philosophy ( $PNI_{\text{modified}} = 0.395$ ).

**Table 8: Means, Standard Deviations and  $PNI_{\text{modified}}$  of the Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens – the Differentiated Instruction Dimension**

Differentiated Instruction	The current practices			The desirable practices			PNI	Ranking of
	M	S.D.	level	M	S.D.	level	modified	Needs
1. The use of differentiated instructions to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.38	0.99	Moderate	4.81	0.42	Extremely high	0.423	2
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.37	1.03	Moderate	4.81	0.40	Extremely high	0.426	1
Average	3.38	1.01	Moderate	4.81	0.41	Extremely high	0.423	1
2. The use of differentiated instructions to promote emotional development								
2.1 Mental health is good and children are happy	3.34	1.01	Moderate	4.80	0.40	Extremely high	0.439	2
2.2 Emotions are expressed through art, music, and movement	3.35	0.99	Moderate	4.83	0.39	Extremely high	0.443	1

Differentiated Instruction	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
2.3 Morality and good emotions are expressed	3.72	0.74	High	4.86	0.36	Extremely high	0.307	3
<b>Average</b>	<b>3.47</b>	<b>0.91</b>	<b>Moderate</b>	<b>4.83</b>	<b>0.38</b>	<b>Extremely high</b>	<b>0.392</b>	<b>2</b>
<b>3. The use of differentiated instructions to promote social development</b>								
3.1 Children have life skills and practice the philosophy of sufficiency economy	3.76	0.72	High	4.86	0.39	Extremely high	0.294	1
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.82	0.75	High	4.85	0.43	Extremely high	0.270	2
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.84	0.69	High	4.84	0.42	Extremely high	0.260	3
<b>Average</b>	<b>3.81</b>	<b>0.72</b>	<b>High</b>	<b>4.85</b>	<b>0.41</b>	<b>Extremely High</b>	<b>0.273</b>	<b>4</b>
<b>4. The use of differentiated instructions to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within appropriate age standards	3.71	0.77	High	4.82	0.45	Extremely high	0.299	2

Differentiated Instruction	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
4.2 Children develop thinking skills for basic learning	3.74	0.78	High	4.82	0.44	Extremely high	0.288	3
4.3 Imagination and creative thinking is demonstrated	3.60	0.78	High	4.78	0.48	Extremely high	0.329	1
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.78	0.79	High	4.81	0.46	Extremely high	0.274	4
<b>Average</b>	<b>3.71</b>	<b>0.78</b>	<b>High</b>	<b>4.81</b>	<b>0.46</b>	<b>Extremely High</b>	<b>0.296</b>	<b>3</b>
<b>Average total</b>	<b>3.62</b>	<b>0.84</b>	<b>High</b>	<b>4.83</b>	<b>0.42</b>	<b>Extremely high</b>	<b>0.334</b>	

From Table 8, the overall current practice of the differentiated instruction dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a high level ( $\bar{x} = 3.62$ ,  $SD = 0.84$ ), whereas the overall desirable practice of the differentiated instruction dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.83$ ,  $SD = 0.42$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the differentiated instruction dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the physical development ( $PNI_{\text{modified}} = 0.423$ ), followed by emotional development ( $PNI_{\text{modified}} = 0.392$ ), cognitive development ( $PNI_{\text{modified}} = 0.296$ ), and social development ( $PNI_{\text{modified}} = 0.273$ ).

When considering the needs to utilize differentiated instructions to promote holistic development, the sub-domain of holistic development that showed the highest level of need was the expression of emotions through art, music, and movement ( $PNI_{\text{modified}} = 0.443$ ), followed by the development of good mental health ( $PNI_{\text{modified}} = 0.439$ ), and the development of large and small muscles ( $PNI_{\text{modified}} = 0.426$ ), respectively. The sub-dimension that showed the lowest level of need was the fostering of a democratic society ( $PNI_{\text{modified}} = 0.260$ ).

**Table 9: Means, Standard Deviations and  $PNI_{\text{modified}}$  of the Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens – the Differentiated Assessment Dimension**

Differentiated Assessment	The current practices			The desirable practices			PNI	Ranking of
	M	S.D.	level	M	S.D.	level	modified	Needs
1. The use of differentiated assessment to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.48	0.76	Moderate	4.81	0.47	Extremely high	0.380	1
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.54	0.67	High	4.83	0.45	Extremely high	0.364	2
Average	3.51	0.72	High	4.82	0.46	Extremely high	0.373	2
2. The use of differentiated assessment to promote emotional development								
2.1 Mental health is good and children are happy	3.34	0.75	Moderate	4.77	0.47	Extremely high	0.429	1
2.2 Emotions are expressed through	3.78	0.70	High	4.82	0.45	Extremely high	0.276	3

Differentiated Assessment	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
art, music, and movement								
2.3 Morality and good emotions are expressed	3.84	0.76	High	4.86	0.42	Extremely high	0.268	2
<b>Average</b>	<b>3.65</b>	<b>0.74</b>	<b>High</b>	<b>4.82</b>	<b>0.45</b>	<b>Extremely high</b>	<b>0.321</b>	<b>4</b>
<b>3. The use of differentiated assessment to promote social development</b>								
3.1 Children have life skills and practice the philosophy of sufficiency economy	3.65	0.71	High	4.85	0.43	Extremely high	0.328	3
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.47	0.80	Moderate	4.82	0.45	Extremely high	0.391	1
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.54	0.77	High	4.83	0.45	Extremely high	0.364	2
<b>Average</b>	<b>3.55</b>	<b>0.76</b>	<b>High</b>	<b>4.83</b>	<b>0.44</b>	<b>Extremely high</b>	<b>0.361</b>	<b>3</b>
<b>4. The use of differentiated assessment to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within appropriate age standards	3.41	0.93	Moderate	4.79	0.46	Extremely high	0.404	2

Differentiated Assessment	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
4.2 Children develop thinking skills for basic learning	3.41	0.89	Moderate	4.75	0.48	Extremely high	0.393	3
4.3 Imagination and creative thinking is demonstrated	3.31	0.99	Moderate	4.82	0.43	Extremely high	0.455	1
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.51	0.89	High	4.76	0.47	Extremely high	0.356	4
<b>Average</b>	<b>3.41</b>	<b>0.93</b>	<b>Moderate</b>	<b>4.78</b>	<b>0.46</b>	<b>Extremely high</b>	<b>0.402</b>	<b>1</b>
<b>Average total</b>	<b>3.52</b>	<b>0.80</b>	<b>High</b>	<b>4.81</b>	<b>0.45</b>	<b>Extremely high</b>	<b>0.365</b>	

From Table 9, the overall current practice of the differentiated assessment dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a high level ( $\bar{x} = 3.52$ ,  $SD = 0.80$ ), whereas the overall desirable practice of the differentiated assessment dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.81$ ,  $SD = 0.45$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the differentiated assessment dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the cognitive development ( $PNI_{\text{modified}} = 0.402$ ), followed by physical development ( $PNI_{\text{modified}} =$

0.373), social development ( $PNI_{\text{modified}} = 0.361$ ), and emotional development ( $PNI_{\text{modified}} = 0.321$ ).

When considering the needs to utilize differentiated assessment to promote holistic development, the sub-domain of holistic development that showed the highest level of need was the demonstration of imagination and creative thinking ( $PNI_{\text{modified}} = 0.455$ ), followed by the development of good mental health ( $PNI_{\text{modified}} = 0.429$ ), and language learning ( $PNI_{\text{modified}} = 0.404$ ), respectively. The sub-dimension that showed the lowest level of need was the expression of emotions through art, music, and movement ( $PNI_{\text{modified}} = 0.276$ ).

**Table 10 : Means, Standard Deviations and  $PNI_{\text{modified}}$  of the Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens – the Assessment for Learning Dimension**

Assessment for Learning	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
1. The use of assessment for learning to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.69	1.00	High	4.63	0.62	Extremely high	0.256	2
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.68	0.96	High	4.65	0.58	Extremely high	0.263	1
Average	3.67	0.98	High	4.64	0.6	Extremely high	0.264	3
2. The use of assessment for learning to promote emotional development								
2.1 Mental health is good and children are happy	3.35	0.95	Moderate	4.80	0.42	Extremely high	0.432	1

Assessment for Learning	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
2.2 Emotions are expressed through art, music, and movement	3.42	0.90	Moderate	4.78	0.47	Extremely high	0.395	2
2.3 Morality and good emotions are expressed	3.54	0.96	High	4.83	0.44	Extremely high	0.365	3
<b>Average</b>	<b>3.44</b>	<b>0.94</b>	<b>Moderate</b>	<b>4.80</b>	<b>0.44</b>	<b>Extremely high</b>	<b>0.395</b>	<b>1</b>
<b>3. The use of assessment for learning to promote social development</b>								
3.1 Children have life skills and practice the philosophy of sufficiency economy	3.45	0.86	Moderate	4.81	0.45	Extremely high	0.392	1
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.50	0.89	High	4.80	0.45	Extremely high	0.372	2
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.58	0.91	High	4.81	0.43	Extremely high	0.342	3
<b>Average</b>	<b>3.51</b>	<b>0.89</b>	<b>High</b>	<b>4.81</b>	<b>0.44</b>	<b>Extremely high</b>	<b>0.370</b>	<b>2</b>
<b>4. The use of assessment for learning to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within	3.43	0.87	Moderate	4.82	0.43	Extremely high	0.405	1



Assessment for Learning	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
appropriate age standards								
4.2 Children develop thinking skills for basic learning	3.57	0.73	High	4.81	0.46	Extremely high	0.347	4
4.3 Imagination and creative thinking is demonstrated	3.54	0.79	High	4.79	0.46	Extremely high	0.353	3
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.48	0.76	Moderate	4.81	0.47	Extremely high	0.380	2
<b>Average</b>	<b>3.51</b>	<b>0.79</b>	<b>High</b>	<b>4.81</b>	<b>0.46</b>	<b>Extremely high</b>	<b>0.370</b>	<b>2</b>
<b>Average total</b>	<b>3.52</b>	<b>0.88</b>	<b>High</b>	<b>4.78</b>	<b>0.47</b>	<b>Extremely high</b>	<b>0.357</b>	

From Table 10, the overall current practice of the assessment for learning dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a high level ( $\bar{x} = 3.52$ ,  $SD = 0.88$ ), whereas the overall desirable practice of the assessment for learning dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.78$ ,  $SD = 0.47$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the assessment for learning dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the emotional development

( $PNI_{\text{modified}} = 0.395$ ), followed by social development ( $PNI_{\text{modified}} = 0.370$ ), cognitive development ( $PNI_{\text{modified}} = 0.370$ ), and physical development ( $PNI_{\text{modified}} = 0.264$ ).

When considering the needs to utilize assessment for learning to promote holistic development, the sub-domain of holistic development that showed the highest level of need was the development of good mental health ( $PNI_{\text{modified}} = 0.432$ ), followed by language learning ( $PNI_{\text{modified}} = 0.405$ ), and the expression of emotions through art, music, and movement ( $PNI_{\text{modified}} = 0.395$ ), respectively. The sub-dimension that showed the lowest level of need was the development of large and small muscles ( $PNI_{\text{modified}} = 0.256$ ).

**Table 11: Means, Standard Deviations and  $PNI_{\text{modified}}$  of the Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens – the Meta-Cognition (Assessment as Learning) Dimension**

Technology	The current practices			The desirable practices			PNI	Ranking of
	M	S.D.	level	M	S.D.	level	modified	Needs
1. The use of meta-cognition (assessment as learning) to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.54	0.67	High	4.83	0.45	Extremely high	0.364	2
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.34	0.75	Moderate	4.77	0.47	Extremely high	0.429	1
Average	3.44	0.71	Moderate	4.80	0.46	Extremely high	0.395	1
2. The use of meta-cognition (assessment as learning) to promote emotional development								
2.1 Mental health is good and children are happy	3.75	0.84	High	4.60	0.73	Extremely high	0.229	2

Technology	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
2.2 Emotions are expressed through art, music, and movement	3.75	0.82	High	4.68	0.60	Extremely high	0.247	1
2.3 Morality and good emotions are expressed	3.80	0.87	High	4.58	0.68	Extremely high	0.202	3
<b>Average</b>	<b>3.77</b>	<b>0.84</b>	<b>High</b>	<b>4.62</b>	<b>0.67</b>	<b>Extremely high</b>	<b>0.225</b>	<b>4</b>
<b>3. The use of meta-cognition (assessment as learning) to promote social development</b>								
3.1 Children have life skills and practice the philosophy of sufficiency economy	3.85	0.84	High	4.58	0.70	Extremely high	0.188	2
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.63	0.83	High	4.82	0.44	Extremely high	0.329	1
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.65	0.82	High	4.84	0.40	Extremely high	0.329	1
<b>Average</b>	<b>3.71</b>	<b>0.83</b>	<b>High</b>	<b>4.75</b>	<b>0.51</b>	<b>Extremely high</b>	<b>0.280</b>	<b>3</b>
<b>4. The use of meta-cognition (assessment as learning) to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within	3.54	0.79	High	4.83	0.41	Extremely high	0.365	4

Technology	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
appropriate age standards								
4.2 Children develop thinking skills for basic learning	3.81	1.00	High	4.47	0.87	Extremely high	0.174	10
4.3 Imagination and creative thinking is demonstrated	3.52	0.90	High	4.82	0.40	Extremely high	0.370	1
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.56	0.92	High	4.81	0.41	Extremely high	0.351	3
<b>Average</b>	<b>3.61</b>	<b>0.90</b>	<b>High</b>	<b>4.73</b>	<b>0.52</b>	<b>Extremely high</b>	<b>0.310</b>	<b>2</b>
<b>Average total</b>	<b>3.64</b>	<b>0.84</b>	<b>High</b>	<b>4.72</b>	<b>0.55</b>	<b>Extremely high</b>	<b>0.295</b>	

From Table 11, the overall current practice of the meta-cognition (assessment as learning) dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a high level ( $\bar{x} = 3.64$ ,  $SD = 0.84$ ), whereas the overall desirable practice of the meta-cognition (assessment as learning) dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.72$ ,  $SD = 0.55$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the meta-cognition (assessment as learning) dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the

Discipline-based Inquiry	The current practices			The desirable practices			PNI	Ranking of
	M	S.D.	level	M	S.D.	level	modified	Needs
1. The use of technology to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.48	0.88	Moderate	4.83	0.39	Extremely high	0.387	1
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.75	0.91	High	4.64	0.69	Extremely high	0.237	2
Average	3.62	0.90	High	4.74	0.54	Extremely high	0.309	3
2. The use of technology to promote emotional development								



Discipline-based Inquiry	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
4.1 Language is used to communicate meaningfully within appropriate age standards	3.39	0.93	Moderate	4.75	0.47	Extremely high	0.402	4
4.2 Children develop thinking skills for basic learning	3.34	0.96	Moderate	4.78	0.47	Extremely high	0.431	1
4.3 Imagination and creative thinking is demonstrated	3.37	0.97	Moderate	4.75	0.50	Extremely high	0.411	3
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.37	1.00	Moderate	4.79	0.45	Extremely high	0.421	2
<b>Average</b>	<b>3.37</b>	<b>0.97</b>	<b>Moderate</b>	<b>4.77</b>	<b>0.47</b>	<b>Extremely high</b>	<b>0.415</b>	<b>1</b>
<b>Average total</b>	<b>3.55</b>	<b>0.92</b>	<b>High</b>	<b>4.71</b>	<b>0.56</b>	<b>Extremely high</b>	<b>0.329</b>	

From Table 12, the overall current practice of the technology dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a high level ( $\bar{x} = 3.55$ ,  $SD = 0.92$ ), whereas the overall desirable practice of the technology dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.71$ ,  $SD = 0.56$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the technology dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development

Meta-cognition (Assessment as learning)	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
1. The use of discipline-based inquiry to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.27	0.94	Moderate	4.78	0.46	Extremely high	0.460	1
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.64	0.95	High	4.63	0.63	Extremely high	0.272	2
Average	3.46	0.95	Moderate	4.71	0.55	Extremely High	0.361	3
2. The use of discipline-based inquiry to promote emotional development								



Meta-cognition (Assessment as learning)	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
2.1 Mental health is good and children are happy	3.52	0.91	High	4.73	0.53	Extremely high	0.345	3
2.2 Emotions are expressed through art, music, and movement	3.48	0.95	Moderate	4.79	0.47	Extremely high	0.376	2
2.3 Morality and good emotions are expressed	3.50	0.99	High	4.83	0.40	Extremely high	0.380	1
<b>Average</b>	<b>3.50</b>	<b>0.95</b>	<b>High</b>	<b>4.78</b>	<b>0.47</b>	<b>Extremely High</b>	<b>0.351</b>	<b>4</b>
<b>3. The use of discipline-based inquiry to promote social development</b>								
3.1 Children have life skills and practice the philosophy of sufficiency economy	3.54	0.89	High	4.77	0.47	Extremely high	0.348	3
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.50	0.91	High	4.77	0.48	Extremely high	0.361	2
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.40	0.99	Moderate	4.73	0.51	Extremely high	0.390	1
<b>Average</b>	<b>3.48</b>	<b>0.93</b>	<b>Moderate</b>	<b>4.76</b>	<b>0.49</b>	<b>Extremely High</b>	<b>0.368</b>	<b>2</b>

Meta-cognition (Assessment as learning)	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
4. The use of discipline-based inquiry to promote cognitive development								
4.1 Language is used to communicate meaningfully within appropriate age standards	3.42	0.96	Moderate	4.77	0.46	Extremely high	0.394	3
4.2 Children develop thinking skills for basic learning	3.46	0.95	Moderate	4.79	0.44	Extremely high	0.385	4
4.3 Imagination and creative thinking is demonstrated	3.33	0.94	Moderate	4.72	0.51	Extremely high	0.417	2
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.23	0.98	Moderate	4.72	0.49	Extremely high	0.459	1
Average	3.36	0.96	Moderate	4.75	0.48	Extremely High	0.414	1
Average total	3.44	0.95	Moderate	4.75	0.49	Extremely high	0.381	

From Table 13, the overall current practice of the discipline-based inquiry dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a moderate level ( $\bar{x} = 3.44$ ,  $SD = 0.95$ ), whereas the overall desirable practice of the discipline-based inquiry dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.75$ ,  $SD = 0.49$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the discipline-based inquiry dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the cognitive development ( $PNI_{\text{modified}} = 0.414$ ), followed by social development ( $PNI_{\text{modified}} = 0.368$ ), emotional development ( $PNI_{\text{modified}} = 0.351$ ), and emotional development ( $PNI_{\text{modified}} = 0.361$ ).

When considering the needs to utilize discipline-based inquiry to promote holistic development, the sub-domain of holistic development that showed the highest level of need was the development of good health habits ( $PNI_{\text{modified}} = 0.460$ ), followed by the cultivation of a positive attitude toward learning ( $PNI_{\text{modified}} = 0.459$ ), and the demonstration of imagination and creative thinking ( $PNI_{\text{modified}} = 0.417$ ), respectively. The sub-dimension that showed the lowest level of need was the development of large and small muscles ( $PNI_{\text{modified}} = 0.272$ ).

**Table 14 : Means, Standard Deviations and  $PNI_{\text{modified}}$  of the Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens – the Backward Design Dimension**

Backward Design	The current practices			The desirable practices			PNI	Ranking of
	M	S.D.	level	M	S.D.	level	modified	Needs
1. The use of backward design to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.67	0.79	High	4.80	0.47	Extremely high	0.307	1
1.2 Large and small muscles are well developed, and coordination and dexterity increases	3.72	0.83	High	4.82	0.44	Extremely high	0.297	2

Backward Design	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
<b>Average</b>	<b>3.70</b>	<b>0.81</b>	<b>High</b>	<b>4.81</b>	<b>0.46</b>	<b>Extremely High</b>	<b>0.300</b>	<b>4</b>
<b>2. The use of backward design to promote emotional development</b>								
2.1 Mental health is good and children are happy	3.59	0.80	High	4.77	0.48	Extremely high	0.328	2
2.2 Emotions are expressed through art, music, and movement	3.75	0.82	High	4.80	0.47	Extremely high	0.278	3
2.3 Morality and good emotions are expressed	3.47	0.78	Moderate	4.79	0.48	Extremely high	0.380	1
<b>Average</b>	<b>3.61</b>	<b>0.80</b>	<b>Moderate</b>	<b>4.80</b>	<b>0.48</b>	<b>Extremely High</b>	<b>0.330</b>	<b>3</b>
<b>3. The use of backward design to promote social development</b>								
3.1 Children have life skills and practice the philosophy of sufficiency economy	3.38	0.94	Moderate	4.71	0.57	Extremely high	0.393	3
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.35	0.95	Moderate	4.70	0.55	Extremely high	0.403	1
3.3 Children getting along happily with others and are good members of a democratic society, under a regime of constitutional monarchy	3.38	0.97	Moderate	4.70	0.55	Extremely high	0.391	2

Backward Design	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
<b>Average</b>	<b>3.37</b>	<b>0.95</b>	<b>Moderate</b>	<b>4.70</b>	<b>0.56</b>	<b>Extremely High</b>	<b>0.395</b>	<b>1</b>
<b>4. The use of backward design to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within appropriate age standards	3.33	1.06	Moderate	4.73	0.54	Extremely high	0.419	1
4.2 Children develop thinking skills for basic learning	3.44	0.97	Moderate	4.73	0.51	Extremely high	0.375	3
4.3 Imagination and creative thinking is demonstrated	3.42	1.04	Moderate	4.75	0.50	Extremely high	0.389	2
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.54	0.95	High	4.73	0.52	Extremely high	0.337	4
<b>Average</b>	<b>3.43</b>	<b>1.00</b>	<b>Moderate</b>	<b>4.74</b>	<b>0.52</b>	<b>Extremely High</b>	<b>0.382</b>	<b>2</b>
<b>Average total</b>	<b>3.50</b>	<b>0.91</b>	<b>High</b>	<b>4.75</b>	<b>0.51</b>	<b>Extremely high</b>	<b>0.356</b>	

From Table 14, the overall current practice of the backward design dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a high level ( $\bar{x} = 3.50$ ,  $SD = 0.91$ ), whereas the overall desirable practice of the backward design dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens is at an extremely high level ( $\bar{x} = 4.75$ ,  $SD = 0.51$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the backward design dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the social development ( $PNI_{\text{modified}} = 0.395$ ), followed by cognitive development ( $PNI_{\text{modified}} = 0.382$ ), emotional development ( $PNI_{\text{modified}} = 0.330$ ), and physical development ( $PNI_{\text{modified}} = 0.300$ ).

When considering the needs to utilize backward design to promote holistic development, the sub-domain of holistic development that showed the highest level of need was language learning ( $PNI_{\text{modified}} = 0.419$ ), followed by the appreciation in nature and Thainess ( $PNI_{\text{modified}} = 0.403$ ), and the fostering of life skills and sufficient economy philosophy ( $PNI_{\text{modified}} = 0.393$ ), respectively. The sub-dimension that showed the lowest level of need was the expression of emotions through art, music, and movement ( $PNI_{\text{modified}} = 0.278$ ).

**Table 15: Means, Standard Deviations and  $PNI_{\text{modified}}$  of the Current and Desirable States of Practice regarding the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens – the Social & Academic Inclusion of Students with Exceptionalities Dimension**

Social & academic inclusion of children with exceptionalities	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
1. The social and academic inclusion of children with exceptionalities to promote physical development								
1.1 Bodies grow and develop within standards for each age through good health habits	3.40	0.95	Moderate	4.71	0.53	Extremely high	0.386	2
1.2 Large and small muscles are well developed, and	3.37	0.95	Moderate	4.72	0.55	Extremely high	0.400	1

Social & academic inclusion of children with exceptionalities	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
coordination and dexterity increases								
<b>Average</b>	<b>3.39</b>	<b>0.95</b>	<b>Moderate</b>	<b>4.72</b>	<b>0.54</b>	<b>Extremely high</b>	<b>0.393</b>	<b>2</b>
<b>2. The social and academic inclusion of children with exceptionalities to promote emotional development</b>								
2.1 Mental health is good and children are happy	3.50	0.89	High	4.75	0.50	Extremely high	0.357	3
2.2 Emotions are expressed through art, music, and movement	3.46	0.88	Moderate	4.70	0.52	Extremely high	0.359	2
2.3 Morality and good emotions are expressed	3.45	0.86	Moderate	4.77	0.49	Extremely high	0.384	1
<b>Average</b>	<b>3.47</b>	<b>0.88</b>	<b>Moderate</b>	<b>4.74</b>	<b>0.50</b>	<b>Extremely high</b>	<b>0.366</b>	<b>3</b>
<b>3. The social and academic inclusion of children with exceptionalities to promote social development</b>								
3.1 Children have life skills and practice the philosophy of sufficiency economy	3.45	0.88	Moderate	4.79	0.49	Extremely high	0.389	1
3.2 Nature, environment, and culture are appreciated, and pride is taken in being Thai	3.56	0.80	High	4.77	0.50	Extremely high	0.339	2
3.3 Children getting along happily with	3.59	0.81	High	4.75	0.51	Extremely high	0.322	3

Social & academic inclusion of children with exceptionalities	The current practices			The desirable practices			PNI modified	Ranking of Needs
	M	S.D.	level	M	S.D.	level		
others and are good members of a democratic society, under a regime of constitutional monarchy								
<b>Average</b>	<b>3.53</b>	<b>0.83</b>	<b>High</b>	<b>4.77</b>	<b>0.50</b>	<b>Extremely high</b>	<b>0.351</b>	<b>4</b>
<b>4. The social and academic inclusion of children with exceptionalities to promote cognitive development</b>								
4.1 Language is used to communicate meaningfully within appropriate age standards	3.57	0.90	High	4.73	0.52	Extremely high	0.326	4
4.2 Children develop thinking skills for basic learning	3.39	1.00	Moderate	4.76	0.52	Extremely high	0.407	3
4.3 Imagination and creative thinking is demonstrated	3.29	0.93	Moderate	4.72	0.56	Extremely high	0.434	1
4.4 A positive attitude to learning is expressed and be able to search for new knowledge within appropriate age	3.35	0.94	Moderate	4.74	0.55	Extremely high	0.413	2
<b>Average</b>	<b>3.40</b>	<b>0.94</b>	<b>Moderate</b>	<b>4.74</b>	<b>0.54</b>	<b>Extremely high</b>	<b>0.394</b>	<b>1</b>
<b>Average total</b>	<b>3.45</b>	<b>0.90</b>	<b>Moderate</b>	<b>4.74</b>	<b>0.52</b>	<b>Extremely high</b>	<b>0.375</b>	



From Table 15, the overall current practice of the social and academic inclusion of children with exceptionalities dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at a moderate level ( $\bar{x} = 3.45$ ,  $SD = 0.90$ ), whereas the overall desirable practice of the social and academic inclusion of children with exceptionalities dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens was at an extremely high level ( $\bar{x} = 4.74$ ,  $SD = 0.52$ ).

In terms of the Modified Priority Needs Index ( $PNI_{\text{modified}}$ ) of the social and academic inclusion of children with exceptionalities dimension of the development of Universal Design for Learning to promote children's holistic development in private kindergartens, the domain of holistic development that showed the highest level of need was the cognitive development ( $PNI_{\text{modified}} = 0.394$ ), followed by physical development ( $PNI_{\text{modified}} = 0.393$ ), emotional development ( $PNI_{\text{modified}} = 0.366$ ), and social development ( $PNI_{\text{modified}} = 0.351$ ).

When considering the needs to utilize social and academic inclusion of children with exceptionalities to promote holistic development, the sub-domain of holistic development that showed the highest level of need was the demonstration of imagination and creative thinking ( $PNI_{\text{modified}} = 0.434$ ), followed the cultivation of a positive attitude toward learning ( $PNI_{\text{modified}} = 0.413$ ), and the development of thinking skills ( $PNI_{\text{modified}} = 0.407$ ), respectively. The sub-dimension that showed the lowest level of need was the fostering of a democratic society ( $PNI_{\text{modified}} = 0.322$ ).

**Part Two: A recommendation of Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens.**

**4.3 Recommended Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens.**

Recommendations to the development of Universal Design for learning to promote children's holistic development in private kindergartens from the survey were grouped into different dimensions of Universal Design for Learning on their relevance and frequency.

**Table 16: Recommended Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens.**

Dimensions of Universal Design for Learning	Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens	Frequencies	
		Administrators/ Heads of the Academics	Teacher
<b>1. Integrated Curriculum</b>	1.1 Schools should employ an age-appropriate integrated curriculum that focuses less on academic achievements	3	9
	1.2 Schools should promote thematic lessons over single subjects to support holistic development	1	6
	1.3 Administrators should support a systematic planning of an integrated curriculum	4	2
	1.4 An integrated curriculum should aim to promote all domains of development equally through a wide range of experiences	2	1
	1.5 Schools should have a professional development programs for educating teachers about how to plan and implement integrated curriculum	0	3
	1.6 Schools should follow the national curriculum for integrated lessons	1	0

Dimensions of Universal Design for Learning	Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens	Frequencies	
		Administrators/ Heads of the Academics	Teacher
2. Student Choice	2.1 There should be more flexibility in lesson plans in terms of time and activities to allow children to freely choose an activity of their choice	1	3
	2.2 Schools should incorporate aspects of Montessori education to allow children to choose activities to engage in	1	0
	2.3 Schools should raise teachers' awareness of the benefits of student choice	1	0
3. Flexible Groupings/Co-Operative Learning	3.1 Teachers should allow children to work in groups or in pairs	2	9
	3.2 School curriculum should allow rooms for co-operative learning	4	2
	3.3 Data should be used to inform grouping in accordance to children's abilities and interests	1	1
	3.4 Teachers should allow children to choose who they wish to work with	1	0
4. Differentiated Instructions	4.1 Teachers should plan for differentiated instructions that are suitable to each child's abilities and interests	4	5
	4.2 Schools should support a wider range of instructional resources that are responsive to a wide range of needs	2	6
	4.3 Schools should provide a professional development program that supports teachers on the use of differentiated instructions	1	3
	4.4 Schools should aim to change teachers' attitudes toward differentiated instructions	1	0
5. Differentiated Assessment	5.1 Schools should terminate all exams and use various formative assessment that are suitable to each child's abilities and interests	4	8

Dimensions of Universal Design for Learning	Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens	Frequencies	
		Administrators/ Heads of the Academics	Teacher
	5.2 Differentiated assessment should be prescribed in the school curriculum to create consistency of practice across teachers	2	2
	5.3 Schools should have an effective system that combines data from various assessment methods to rule out children's holistic development	1	1
	5.4 Parents should be regarded as an important a source of data regarding children's development	0 0	1 1
6. Assessment for Learning	6.1 Teachers should provide timely feedbacks to children at the time of learning	2	1
	6.2 Data gathered from formative assessments should be used to inform adjustments of instructions and planning of teaching	1	1
7. Meta-Cognition (Assessment as Learning)	7.1 Teachers should encourage children to monitor their behavior by using various classroom management strategies	1	0
8. Technology	8.1 Schools should support the use of technological tools in classroom	3	7
	8.2 Schools should provide technical support when difficulties regarding the use of technological tools arise	0	2
	8.3 There should be a professional development program to improve teachers' media literacy that is tailored to each teacher's needs	1	0
9. Discipline-based inquiry	9.1 School curriculum should allow for learning experiences that are meaningful to the children	4	5
	9.2 There should be a professional development program to improve teachers' knowledge on a discipline-based inquiry	2	3

Dimensions of Universal Design for Learning	Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens	Frequencies	
		Administrators/ Heads of the Academics	Teacher
10. Backward Design	10.1 Schools should promote a school curriculum in which learning objectives, pedagogies, instructions, and assessments are congruent with one another	0	1
11. Social & Academic Inclusion of Students with Exceptionalities	11.1 Schools should provide extra professional support for including children with a wider range of needs	0	3
	11.2 Teachers need to improve their knowledge about teaching children with a wider range of needs	2	1

Table 16, displays recommendations from the informants to developing the development of Universal Design for Learning to promote children's holistic development in private kindergartens. Under the *integrated curriculum* dimension of Universal Design for Learning, the top three recommendations were as follows:

- 1) Schools should employ an age-appropriate integrated curriculum that focuses less on academic achievements (Frequencies = 12).
- 2) Schools should promote thematic lessons over single subjects to support holistic development (Frequencies = 7).
- 3) Administrators should support a systematic planning of an integrated curriculum (Frequencies = 6).

Under the *student choice* dimension of Universal Design for Learning, only three recommendations were given as follows:

- 1) There should be more flexibility in lesson plans in terms of time and activities to allow children to freely choose an activity of their choice (Frequencies = 4).
- 2) Schools should incorporate aspects of Montessori education to allow children to choose activities to engage in (Frequencies = 1).

3) Schools should raise teachers' awareness of the benefits of student choice (Frequencies = 1).

Under the flexible groupings/co-operative learning dimension of Universal Design for Learning, the top three recommendations were as follows:

1) Teachers should allow children to work in groups or in pairs (Frequencies = 9).

2) School curriculum should allow rooms for co-operative learning (Frequencies = 6).

3) Data should be used to inform grouping in accordance to children's abilities and interests (Frequencies = 2).

Under the differentiated instruction dimension of Universal Design for Learning, the top three recommendations were as follows:

1) Teachers should plan for differentiated instructions that are suitable to each child's abilities and interests (Frequencies = 11).

2) Schools should support a wider range of instructional resources that are responsive to a wide range of needs (Frequencies = 8).

3) Schools should provide a professional development program that supports teachers on the use of differentiated instructions (Frequencies = 4).

Under the differentiated assessment dimension of Universal Design for Learning, the top three recommendations were as follows:

1) Schools should terminate all exams and use various formative assessment that are suitable to each child's abilities and interests (Frequencies = 12).

2) Differentiated assessment should be prescribed in the school curriculum to create consistency of practice across teachers (Frequencies = 4).

3) Schools should have an effective system that combines data from various assessment methods to rule out children's holistic development (Frequencies = 2).

Under the assessment for learning dimension of Universal Design for Learning, only two recommendations were given as follows:

1) Teachers should provide timely feedbacks to children at the time of learning (Frequencies = 3).

2) Data gathered from formative assessments should be used to inform adjustments of instructions and planning of teaching (Frequencies = 2).

Under the meta-cognition (assessment as learning) dimension of Universal Design for Learning, only one recommendation was given as follows:

1) Teachers should encourage children to monitor their behavior by using various classroom management strategies (Frequencies = 1).

Under the technology dimension of Universal Design for Learning, the top three recommendations were as follows:

1) Schools should support the use of technological tools in classroom (Frequencies = 10).

2) Schools should provide technical support when difficulties regarding the use of technological tools arise (Frequencies = 2).

3) There should be a professional development program to improve teachers' media literacy that is tailored to each teacher's needs (Frequencies = 1).

Under the discipline-based inquiry dimension of Universal Design for Learning, only two recommendations were given as follows:

1) School curriculum should allow for learning experiences that are meaningful to the children (Frequencies = 9).

2) There should be a professional development program to improve teachers' knowledge on a discipline-based inquiry (Frequencies = 5).

Under the backward design dimension of Universal Design for Learning, only one recommendation was given as follows:

1) Schools should promote a school curriculum in which learning objectives, pedagogies, instructions, and assessments are congruent with one another (Frequencies = 1).

Under the *social and academic inclusion of children with exceptionalities* dimension of Universal Design for Learning, only two recommendations were given as follows:

1) Schools should provide extra professional support for including children with a wider range of needs (Frequencies = 3).

2) Teachers need to improve their knowledge about teaching children with a wider range of needs (Frequencies = 3).

#### 4.4 Drafted Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens.

To draft approaches to the development of Universal Design for learning to promote children's holistic development in private kindergartens, data regarding the current and desirable levels of practice and the priority needs were summarized into the following table to identify ranking of priority needs.

**Table 17: Summary of Priority Needs for the Management of Universal Design for Learning to Promote Holistic Development in Private Kindergartens**

Universal Design for Learning	Dimensions	Holistic Development				PNI <sub>modified</sub>	Priority Needs
		Physical	Emotional	Social	Cognitive		
1. Integrated Curriculum	D	3.43	3.43	3.49	3.50	0.369	5
	I	4.75	4.76	4.75	4.74		
	PNI <sub>modified</sub>	0.384	0.388	0.361	0.354		
	(Order)	(2)	(1)	(3)	(4)		
2. Student Choice	D	3.58	3.56	3.28	3.32	0.398	2
	I	4.76	4.81	4.79	4.75		
	PNI <sub>modified</sub>	0.329	0.351	0.460	0.428		
	(Order)	(4)	(3)	(1)	(2)		
3. Flexible Groupings/Co- Operative Learning	D	3.27	3.25	3.36	3.23	0.450	1
	I	4.73	4.74	4.75	4.77		
	PNI <sub>modified</sub>	0.446	0.458	0.414	0.477		
	(Order)	(3)	(2)	(4)	(1)		
4. Differentiated Instructions	D	3.38	3.47	3.81	3.71	0.334	9
	I	4.81	4.83	4.85	4.81		
	PNI <sub>modified</sub>	0.423	0.392	0.273	0.296		



Universal Design for Learning	Dimensions (Order)	Holistic Development				PNI <sub>modified</sub>	Priority Needs
		Physical (1)	Emotional (2)	Social (4)	Cognitive (3)		
5. Differentiated Assessment	D	3.51	3.65	3.55	3.41	0.365	6
	I	4.82	4.82	4.83	4.78		
	PNI <sub>modified</sub>	0.373	0.321	0.361	0.402		
	(Order)	(2)	(4)	(3)	(1)		
6. Assessment for Learning	D	3.67	3.44	3.51	3.51	0.357	7
	I	4.64	4.80	4.81	4.81		
	PNI <sub>modified</sub>	0.264	0.395	0.370	0.370		
	(Order)	(3)	(1)	(2)	(2)		
7. Meta- Cognition (Assessment as Learning)	D	3.44	3.77	3.71	3.61	0.295	11
	I	4.80	4.62	4.75	4.73		
	PNI <sub>modified</sub>	0.395	0.225	0.280	0.310		
	(Order)	(1)	(4)	(3)	(2)		
8. Technology	D	3.62	3.91	3.38	3.37	0.329	10
	I	4.74	4.58	4.76	4.77		
	PNI <sub>modified</sub>	0.309	0.171	0.412	0.415		
	(Order)	(3)	(4)	(2)	(1)		
9. Discipline- based inquiry	D	3.46	3.50	3.48	3.36	0.381	3
	I	4.71	4.78	4.76	4.75		
	PNI <sub>modified</sub>	0.361	0.351	0.368	0.414		
	(Order)	(3)	(4)	(2)	(1)		
10. Backward Design	D	3.70	3.61	3.37	3.43	0.356	8
	I	4.81	4.80	4.70	4.74		
	PNI <sub>modified</sub>	0.300	0.330	0.395	0.382		
	(Order)	(4)	(3)	(1)	(2)		
11. Social & Academic Inclusion of Students with Exceptionalities	D	3.39	3.47	3.53	3.40	0.375	4
	I	4.72	4.74	4.77	4.74		
	PNI <sub>modified</sub>	0.393	0.366	0.351	0.394		
	(Order)	(2)	(3)	(4)	(1)		
Total Average	PNI <sub>modified</sub>	0.362	0.341	0.368	0.386	0.364	
		(3)	(4)	(2)	(1)		

When D refers to the average value of the current practice

I refers to the average value of the desirable practice

PNI<sub>modified</sub> refers to priority needs

Table 17, displays a summary of priority needs for the development of Universal Design for Learning to promote children's holistic development in private kindergartens. The order of needs for the development of Universal Design for Learning ranged highest in the flexible groupings/co-operative learning ( $PNI_{\text{modified}} = 0.450$ ). To promote children's holistic development, the domain of holistic development that showed the highest needs in the management of flexible groupings/co-operative learning was the cognitive development domain ( $PNI_{\text{modified}} = 0.477$ ).

The dimension of Universal Design for Learning that showed the second highest needs was the student choice dimension ( $PNI_{\text{modified}} = 0.398$ ). The domain of holistic development that showed the highest needs in the management of student choice was the social development domain ( $PNI_{\text{modified}} = 0.460$ ).

The third dimension of Universal Design for Learning that showed the highest needs was the discipline-based inquiry dimension ( $PNI_{\text{modified}} = 0.381$ ). The domain of holistic development that showed the highest needs in the management of discipline-based inquiry was the cognitive development domain ( $PNI_{\text{modified}} = 0.414$ ).

The dimension of Universal Design for Learning that showed the fourth highest needs was the social & academic inclusion of children with exceptionalities dimension ( $PNI_{\text{modified}} = 0.375$ ). The domain of holistic development that showed the highest needs in the management of social & academic inclusion of children with exceptionalities was the cognitive development domain ( $PNI_{\text{modified}} = 0.394$ ).

The dimension of Universal Design for Learning that showed the fifth highest needs was the integrated curriculum dimension ( $PNI_{\text{modified}} = 0.369$ ). The domain of holistic development that showed the highest needs in the management of integrated curriculum was the emotional development domain ( $PNI_{\text{modified}} = 0.388$ ).

The dimension of Universal Design for Learning that showed the sixth highest needs was the differentiated assessment dimension ( $PNI_{\text{modified}} = 0.365$ ). The domain of holistic development that showed the highest needs in the management of differentiated assessment was the cognitive development domain ( $PNI_{\text{modified}} = 0.402$ ).

The dimension of Universal Design for Learning that showed the seventh highest needs was the assessment for learning dimension ( $PNI_{\text{modified}} = 0.357$ ). The domain of holistic development that showed the highest needs in the management of assessment for learning was the emotional development domain ( $PNI_{\text{modified}} = 0.395$ ).

The dimension of Universal Design for Learning that showed the eighth highest needs was the backward design dimension ( $PNI_{\text{modified}} = 0.356$ ). The domain of holistic development that showed the highest needs in the management of assessment for learning was the social development domain ( $PNI_{\text{modified}} = 0.395$ ).

The dimension of Universal Design for Learning that showed the ninth highest needs was the differentiated instruction dimension ( $PNI_{\text{modified}} = 0.334$ ). The domain of holistic development that showed the highest needs in the management of differentiated instructions was the physical development domain ( $PNI_{\text{modified}} = 0.423$ ).

The dimension of Universal Design for Learning that showed the tenth highest needs was the technology dimension ( $PNI_{\text{modified}} = 0.329$ ). The domain of holistic development that showed the highest needs in the management of technology was the cognitive development domain ( $PNI_{\text{modified}} = 0.415$ ).

The dimension of Universal Design for Learning that showed the lowest level of needs was the meta-cognition (assessment as learning) dimension ( $PNI_{\text{modified}} = 0.295$ ). The domain of holistic development that showed the highest needs in the management of meta-cognition (assessment as learning) was the physical development domain ( $PNI_{\text{modified}} = 0.395$ ).

To recommend approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens, five dimensions of Universal Design for Learning were chosen for drafting approaches ( $PNI_{\text{modified}} = 0.364$ ). This includes flexible groupings/co-operative learning ( $PNI_{\text{modified}} = 0.450$ ), student choice ( $PNI_{\text{modified}} = 0.398$ ), discipline-based inquiry ( $PNI_{\text{modified}} = 0.375$ ), social & academic inclusion of children with exceptionalities ( $PNI_{\text{modified}} = 0.369$ ), and integrated curriculum ( $PNI_{\text{modified}} = 0.365$ ).

Table 18: Priority needs assessment of the development of Universal Design for Learning to promote holistic development in private kindergartens

Universal Design for Learning	Holistic Development												PNI <sub>modified</sub>
	Physical		Emotional			Social			Cognitive				
	1.1	1.2	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	4.4	
Flexible Groupings/Co-Operative Learning (1)	0.424 (2)	0.466 (1)	0.505 (1)	0.469 (2)	0.402 (3)	0.395 (3)	0.419 (2)	0.421 (1)	0.454 (4)	0.486 (2)	0.483 (3)	0.489 (1)	
Average Total	0.446 (3)		0.458 (2)			0.414 (4)			0.477 (1)				0.450
Student Choice (2)	0.365 (1)	0.299 (2)	0.351 (2)	0.305 (3)	0.393 (1)	0.442 (3)	0.465 (2)	0.478 (1)	0.442 (1)	0.410 (4)	0.417 (3)	0.440 (2)	
Average Total	0.329 (4)		0.351 (3)			0.460 (1)			0.428 (2)				0.398
Discipline-based inquiry (3)	0.387 (1)	0.237 (2)	0.213 (1)	0.204 (2)	0.103 (3)	0.400 (2)	0.397 (3)	0.430 (1)	0.402 (4)	0.431 (1)	0.411 (3)	0.421 (2)	
Average Total	0.361 (3)		0.351 (4)			0.368 (2)			0.414 (1)				0.381
Social & Academic Inclusion of Students with Exceptionalities (4)	0.386 (2)	0.400 (1)	0.357 (3)	0.359 (2)	0.384 (1)	0.389 (1)	0.339 (2)	0.322 (3)	0.326 (4)	0.407 (3)	0.434 (1)	0.413 (2)	
Average Total	0.393 (2)		0.366 (3)			0.351 (4)			0.394 (1)				0.375

Universal Design for Learning	Holistic Development												PNI <sub>modified</sub>
	Physical		Emotional			Social			Cognitive				
	1.1	1.2	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	4.4	
Integrated Curriculum (5)	0.366 (2)	0.406 (1)	0.390 (2)	0.461 (1)	0.320 (3)	0.340 (3)	0.348 (2)	0.397 (1)	0.376 (3)	0.297 (4)	0.381 (1)	0.366 (2)	
Average Total	0.384 (2)		0.388 (1)			0.361 (3)			0.354 (4)				0.369



Priority needs of dimensions of Universal Design for Learning



Highest priority needs of a domain of holistic development



Highest priority needs of a sub-domain of holistic development

From Table 18, the order of needs for the development of Universal Design for Learning ranged highest in the flexible groupings/co-operative learning ( $PNI_{\text{modified}} = 0.450$ ). To promote children's holistic development, the domain of holistic development that showed the highest needs in the management of flexible groupings/co-operative learning was the cognitive development domain ( $PNI_{\text{modified}} = 0.477$ ). The sub-domain of cognitive development that showed the highest needs in the management of flexible groupings/co-operative learning was positive attitude toward learning ( $PNI_{\text{modified}} = 0.489$ ).

The dimension of Universal Design for Learning that showed the second highest needs was the student choice dimension ( $PNI_{\text{modified}} = 0.398$ ). The domain of holistic development that showed the highest needs in the management of student choice was the social development domain ( $PNI_{\text{modified}} = 0.460$ ). The sub-domain of social development that showed the highest needs in the management of student choice was being a good member of a democratic society ( $PNI_{\text{modified}} = 0.478$ ).

The third dimension of Universal Design for Learning that showed the highest needs was the discipline-based inquiry dimension ( $PNI_{\text{modified}} = 0.381$ ). The domain of holistic development that showed the highest needs in the management of discipline-based inquiry was the cognitive development domain ( $PNI_{\text{modified}} = 0.414$ ). The sub-domain of cognitive development that showed the highest needs in the management of discipline-based inquiry was thinking skills ( $PNI_{\text{modified}} = 0.431$ ).

The dimension of Universal Design for Learning that showed the fourth highest needs was the social and academic inclusion of children with exceptionalities dimension ( $PNI_{\text{modified}} = 0.375$ ). The domain of holistic development that showed the highest needs in the management of social and academic inclusion of children with exceptionalities was the cognitive development domain ( $PNI_{\text{modified}} = 0.394$ ). The sub-domain of cognitive development that showed the highest needs in the management of social and academic inclusion of children with exceptionalities was creative thinking skills ( $PNI_{\text{modified}} = 0.434$ ).

The dimension of Universal Design for Learning that showed the fifth highest needs was the integrated curriculum dimension ( $PNI_{\text{modified}} = 0.369$ ). The domain of holistic development that showed the highest needs in the management of integrated curriculum was the emotional development domain ( $PNI_{\text{modified}} = 0.388$ ). The sub-domain of emotional development that showed the highest needs in the management of integrated curriculum was expressions of emotions through art, music, and movement ( $PNI_{\text{modified}} = 0.461$ ).

Considering the ranking of the first five priority needs, approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens have been drafted and presented in the following table.

Table 19: Drafted Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens

Order of Priority Needs	Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens			Drafted Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens
	Quantitative Data from the Survey		Qualitative Data from the Survey Suggestions	
	Dimensions of Universal Design for Learning	The Development of UDL to Promote Children’s Holistic Development		
1.	Flexible groupings/co-operative learning ( $PNI_{\text{modified}} = 0.450$ )	The use of <u>flexible groupings/co-operative learning</u> to promote <u>cognitive development</u> in terms of positive attitude toward learning ( $PNI_{\text{modified}} = 0.477$ )	1) Teachers should allow children to work in groups or in pairs. 2) School curriculum should allow rooms for co-operative learning. 3) Data should be used to inform grouping in accordance to children’s abilities and interests.	<b>Approach 1: Enhance positive attitude toward learning through collaboration and community</b> <u>Sub-Approach 1:</u> Use flexible groupings or cooperative learning as the main engagement pedagogy 1) Create cooperative learning groups with clear rules, goals, roles, and responsibilities 2) Create school-wide programs of positive behavior support with differentiated objectives <u>Sub-Approach 2:</u> Ensure that flexible groupings or cooperative learning experiences are based on children’s interests and abilities



Order of Priority Needs	Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens			Drafted Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens
	Quantitative Data from the Survey		Qualitative Data from the Survey Suggestions	
	Dimensions of Universal Design for Learning	The Development of UDL to Promote Children’s Holistic Development		
				1) Use data from formative assessments to inform groupings based on individual needs 2) Construct communities of children engaged in common interests or activities e.g. afterschool programs or recess corners
2.	Student choice ( $PNI_{\text{modified}} = 0.398$ )	The use of <u>student choice</u> to promote <u>social development</u> in terms of democratic school culture ( $PNI_{\text{modified}} = 0.460$ )	1) There should be more flexibility in lesson plans in terms of time and activities to allow children to freely choose an activity of their choice. 2) Schools should incorporate aspects of Montessori education to allow children to choose activities to engage in.	<b>Approach 2: Optimize student choice and autonomy to promote democratic school culture</b> <u>Sub-Approach 1:</u> Support teachers on the preparation of group activities and learning resources that cover a wider range of needs and interests 1) Allocate sufficient funds for teaching tools and learning resources that are responsive to a wide range of needs 2) Provide professional development programs and support on individualizing teaching strategies to meet the specific needs of each child in group settings

Order of Priority Needs	Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens			Drafted Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens
	Quantitative Data from the Survey		Qualitative Data from the Survey Suggestions	
	Dimensions of Universal Design for Learning	The Development of UDL to Promote Children’s Holistic Development		
			3) Schools should raise teachers’ awareness of the benefits of student choice.	<u>Sub-Approach 2:</u> Promote choice of group activities that require the use of collaboration and communication to solve problems 1) Provide various levels of prompts that guide children to express own opinions, listen to others’, and negotiate. 2) Encourage and support opportunities for peer interactions and supports
3.	Discipline-based inquiry (PNI <sub>modified</sub> = 0.381)	The use of <u>discipline-based inquiry</u> to promote <u>cognitive development</u> in terms of thinking skills (PNI <sub>modified</sub> = 0.414).	1) School curriculum should allow for learning experiences that are meaningful to the children. 2) There should be a professional development program to improve teachers’	<b>Approach 3: Highlight discipline-based learning as the main pedagogical approach in classroom</b> <u>Sub-Approach 1:</u> Include meaningful, hands-on learning experiences in the school curriculum 1) Provide tasks that allow for active participation, exploration, and experimentation 2) Vary activities so that they can be personalized and contextualized to children’s lives

Order of Priority Needs	Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens			Drafted Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens
	Quantitative Data from the Survey		Qualitative Data from the Survey Suggestions	
	Dimensions of Universal Design for Learning	The Development of UDL to Promote Children’s Holistic Development		
			knowledge on a discipline-based inquiry.	<u>Sub-Approach 2:</u> Offer additional support for teachers through Professional Community of Learning (PCL)  1) Schedule time and place for teachers to meet for PCL sessions that focus on planning discipline-based learning 2) Provide teachers with necessary tools for their professional learning, such as textbooks, internet, and computer
4.	Social and academic inclusion of children with exceptionalities (PNI <sub>modified</sub> = 0.375)	The use of <u>social and academic inclusion of children with exceptionalities</u> to promote <u>cognitive development</u> in terms of creative thinking (PNI <sub>modified</sub> = 0.394).	1) Schools should provide extra professional support for including children with a wider range of needs.  2) Teachers need to improve their knowledge about teaching children with a wider range of needs.	<b>Approach 4: Include children with exceptionalities at all levels of practice</b>  <u>Sub-Approach 1:</u> Build a positive school culture of acceptance, respect, and appreciation  1) Establish school norms and expectations that focus on building positive values for children, parents, and teachers. 2) Involve parents in school activities by creating clear, open communication and providing a platform for feedback

Order of Priority Needs	Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens			Drafted Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens
	Quantitative Data from the Survey		Qualitative Data from the Survey Suggestions	
	Dimensions of Universal Design for Learning	The Development of UDL to Promote Children’s Holistic Development		
				<u>Sub-Approach 2:</u> Ensure that classroom practices are responsive to a wide range of needs, interests, and abilities  1) Infuse the Universal Design for Learning’s multiple means of engagement, representation, and expression in all lesson plans, classroom activities, teaching tools, and learning resources.  2) Employ evidence-based practices that collect data regarding children’s needs, interests, and abilities to inform lesson planning
5.	Integrated curriculum ( $PNI_{\text{modified}} = 0.369$ )	The use of <u>integrated curriculum</u> to promote <u>emotional development</u> in terms of healthy emotional expressions  ( $PNI_{\text{modified}} = 0.388$ )	1) Schools should employ an age-appropriate integrated curriculum that focuses less on academic achievements.  2) Schools should promote thematic lessons over single	<b>Approach 5: Develop an integrated curriculum that allows children to express emotions in holistic ways</b>  <u>Sub-Approach 1:</u> Set up a systematic developmental process of an integrated curriculum

Order of Priority Needs	Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens			Drafted Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens
	Quantitative Data from the Survey		Qualitative Data from the Survey Suggestions	
	Dimensions of Universal Design for Learning	The Development of UDL to Promote Children’s Holistic Development		
			subjects to support holistic development.  3) Administrators should support a systematic planning of an integrated curriculum.	1) Use research-based data to identify age-appropriate instructions and learning content that promote children’s holistic development  2) Employ the process of PDCA for developing the curriculum <u>Sub-Approach 2:</u> Involve all stakeholders in the developmental process of the school curriculum  1) Create an open channel for feedbacks and opinions from stakeholders regarding the effectiveness of the integrated curriculum  2) Partner up with both private and governmental community organizations for additional support and resources

Table 19, displays drafted approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens. These drafted approaches aim to address the reported needs of school administrators, heads of the academics, and teachers in private kindergartens for the development of Universal Design for Learning to promote children's holistic development in private kindergartens. They consist of 5 main approaches, 10 sub-approaches, and 20 procedures. The drafted approaches are as follows:

**Approach 1: Enhance positive attitude toward learning through collaboration and community**

Sub-Approach 1: Use flexible groupings or cooperative learning as the main engagement pedagogy

- 1) Create cooperative learning groups with clear rules, goals, roles, and responsibilities
- 2) Create school-wide programs of positive behavior support with differentiated objectives

Sub-Approach 2: Ensure that flexible groupings or cooperative learning experiences are based on children's interests and abilities

- 1) Use data from formative assessments to inform groupings based on individual needs
- 2) Construct communities of children engaged in common interests or activities e.g. afterschool programs or recess corners

**Approach 2: Optimize student choice and autonomy to promote democratic school culture**

Sub-Approach 1: Support teachers on the preparation of group activities and learning resources that cover a wider range of needs and interests

- 1) Allocate sufficient funds for teaching tools and learning resources that are responsive to a wide range of needs

- 2) Provide professional development programs and support on individualizing teaching strategies to meet the specific needs of each child in group settings

Sub-Approach 2: Promote choice of group activities that require the use of collaboration and communication to solve problems

- 1) Provide various levels of prompts that guide children to express own opinions, listen to others', and negotiate.
- 2) Encourage and support opportunities for peer interactions and supports

**Approach 3: Highlight discipline-based learning as the main pedagogical approach in classroom**

Sub-Approach 1: Include meaningful, hands-on learning experiences in the school curriculum

- 1) Provide tasks that allow for active participation, exploration, and experimentation
- 2) Vary activities so that they can be personalized and contextualized to children's lives

Sub-Approach 2: Offer additional support for teachers through Professional Community of Learning (PCL)

- 1) Schedule time and place for teachers to meet for PCL sessions that focus on planning discipline-based learning
- 2) Provide teachers with necessary tools for their professional learning, such as textbooks, internet, and computer

**Approach 4: Include children with exceptionalities at all levels of practice**

Sub-Approach 1: Build a positive school culture of acceptance, respect, and appreciation

- 1) Establish school norms and expectations that focus on building positive values for children, parents, and teachers.

- 2) Involve parents in school activities by creating clear, open communication and providing a platform for feedback

Sub-Approach 2: Ensure that classroom practices are responsive to a wide range of needs, interests, and abilities

- 1) Infuse the UDL's multiple means of engagement, representation, and expression in all lesson plans, classroom activities, teaching tools, and learning resources.
- 2) Employ evidence-based practices that collect data regarding children's needs, interests, and abilities to inform lesson planning

**Approach 5: Develop an integrated curriculum that allows children to express emotions in holistic ways**

Sub-Approach 1: Set up a systematic developmental process of an integrated curriculum

- 1) Use research-based data to identify age-appropriate instructions and learning content that promote children's holistic development
- 2) Employ the process of PDCA for developing the curriculum

Sub-Approach 2: Involve all stakeholders in the developmental process of the school curriculum

- 1) Create an open channel for feedbacks and opinions from stakeholders regarding the effectiveness of the integrated curriculum
- 2) Partner up with both private and governmental community organizations for additional support and resources



#### 4.5 The Suitability and Feasibility of the Drafted Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens

The outcomes of the suitability and feasibility assessment of the drafted approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens by three experts are presented in the following table.

Table 20: The Suitability and Feasibility of the Drafted Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens

No.	Drafted Approaches to the Development of UDL to Promote Children’s Holistic Development in Private Kindergartens	Assessment by Experts				Suggestions
		Suitability		Feasibility		
		Mode	Level	Mode	Level	
Flexible groupings/co-operative learning						
The use of <u>flexible groupings/co-operative learning</u> to promote <u>cognitive development</u> in terms of positive attitude toward learning						
1	<u>Approach 1:</u> Enhance positive attitude toward learning through collaboration and community	5	Highest	5	Highest	“Positive attitudes” ขยายเป็น “inclusive school community”
1.1	<u>Sub-Approach 1:</u> Use flexible groupings or cooperative learning as the main engagement pedagogy	5	Highest	5	Highest	แนะนำให้แทน pedagogy ด้วย strategy
(1)	<b>Procedure 1:</b> Create cooperative learning groups with clear rules, goals, roles, and responsibilities	5	Highest	5	Highest	ใช้ organize แทน create
(2)	<b>Procedure 2:</b> Create school-wide programs of positive behavior	5	Highest	4	High	“Create positive reinforcement

No.	Drafted Approaches to the Development of UDL to Promote Children’s Holistic Development in Private Kindergartens	Assessment by Experts				Suggestions
		Suitability		Feasibility		
		Mode	Level	Mode	Level	
	support with differentiated objectives					systems for positive social behaviours”
1.2	<u>Sub-Approach 2:</u> Ensure that flexible groupings or cooperative learning experiences are based on children’s interests and abilities	5	Highest	5	Highest	
(1)	<b>Procedure 1:</b> Use data from formative assessments to inform groupings based on individual needs	5	Highest	5	Highest	
(2)	<b>Procedure 2:</b> Construct communities of children engaged in common interests or activities e.g. afterschool programs or recess corners	5	Highest	5	Highest	
Student choice						
The use of <u>student choice</u> to promote <u>social development</u> in terms of a democratic school culture						
2	<u>Approach 2:</u> Optimize student choice and autonomy to promote democratic school culture	5	Highest	4	High	“A democratic school culture”
2.1	<u>Sub-Approach 1:</u> Support teachers on the preparation of group activities and learning resources that cover a wider range of needs and interests	5	Highest	5	Highest	- เพิ่ม abilities - เพิ่มการส่งเสริมให้ครูมีความเข้าใจและมีแนวทางในการจัดกิจกรรม

No.	Drafted Approaches to the Development of UDL to Promote Children’s Holistic Development in Private Kindergartens	Assessment by Experts				Suggestions
		Suitability		Feasibility		
		Mode	Level	Mode	Level	
(1)	<b>Procedure 1:</b> Allocate sufficient funds for teaching tools and learning resources that are responsive to a wide range of needs	5	Highest	5	Highest	- เพิ่ม interests and abilities
(2)	<b>Procedure 2:</b> Provide professional development programs and support on individualizing teaching strategies to meet the specific needs of each child in group settings	5	Highest	5	Highest	
2.2	<b>Sub-Approach 2:</b> Promote choice of group activities that require the use of collaboration and communication to solve problems	5	Highest	5	Highest	ใช้ offer แทน promote
(1)	<b>Procedure 1:</b> Provide various levels of prompts that guide children to express own opinions, listen to others’, and negotiate.	5	Highest	5	Highest	- ควรสลับข้อ 2.2.1 กับ ข้อ 2.2.2 - แทน listen to others’ ด้วย respect others
(2)	<b>Procedure 2:</b> Encourage and support opportunities for peer interactions and supports	5	Highest	5	Highest	“Encourage and support opportunities for peer interactions and idea sharing”
Discipline-based inquiry						
The use of <u>discipline-based inquiry</u> to promote <u>cognitive development</u> in terms of thinking skills						
3	<b>Approach 3:</b> Highlight discipline-based learning as the	5	Highest	4	High	

No.	Drafted Approaches to the Development of UDL to Promote Children’s Holistic Development in Private Kindergartens	Assessment by Experts				Suggestions
		Suitability		Feasibility		
		Mode	Level	Mode	Level	
	main pedagogical approach in classroom					
3.1	<u>Sub-Approach 1:</u> Include meaningful, hands-on learning experiences in the school curriculum	5	Highest	5	Highest	
(1)	<b>Procedure 1:</b> Provide tasks that allow for active participation, exploration, and experimentation	5	Highest	5	Highest	
(2)	<b>Procedure 2:</b> Vary activities so that they can be personalized and contextualized to children’s lives	4	High	4	High	“Contextualized to children’s needs, abilities, and interests”
3.2	<u>Sub-Approach 2:</u> Offer additional support for teachers through Professional Community of Learning (PCL)	5	Highest	5	Highest	ใช้ provide แทน offer
(1)	<b>Procedure 1:</b> Schedule time and place for teachers to meet for PCL sessions that focus on planning discipline-based learning	5	Highest	5	Highest	ใช้ allocate time จัด place ออก
(2)	<b>Procedure 2:</b> Provide teachers with necessary tools for their professional learning, such as textbooks, internet, and computer	5	Highest	5	Highest	“For their research and planning” แทน professional learning

Social and academic inclusion of children with exceptionalities

No.	Drafted Approaches to the Development of UDL to Promote Children’s Holistic Development in Private Kindergartens	Assessment by Experts				Suggestions
		Suitability		Feasibility		
		Mode	Level	Mode	Level	
The use of <u>social and academic inclusion of children with exceptionalities</u> to promote <u>cognitive development</u> in terms of creative thinking						
4	<b>Approach 4:</b> Include children with exceptionalities at all levels of practice	5	Highest	4	Highest	“Differentiate instructions to include more student with exceptionalities in a wider range of activities”
4.1	<b>Sub-Approach 1:</b> Build a positive school culture of acceptance, respect, and appreciation	5	Highest	5	Highest	
(1)	<b>Procedure 1:</b> Establish school norms and expectations that focus on building positive values for children, parents, and teachers	5	Highest	5	Highest	
(2)	<b>Procedure 2:</b> Involve parents in school activities by creating clear, open communication and providing a platform for feedback	5	Highest	5	Highest	
4.2	<b>Sub-Approach 2:</b> Ensure that classroom practices are responsive to a wide range of needs, interests, and abilities	5	Highest	5	Highest	
(1)	<b>Procedure 1:</b> Infuse the Universal Design for Learning’s multiple means of engagement, representation, and expression in	5	Highest	4	High	

No.	Drafted Approaches to the Development of UDL to Promote Children’s Holistic Development in Private Kindergartens	Assessment by Experts				Suggestions
		Suitability		Feasibility		
		Mode	Level	Mode	Level	
	all lesson plans, classroom activities, teaching tools, and learning resources.					
(2)	<b>Procedure 2:</b> Employ evidence-based practices that collect data regarding children’s needs, interests, and abilities to inform lesson planning	5	Highest	5	Highest	
Integrated curriculum						
The use of <u>integrated curriculum</u> to promote <u>emotional development</u> in terms of healthy emotional expressions						
5	<u>Approach 5:</u> Develop an integrated curriculum that allows children to express emotions in a holistic way	5	Highest	5	Highest	แนะนำให้เขียนว่า that promote appropriate emotional expressions in holistic ways
5.1	<u>Sub-Approach 1:</u> Set up a systematic developmental process of an integrated curriculum	5	Highest	4	High	
(1)	<b>Procedure 1:</b> Use research-based data to identify age-appropriate instructions and learning content that promote children’s holistic development	5	Highest	5	Highest	“Age-appropriate holistic instructions” “that promote children’s healthy emotional expressions”
(2)	<b>Procedure 2:</b> Employ the process of PDCA for developing the curriculum	5	Highest	5	Highest	“for informing the evaluation and revaluation of the curriculum outcomes”

No.	Drafted Approaches to the Development of UDL to Promote Children’s Holistic Development in Private Kindergartens	Assessment by Experts				Suggestions
		Suitability		Feasibility		
		Mode	Level	Mode	Level	
5.2	<u>Sub-Approach 2</u> : Involve all stakeholders in the developmental process of the school curriculum	5	Highest	4	High	
(1)	<b>Procedure 1</b> : Create an open channel for feedbacks and opinions from stakeholders regarding the effectiveness of the integrated curriculum	5	Highest	4	High	ควรเพิ่มเติมให้มีการมีส่วนร่วมในการแสดงความคิดเห็นในขั้นตอนของการพัฒนาหลักสูตร (ให้ผู้มีส่วนได้ส่วนเสีย/เครือข่ายผู้ปกครองมีส่วนร่วมในการออกแบบ/ประเมินหลักสูตร)
(2)	<b>Procedure 2</b> : Partner up with both private and governmental community organizations for additional support and resources	5	Highest	5	Highest	

From Table 20, the results of the assessment of the suitability and the feasibility of the drafted approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens by three experts were as follows:

### 1. The Flexible Groupings/Co-operative Learning Dimension

The results of the assessment of the suitability of the drafted approaches to the development of Universal Design for Learning *under the flexible groupings/co-operative learning dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 5).

The results of the assessment of the feasibility of the drafted approaches to the development of Universal Design for Learning *under the flexible groupings/co-*

*operative learning dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 4).

## **2. The Student Choice Dimension**

The results of the assessment of the suitability of the drafted approaches to the development of Universal Design for Learning *under the student choice dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 5).

The results of the assessment of the feasibility of the drafted approaches to the development of Universal Design for Learning *under the student choice dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 4).

## **3. The Discipline-based Inquiry Dimension**

The results of the assessment of the suitability of the drafted approaches to the development of Universal Design for Learning *under the discipline-based inquiry dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 5).

The results of the assessment of the feasibility of the drafted approaches to the development of Universal Design for Learning *under the discipline-based inquiry dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 4).

## **4. Social and Academic Inclusion of Students with Exceptionalities Dimension**

The results of the assessment of the suitability of the drafted approaches to the development of Universal Design for Learning *under the social and academic inclusion of children with exceptionalities dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 5).

The results of the assessment of the feasibility of the drafted approaches to the development of Universal Design for Learning *under the social and academic inclusion of children with exceptionalities dimension* to promote children's holistic



development in private kindergartens by three experts appeared be in the highest level (Mode = 4).

### **5. The Integrated Curriculum**

The results of the assessment of the suitability of the drafted approaches to the development of Universal Design for Learning *under the integrated curriculum dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 5).

The results of the assessment of the feasibility of the drafted approaches to the development of Universal Design for Learning *under the integrated curriculum dimension* to promote children's holistic development in private kindergartens by three experts appeared be in the highest level (Mode = 5).

### **6. Suggestions**

Suggestions for the drafted approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens by three experts were as follows:

#### **6.1) Flexible Groupings/Co-operative Learning**

**Approach 1:** Change from “positive attitude” to “Positive attitudes”  
and from “community” to “inclusive school community”

**Sub-Approach 1.1:** Replace “pedagogy” with “strategy”

**Sub-Approach 1.1: Procedure 1:** replace “organize” with “create”

**Sub-Approach 1.1: Procedure 2:** Replace with “create positive reinforcement systems for positive social behaviours”

#### **6.2) Student Choice**

**Approach 2:** Change from “democratic school culture” to “a democratic school culture”

**Sub-Approach 2.1:** Add “abilities” and include professional development programs for raising knowledge and awareness about tending to different needs

**Sub-Approach 2.1: Procedure 1:** Add “abilities and interests”

**Sub-Approach 2.2:** Replace “promote” with “offer”

**Sub-Approach 2.2: Procedure 1:** Switch 2.2.1 and 2.2.2

**Sub-Approach 2.2: Procedure 2:** “Encourage and support opportunities for peer interactions and idea sharing”

### 6.3) Discipline-based Inquiry

**Sub-Approach 3.1: Procedure 2:** Change to “contextualized to children’s needs, abilities, and interests”

**Sub-Approach 3.2:** Replace “offer” with “provide”

**Sub-Approach 3.2: Procedure 1:** Use “allocate time” and delete “place”

**Sub-Approach 3.2: Procedure 2:** Change to “for their research and planning”

### 6.4) Social and Academic Inclusion of Students with Exceptionalities

**Approach 4:** Change to “differentiate instructions to include more children with exceptionalities in a wider range of activities”

### 6.5) Integrated Curriculum

**Approach 5:** Change to “...that promote appropriate emotional expressions in holistic ways”

**Sub-Approach 5.1: Procedure 1:** Change to “age-appropriate holistic instructions” and “...that promote children’s healthy emotional expressions”

**Sub-Approach 5.1: Procedure 2:** Change to “...for informing the evaluation and re-evaluation of the curriculum outcomes”

**Sub-Approach 5.2: Procedure 1:** Include the involvement of stakeholders in the design and assessment of the curriculum

#### **4.6 Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens**

Based on the suggestions from the experts in the assessment of the suitability and feasibility of the drafted approaches, the final approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens consist of 5 approaches, 10 strategies, and 20 steps.

Table 21: Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens

The Development of Universal Design for Learning	Approaches to the Development of Universal Design for Learning	Strategies to the Development of Universal Design for Learning	Guidelines to the Development of Universal Design for Learning
The use of <u>flexible groupings/co-operative learning</u> to promote <u>cognitive development</u> in terms of positive attitude toward learning	1. Enhance positive attitudes toward learning through collaboration and inclusive school community	1.1 Use flexible groupings or cooperative learning as the main engagement strategy	1.1.1 Organize cooperative learning groups with clear rules, goals, roles, and responsibilities 1.1.2 Create positive reinforcement systems for positive social behaviors
		1.2 Ensure that flexible groupings or cooperative learning experiences are based on children’s interests and abilities	1.2.1 Use data from formative assessments to inform groupings based on individual needs 1.2.2 Construct communities of children for engaging in common interests or activities e.g. afterschool programs or recess corners
The use of student choice to promote social development in terms of a democratic school culture	2. Optimize student choice and autonomy to promote a democratic school culture	2.1 Educate and offer support teachers on the preparation of group activities and learning resources that cover a wider range of needs and interests	2.1.1 Allocate sufficient funds for teaching tools and learning resources that are responsive to a wide range of needs, interests, and abilities in group settings

The Development of Universal Design for Learning	Approaches to the Development of Universal Design for Learning	Strategies to the Development of Universal Design for Learning	Guidelines to the Development of Universal Design for Learning
			2.1.2 Provide professional development programs and support on individualizing teaching strategies to meet the specific needs of each child in group settings
		2.2 Offer choice of group activities that require the use of collaboration and communication to solve problems	2.2.1 Encourage and support opportunities for peer interactions and idea sharing during group activities 2.2.2 Provide various levels of prompts that guide children to express own opinions, respect others', and negotiate during group activities
The use of <u>discipline-based inquiry</u> to promote <u>cognitive development</u> in terms of thinking skills	3. Highlight discipline-based learning as the main pedagogical approach in classroom	3.1 Include meaningful, hands-on learning experiences in the school curriculum	3.1.1 Provide tasks that allow for active participation, exploration, and experimentation 3.1.2 Vary activities so that they can be personalized and contextualized to children's needs, abilities, and interests
		3.2 Provide additional support for teachers through Professional Community of Learning (PCL)	3.2.1 Allocate time for teachers to meet for PCL sessions that focus on planning discipline-based learning 3.2.2 Provide teachers with necessary tools for their research and planning, such as textbooks, internet, and computer

The Development of Universal Design for Learning	Approaches to the Development of Universal Design for Learning	Strategies to the Development of Universal Design for Learning	Guidelines to the Development of Universal Design for Learning
The use of <u>social and academic inclusion of children with exceptionalities</u> to promote <u>cognitive development</u> in terms of creative thinking	4. Differentiate instructions to include children with exceptionalities in a wider range of activities	4.1 Build a positive school culture of acceptance, respect, and appreciation	4.1.1 Establish school norms and expectations that focus on building positive values for children, parents, and teachers 4.1.2 Involve parents in school activities by creating clear, open communication and providing a platform for feedback
		4.2 Ensure that classroom practices are responsive to a wide range of needs, interests, and abilities	4.2.1 Infuse the Universal Design for Learning's multiple means of engagement, representation, and expression in all lesson plans, classroom activities, teaching tools, and learning resources. 4.2.2 Employ evidence-based practices that collect data regarding children's needs, interests, and abilities to inform lesson planning
The use of <u>integrated curriculum</u> to promote <u>emotional development</u> in terms	5. Develop an integrated curriculum that promotes healthy emotional expressions in holistic ways	5.1 Set up a systematic developmental process of an integrated curriculum	5.1.1 Use research-based data to identify age-appropriate holistic instructions and learning content that promote children's healthy emotional expressions 5.1.2 Employ the process of PDCA for informing the evaluation and revaluation of the curriculum outcomes

The Development of Universal Design for Learning	Approaches to the Development of Universal Design for Learning	Strategies to the Development of Universal Design for Learning	Guidelines to the Development of Universal Design for Learning
of healthy emotional expressions		5.2 Involve all stakeholders in the developmental process of the school curriculum	<p>5.2.1 Create a channel for feedbacks and opinions from stakeholders regarding the design and the effectiveness of the integrated curriculum</p> <p>5.2.2 Partner up with both private and governmental community organizations for additional support and resources</p>

From Table 21, the recommended approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens are as follows:

1. **Approach 1:** Enhance positive attitudes toward learning through collaboration and inclusive school community.
  - 1.1 **Sub-Approach 1:** Use flexible groupings or cooperative learning as the main engagement strategy.
    - 1.1.1 **Procedure 1:** Organize cooperative learning groups with clear rules, goals, roles, and responsibilities
    - 1.1.2 **Procedure 2:** Create positive reinforcement systems for positive social behaviors
  - 1.2 **Sub-Approach 2:** Ensure that flexible groupings or cooperative learning experiences are based on children's interests and abilities
    - 1.2.1 **Procedure 1:** Use data from formative assessments to inform groupings based on individual needs
    - 1.2.2 **Procedure 2:** Construct communities of children for engaging in common interests or activities e.g. afterschool programs or recess corners
2. **Approach 2:** Optimize student choice and autonomy to promote a democratic school culture
  - 2.1 **Sub-Approach 1:** Educate and offer support teachers on the preparation of group activities and learning resources that cover a wider range of needs and interests
    - 2.1.1 **Procedure 1:** Allocate sufficient funds for teaching tools and learning resources that are responsive to a wide range of needs, interests, and abilities in group settings



- 2.1.2 **Procedure 2:** Provide professional development programs and support on individualizing teaching strategies to meet the specific needs of each child in group settings
  - 2.2 **Sub-Approach 1:** Offer choice of group activities that require the use of collaboration and communication to solve problems
    - 2.2.1 **Procedure 1:** Encourage and support opportunities for peer interactions and idea sharing during group activities
    - 2.2.2 **Procedure 2:** Provide various levels of prompts that guide children to express own opinions, respect others', and negotiate during group activities
- 3. **Approach 3:** Highlight discipline-based learning as the main pedagogical approach in classroom
  - 3.1 **Sub-Approach 1:** Include meaningful, hands-on learning experiences in the school curriculum
    - 3.1.1 **Procedure 1:** Provide tasks that allow for active participation, exploration, and experimentation
    - 3.1.2 **Procedure 2:** Vary activities so that they can be personalized and contextualized to children's needs, abilities, and interests
  - 3.2 **Sub-Approach 2:** Provide additional support for teachers through Professional Community of Learning (PCL)
    - 3.2.1 **Procedure 1:** Allocate time for teachers to meet for PCL sessions that focus on planning discipline-based learning
    - 3.2.2 **Procedure 2:** Provide teachers with necessary tools for their research and planning, such as textbooks, internet, and computer

4. **Approach 4:** Differentiate instructions to include children with exceptionalities in a wider range of activities
  - 4.1 **Sub-Approach 1:** Build a positive school culture of acceptance, respect, and appreciation
    - 4.1.1 **Procedure 1:** Establish school norms and expectations that focus on building positive values for children, parents, and teachers
    - 4.1.2 **Procedure 2:** Involve parents in school activities by creating clear, open communication and providing a platform for feedback
  - 4.2 **Sub-Approach 2:** Ensure that classroom practices are responsive to a wide range of needs, interests, and abilities
    - 4.2.1 **Procedure 1:** Infuse the Universal Design for Learning's multiple means of engagement, representation, and expression in all lesson plans, classroom activities, teaching tools, and learning resources
    - 4.2.2 **Procedure 2:** Employ evidence-based practices that collect data regarding children's needs, interests, and abilities to inform lesson planning
5. **Approach 5:** Develop an integrated curriculum that promotes healthy emotional expressions in holistic ways
  - 5.1 **Sub-Approach 1:** Set up a systematic developmental process of an integrated curriculum
    - 5.1.1 **Procedure 1:** Use research-based data to identify age-appropriate holistic instructions and learning content that promote children's healthy emotional expressions
    - 5.1.2 **Procedure 2:** Employ the process of PDCA for informing the evaluation and revaluation of the curriculum outcomes
  - 5.2 **Sub-Approach 2:** Involve all stakeholders in the developmental process of the school curriculum

- 5.2.1 Procedure 1:** Create a channel for feedbacks and opinions from stakeholders regarding the design and the effectiveness of the integrated curriculum
- 5.2.2 Procedure 2:** Partner up with both private and governmental community organizations for additional support and resources

## Chapter 5

### Summary, Discussion, and Recommendations

This research, “Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens”, aimed to, first, study the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children’s holistic development in private kindergartens and, second, to identify needs for developing the development of Universal Design for Learning to promote children’s holistic development in private kindergartens. The research population were 581 private kindergartens in Bangkok. Through random sampling, 379 informant administrators, heads of the academics, and teachers from 20 private kindergartens in Bangkok were obtained. Research instruments used were a survey on the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children’s holistic development in private kindergartens and the assessment form for the suitability and feasibility of the drafted approaches to the development of Universal Design for Learning to promote children’s holistic development in private kindergartens. Basic statistics used to analyze data included frequency, percentage, mean, standard deviation, Modified Priority Needs Index ( $PNI_{\text{modified}}$ ), content analysis, and mode.

#### 5.1 Summary of Research Results

##### 5.1.1 The Overall Current and Desirable Levels of Practice regarding the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens

The overall current state of practice regarding the development of Universal Design for Learning to promote children’s holistic development in private kindergartens was at a moderate level, where as the overall desirable state of practice regarding the development of Universal Design for Learning to promote children’s

holistic development in private kindergartens was at an extremely high level. When considering each dimension of Universal Design for Learning, the dimension that showed the highest level of need was flexible groupings/co-operative learning, followed by student choice, discipline-based inquiry, social & academic inclusion of children with exceptionalities, integrated curriculum, differentiated assessment, assessment for learning, backward design, differentiated instruction, technology, and meta-cognition, respectively.

### **5.1.2 Priority Needs for Developing Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens.**

The dimensions of the development of Universal Design for Learning that showed the highest levels of priority needs ranged from flexible groupings/co-operative learning, followed by student choice, and discipline-based inquiry, social & academic inclusion of children with exceptionalities, integrated curriculum, differentiated assessment, assessment for learning, backward design, differentiated instruction, technology, and meta-cognition, respectively.

#### **1) The Flexible Groupings/Co-Operative Learning Dimension**

1.1 The domain of holistic development that showed the highest needs in the management of flexible groupings/co-operative learning was the cognitive development domain.

1.2 The sub-domain of cognitive development that showed the highest needs in the management of flexible groupings/co-operative learning was Sub-Domain 4.4 or *“a positive attitude to learning is expressed and be able to search for new knowledge”*.

#### **2) The Student Choice Dimension**

2.1 The domain of holistic development that showed the highest needs in the management of student choice was the social development domain.

2.2 The sub-domain of social development that showed the highest needs in the management of student choice was Sub-Domain 3.3 or *“children getting along*

*happily with others and are good members of a democratic society, under a regime of constitutional monarchy”.*

### **3) The Discipline-based Inquiry Dimension**

3.1 The domain of holistic development that showed the highest needs in the management of discipline-based inquiry was the cognitive development domain.

3.2 The sub-domain of cognitive development that showed the highest needs in the management of discipline-based inquiry was Sub-Domain 4.4 or *“a positive attitude to learning is expressed and be able to search for new knowledge”.*

### **4) The Social and Academic Inclusion of Students with Exceptionalities Dimension**

4.1 The domain of holistic development that showed the highest needs in the management of social and academic inclusion of children with exceptionalities was the cognitive development domain.

4.2 The sub-domain of cognitive development that showed the highest needs in the management of social and academic inclusion of children with exceptionalities was Sub-Domain 4.3 or *“imagination and creative thinking is demonstrated”.*

### **5) The Integrated Curriculum Dimension**

5.1 The domain of holistic development that showed the highest needs in the management of integrated curriculum was the emotional development domain.

5.2 The sub-domain of emotional development that showed the highest needs in the management of integrated curriculum was Sub-Domain 2.2 or *“Emotions are expressed through art, music, and movement”.*

### **6) The Differentiated Assessment Dimension**

6.1 The domain of holistic development that showed the highest needs in the management of differentiated assessment was the cognitive development domain.

6.2 The sub-domain of cognitive development that showed the highest needs in the management of differentiated assessment was Sub-Domain 4.3 or *“imagination and creative thinking is demonstrated”*.

### **7) The Assessment for Learning Dimension**

7.1 The domain of holistic development that showed the highest needs in the management of assessment for learning was the emotional development domain.

7.2 The sub-domain of emotional development that showed the highest needs in the management of assessment for learning was Sub-Domain 2.1 or *“mental health is good and children are happy”*.

### **8) The Assessment for Learning Dimension**

8.1 The domain of holistic development that showed the highest needs in the management of backward design was the social development domain.

8.2 The sub-domain of social development that showed the highest needs in the management of backward design was Sub-Domain 3.2 or *“nature, environment, and culture are appreciated, and pride is taken in being Thai”*.

### **9) The Differentiated Instruction Dimension**

9.1 The domain of holistic development that showed the highest needs in the management of differentiated instruction was the physical development domain.

9.2 The sub-domain of physical development that showed the highest needs in the management of differentiated instruction was Sub-Domain 1.2 or *“large and small muscles are well developed, and coordination and dexterity increases”*.

### **10) The Technology**

10.1 The domain of holistic development that showed the highest needs in the management of technology was the cognitive development domain.

10.2 The sub-domain of cognitive development that showed the highest needs in the management of technology was Sub-Domain 4.2 or *“children develop thinking skills for basic learning”*.

## 11) The Meta-Cognition Dimension

11.1 The domain of holistic development that showed the highest needs in the management of meta-cognition was the physical development domain.

11.2 The sub-domain of physical development that showed the highest needs in the management of meta-cognition was Sub-Domain 1.2 or *“large and small muscles are well developed, and coordination and dexterity increases”*.

### 5.1.3 Approaches to the Development of Universal Design for Learning to Promote Children’s Holistic Development in Private Kindergartens

To recommend approaches to the development of Universal Design for Learning to promote children’s holistic development in private kindergartens, five main approaches were proposed to promote the management of five dimensions of Universal Design for Learning that showed the highest needs for improvement, including flexible groupings/co-operative learning, student choice, discipline-based inquiry, social & academic inclusion of children with exceptionalities, and integrated curriculum.

**1. Approach 1:** Enhance positive attitudes toward learning through collaboration and inclusive school community.

**1.1 Sub-Approach 1:** Use flexible groupings or cooperative learning as the main engagement strategy.

**1.1.1 Procedure 1:** Organize cooperative learning groups with clear rules, goals, roles, and responsibilities

**1.1.2 Procedure 2:** Create positive reinforcement systems for positive social behaviors

**1.2 Sub-Approach 2:** Ensure that flexible groupings or cooperative learning experiences are based on children’s interests and abilities

**1.2.1 Procedure 1:** Use data from formative assessments to inform groupings based on individual needs



- 1.2.2 Procedure 2: Construct communities of children for engaging in common interests or activities e.g. afterschool programs or recess corners
- 2. Approach 2: Optimize student choice and autonomy to promote a democratic school culture
  - 2.1 Sub-Approach 1: Educate and offer support teachers on the preparation of group activities and learning resources that cover a wider range of needs and interests
    - 2.1.1 Procedure 1: Allocate sufficient funds for teaching tools and learning resources that are responsive to a wide range of needs, interests, and abilities in group settings
    - 2.1.2 Procedure 2: Provide professional development programs and support on individualizing teaching strategies to meet the specific needs of each child in group settings
  - 2.2 Sub-Approach 1: Offer choice of group activities that require the use of collaboration and communication to solve problems
    - 2.2.1 Procedure 1: Encourage and support opportunities for peer interactions and idea sharing during group activities
    - 2.2.2 Procedure 2: Provide various levels of prompts that guide children to express own opinions, respect others', and negotiate during group activities
- 3. Approach 3: Highlight discipline-based learning as the main pedagogical approach in classroom
  - 3.1 Sub-Approach 1: Include meaningful, hands-on learning experiences in the school curriculum

- 3.1.1 **Procedure 1:** Provide tasks that allow for active participation, exploration, and experimentation
    - 3.1.2 **Procedure 2:** Vary activities so that they can be personalized and contextualized to children's needs, abilities, and interests
  - 3.2 **Sub-Approach 2:** Provide additional support for teachers through Professional Community of Learning (PCL)
    - 3.2.1 **Procedure 1:** Allocate time for teachers to meet for PCL sessions that focus on planning discipline-based learning
    - 3.2.2 **Procedure 2:** Provide teachers with necessary tools for their research and planning, such as textbooks, internet, and computer
- 4. **Approach 4:** Differentiate instructions to include children with exceptionalities in a wider range of activities
  - 4.1 **Sub-Approach 1:** Build a positive school culture of acceptance, respect, and appreciation
    - 4.1.1 **Procedure 1:** Establish school norms and expectations that focus on building positive values for children, parents, and teachers
    - 4.1.2 **Procedure 2:** Involve parents in school activities by creating clear, open communication and providing a platform for feedback
  - 4.2 **Sub-Approach 2:** Ensure that classroom practices are responsive to a wide range of needs, interests, and abilities
    - 4.2.1 **Procedure 1:** Infuse the Universal Design for Learning's multiple means of engagement, representation, and expression in all lesson plans, classroom activities, teaching tools, and learning resources
    - 4.2.2 **Procedure 2:** Employ evidence-based practices that collect data regarding children's needs, interests, and abilities to inform lesson planning

**5. Approach 5:** Develop an integrated curriculum that promotes healthy emotional expressions in holistic ways

**5.1 Sub-Approach 1:** Set up a systematic developmental process of an integrated curriculum

**5.1.1 Procedure 1:** Use research-based data to identify age-appropriate holistic instructions and learning content that promote children's healthy emotional expressions

**5.1.2 Procedure 2:** Employ the process of PDCA for informing the evaluation and revaluation of the curriculum outcomes

**5.2 Sub-Approach 2:** Involve all stakeholders in the developmental process of the school curriculum

**5.2.1 Procedure 1:** Create a channel for feedbacks and opinions from stakeholders regarding the design and the effectiveness of the integrated curriculum

**5.2.2 Procedure 2:** Partner up with both private and governmental community organizations for additional support and resources

## 5.2 Discussion

By examining the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens, it was found that the overall current level of practice was at a moderate level. In contrast, the overall desirable level of practice was at an extremely high level. Such findings indicated a strong desire from private kindergarten teachers and administrators to implement Universal Design for Learning to promote children's holistic development. This is in line with the study by Agbenyega and Klibthong (2015), who also found that private kindergarten practitioners expressed positive attitudes and a desire to support full inclusive education in private kindergartens, given that they were adequately trained and supported by school administrators to meet the needs of all children.

While many of the Universal Design for Learning practices mimic early childhood education practices prescribed by the National Early Childhood Curriculum B.E. 2017, however, the current level of Universal Design for Learning practices was reported at a moderate level. Several factors could be accounted for this reportedly moderate level of current Universal Design for Learning practice to promote children's holistic development in private kindergartens. For example, providing universally designed and inclusive education can be costly because they require coherent policies, competent administrators, knowledgeable teachers, well-equipped classrooms, accessible buildings, and user-friendly infrastructure (Bualar, 2015). In addition, with private kindergartens currently facing severe financial crisis due to low rates of birth, many administrative mechanisms may have inevitably been put on hold to minimize costs which may negatively lead to these common problems found in private kindergartens, including unrealistic workload, lack of effective professional development programs, low incentives, poor facilities, lack of financial support for classroom resources, and incompetent school administrators (Therapee, 2008).

### **1) Flexible Grouping or Co-operative Learning**

When considering each dimension of the development of Universal Design for Learning to promote children's holistic development, the results indicated that the dimension that showed the highest need for improvement was the use of flexible grouping or cooperative learning to promote positive attitudes toward learning. According to Katz (2012), cooperative learning is a flexible learning strategy in a way that children of diverse levels of ability and interests are given options to learn alongside and with each other. When children are allowed to choose their study partners and design their own grouping according to their preferences, they become more intrinsically motivated to learn than they do from individualistic learning (Bertucci et al., 2010).

However, it is common to witness more individualistic and less group learning in Thai early childhood classrooms as cooperative learning requires extensive preparations and planning (Cohen et al., 2004). At times, Thai teachers can be heavily focused on completing the curriculum and paperwork as demanded by both internal

and external authorities (Klibthong and Agbenyega, 2020). Thus, less time is spent on lesson preparations and observing each child's needs. Moreover, Thai teachers have also reported feeling incompetent and having inadequate knowledge to fully support children with diverse needs in the same setting (Vorapunya & Dunlap, 2014). This body of evidence collectively suggested that the need to improve co-operative learning in private kindergartens may not only stem from teacher factors alone but also from the ineffectiveness of the whole-school administrative systems.

To recommend an approach for developing the use of flexible grouping or co-operative learning to promote positive attitudes toward learning, it is thus recommended that private kindergartens should enhance positive attitudes toward learning through collaboration and an inclusive school community. As found by Bertucci et al. (2010) that children experienced social gains from working in groups that are unavailable through individualistic pedagogies, promoting the use of cooperative learning potentially supports the whole schooling principle of building community within the classrooms.

## **2) Student Choice**

The dimension that showed the second highest need for improvement was the use of student choice to promote a democratic school culture. At the heart of Universal Design for Learning is a democratic classroom culture that allows children to take ownership of their learning and to develop pro-social problem-solving skills (Katz, 2012). This democratic school culture is believed to encourage children's autonomy, which is integral to an individual's development of intrinsic motivation and self-efficacy (Katz & Porath, 2011). As children become motivated and empowered, they assume a degree of social responsibility, as they recognize how their contributions, either positive or negative, affect others in the community.

Regardless of its advocacy for democratic school cultures in the Early Childhood Curriculum B.E. 2017, the result of the research suggests that there is still a need to promote this aspect of social development in children in private kindergartens. This is supported by a body of evidence that underlines the deep-rooted hierarchical social relationships in schools, where social rankings, perpetuated

by birth, seniority, status, and wealth of the individuals, are still regarded as the norm (Boontinand, 2015). In addition, adherence to the Thai values of obedience, harmony, and respect for authority can potentially create tension with the teaching of democracy, critical thinking, student choice, and autonomy. Most importantly, Boontinand (2015) has found gaps in teachers' confidence, knowledge, and skills in applying democratic pedagogies in classrooms, suggesting that there are obstacles to promoting a democratic school culture at both knowledge, skill, and value levels. These conflicts at all levels of practice may have resulted in the need to identify practical approaches that offer diverse learning possibilities where a balance between Thai values and democratic experiences can be achieved.

To recommend approaches to optimize student choice and autonomy to promote a democratic school culture, it is thus vital that teachers must, first, be equipped with the right knowledge, skills, and values to promote student choice, autonomy, and democracy in classrooms through effective professional development programs. Secondly, schools should support choices of group activities that require the use of collaboration and communication to solve problems to foster both autonomy and respect for others.

### **3) Discipline-based Enquiries**

The dimension that showed the third highest need for improvement was the use of discipline-based inquiry to promote thinking skills. According to Friesen and Jardine (2009), a discipline-based inquiry is an acknowledgment that children learn best when the subjects are meaningful to them. By engaging in authentic intellectual tasks and opportunities for genuine knowledge creation, Ciolan (2013) believes that children's motivation and engagement will be enhanced. In early childhood settings, play is an ideal pedagogy for promoting a discipline-based inquiry that provides children with hands-on learning opportunities for active participation, exploration, and experimentation within a safe and fun environment (Ciolan, 2013).

Nevertheless, it is common for Thai parents to place a high value on academic achievements, which are culturally regarded as symbols of success, pride, and respect (Lui, 2020). As such, parents of kindergarten children tend to search for kindergartens

that highly value academic success as opposed to cultivating individuals' talents. While intrinsic enjoyment may increase children's motivation and creativity, many kindergartens parents often focus heavily on their children's academic achievements over their personal joy (Westerman, 2012). This may adversely affect children's outcomes in private kindergartens as play is widely believed to be an ideal discipline-based practice for promoting children's holistic outcomes.

To highlight discipline-based learning as the main pedagogical approach in the classroom, it is therefore recommended that schools include meaningful, hands-on learning experiences in the school curriculum to ensure consistent practices across classrooms. As Teerapee (2008) has confirmed that Thai teachers are often bombarded with administrative tasks, providing teachers with additional support through Professional Community of Learning (PLC) may help assist teachers in preparing discipline-based learning experiences as opposed to working individually on the topic.

#### **4) Social and Academic Inclusion of Students with Exceptionalities**

The dimension that showed the fourth highest need for improvement was the use of social and academic inclusion of children with exceptionalities to promote creative thinking. From the perspective of Universal Design for Learning, every child is uniquely different from one another in terms of their learning ability, race, linguistic ability, economic status, gender, learning style, ethnicity, cultural background, religion, family structure, and sexual orientation (CAST, 2022). Based on this belief, it is impossible to deny those differences and inclusive education is the sole pedagogy that can address these individual differences harmoniously without rejecting some of them (Hettleman, 2013). This ultimately calls for an educational model that welcomes, acknowledges, affirms, and celebrates the value of all learners by academically and socially educating them together in high-quality, age-appropriate general education classrooms in their neighborhood schools (Katz, 2012).

To offer education to children with a wider range of needs, inclusive education can be costly because it requires coherent policies, competent administrators, knowledgeable teachers, well-equipped classrooms, accessible buildings, and user-

friendly infrastructure (Katz, 2012). In Thailand, private kindergartens are held responsible for providing inclusive education on their own account without adequate support or guidelines from the government (Klibthong & Agbenyega, 2020). At the practice level, many teachers and administrators reported feeling unprepared to include children with a wide variety of needs because doing so requires multi-disciplinary teaching teams and deep knowledge about child development (Klibthong & Agbenyega, 2020). As a result, private kindergartens offer inclusive education in different manners and degrees depending on their understanding, ability, and capability.

With kindergarten classrooms becoming increasingly diverse, it is therefore recommended that administrators aim to build a positive school culture of acceptance, respect, and appreciation to ensure that all stakeholders share the same visions and expectations regarding inclusive schooling. Secondly, it is recommended that teachers infuse the Universal Design for Learning's multiple means of engagement, representation, and expression in all lesson plans, classroom activities, teaching tools, and learning resources to ensure that classroom practices are responsive to a wide range of needs, interests, and abilities.

### **5) Integrated Curriculum**

The dimension that showed the fifth highest need for improvement was the use of an integrated curriculum to promote healthy emotional expressions. At the heart of Universal Design for Learning is a curriculum that recognizes different abilities and talents, thus integrating knowledge and skills across multiple intelligences and developmental domains (Katz, 2012). An integrated curriculum not only satisfies the needs of the cognitive domain but also deals with the affective and psychomotor domains of learners (Gardner, 2006). When all abilities and talents are equally valued, it then becomes possible to cater to the needs of all learners who possess differential learning styles. In early childhood settings, an integrated curriculum focuses upon the inter-relatedness of all learning areas, allowing children to develop holistically without the restrictions imposed by subject boundaries (Shoaga, 2016). It is believed to be an



ideal curricular approach to nurturing young children as information is presented in meaningful and connected patterns, which allows for the holistic development of a ‘total’ child.

Regardless of the integrated approach to the National Early Childhood Curriculum B.E. 2017, private kindergartens in Thailand have often adopted a subject-based approach to their curricula, where subjects are taught in isolation from one another (Kongsanor, 2015). This could be due to the heavy emphasis on the cognitive and intellectual development of the children. As a result, much time is devoted to the learning of numbers, alphabets, rote memorization of facts, writing, and reading, while less time to the socio-emotional development of children (Kongsanor, 2015). In addition, while the majority of studies on children’s mental health have been performed in adolescence, a study by Kongsuk (2006) found that 5.1% of Thai children aged 6-18 have experienced some levels of mental disorders, such as anxiety, depression, aggression, and behavioral problems. This suggests that there might be an imbalance of curricular focuses in schools that may have failed to address certain aspects of children’s holistic development. This gap in current practices urgently urges early childhood services to develop an integrated curriculum that emphasizes the socio-emotional development of children in the hope of fostering capable individuals who are physically, mentally, intellectually, socially, and spiritually healthy.

To develop an integrated curriculum that promotes healthy emotional expressions in holistic ways, it has been argued that collaborative partnerships with involved personnel not only help to gain mutual understandings with one another but also help to recruit necessary support and resources for the process (Mitchell & Furness, 2015). Because of this, it is therefore recommended that private kindergartens set up a systematic developmental process of an integrated curriculum that involves all stakeholders to ensure that the curriculum truly meets the needs of every child.

#### **6) Meta-cognition (Assessment as Learning)**

Lastly, the finding that found meta-cognition or assessment as learning to be of the lowest level of need is contradictory to other research outcomes, which found

assessment as learning to be one of the most vital factors that determine the long-term achievements of children (Heritage et al., 2017). According to Katz (2012), assessment as learning occurs when children become self-regulated learners by being responsible for their own learning, monitoring future directions, evaluating gaps in their experiences, and making changes to increase the effectiveness in future learning directions. In Thailand, however, it is far more common to witness teachers having full authority in making decisions regarding children's learning experiences (Barr, 2018). Moreover, the concepts of metacognition, student agency, and autonomy have only been recently introduced in the Thai literature and have yet to be widely recognized in the Thai early childhood education sector. To promote meta-cognition or assessment in private kindergartens, much work needs to be done to correctly educate teachers and administrators about the concept to avoid confusion before the full implementation of Universal Design for Learning in private kindergartens.

In conclusion, this research aims to study the current and desirable levels of practice regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens. While it was found that the current levels of practice are at a moderate level, the desirable levels of practice are at an extremely high level, suggesting that there is a strong need to develop Universal Design for Learning to promote children's holistic development in private kindergartens. These identified needs were then used to recommend approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens. It is believed that the recommended approaches would offer administrators, heads of the academics, and teachers tools for inclusive instructional practice that would tackle existing obstacles in their private kindergartens and finally promote children's holistic outcomes for every child under their care.

### **5.3 Recommendations**

#### **5.3.1 Recommendations for Research-based Practices**

- 1) Private kindergarten administrators should form whole-school strategic plans to promote Universal Design for Learning as the main practical framework by

allocating sufficient funds and support to upgrade the quality and quantity of teaching and learning resources, classroom equipment, facilities, and teachers' incentives.

2) Private kindergarten administrators should take initiatives to form collaborative partnerships with families and communities to develop a mutual understanding of the school's visions and missions, as well as to make use of the available resources and support in the communities.

3) Private kindergarten administrators should develop effective personalized professional development programs that focus on educating teachers about teaching children with diverse needs as well as cultivating positive attitudes toward inclusive education and children's autonomy.

4) Private kindergarten heads of the academics should re-evaluate teachers' workloads to allow more time for curriculum planning, classroom management, and professional development.

5) Private Kindergarten teachers should offer more opportunities for more co-operative learning and encourage children to monitor their own learning in classrooms by continuously observing each child's needs and planning lessons ahead of time.

### **5.3.2 Recommendations for Future Research**

1) This research employed the Three-Block Model of Universal Design for Learning by Katz (2012) as its framework. However, the research only studied Block Two: Inclusive Instructional Practice of the model. It is thus recommended that future researchers examine all three blocks of the model in order to gain a more complete understanding of its impact on children's holistic development.

2) Universal Design for Learning is a relatively new concept that has not been widely introduced to the field of education in Thailand. It may be wise for future researchers to examine kindergarten teachers' understanding of the concept so that data can be used to inform policymakers and school administrators when planning for future directions.

3) Because the majority of private kindergartens in Thailand are of small- to medium-sized schools, the researcher had to collect data from 20 private

kindergartens to obtain an adequate number of informants. While this may help with the generalization of the research outcomes, applying the research outcomes to one's own context may yield some limitations due to the vast contextual differences of private kindergartens in Bangkok. For this reason, future research should specifically rule out the type of private kindergartens to be used as research sample based on their sizes and types of school curriculum employed to minimize biases.

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## APPENDIX

Appendix A  
Results of the Content Validity Assessment

**ตอนที่ 1 สถานภาพของผู้ตอบแบบสอบถาม (สำหรับผู้บริหาร)**

ข้อ	ข้อความคำถาม	ความเห็น ผู้ทรงคุณวุฒิ			รวม	ข้อเสนอแนะ
		1	2	3		
1	เพศ <input type="checkbox"/> 1) ชาย <input type="checkbox"/> 2) หญิง <input type="checkbox"/> 3) อื่น ๆ	1	1	1	1	
2	อายุ <input type="checkbox"/> 1) น้อยกว่า 30 ปี <input type="checkbox"/> 2) 31 - 40 ปี <input type="checkbox"/> 3) 41 - 50 ปี <input type="checkbox"/> 4) 50 ปีขึ้นไป	1	1	1	1	
3	ตำแหน่งปัจจุบัน <input type="checkbox"/> 1) ผู้อำนวยการโรงเรียน <input type="checkbox"/> 2) ผู้จัดการ <input type="checkbox"/> 3) ผู้รับใบอนุญาต	0	1	1	0.67	เสนอให้ตัดผู้รับ ใบอนุญาตและผู้จัดการ ออก + เพิ่มหัวหน้า วิชาการ
4	ประสบการณ์การทำงานในตำแหน่งตาม ข้อ 3. <input type="checkbox"/> 1) น้อยกว่า 1 ปี <input type="checkbox"/> 2) 1 - 5 ปี <input type="checkbox"/> 3) 6 - 10 ปี <input type="checkbox"/> 4) มากกว่า 10 ปี	1	0	-1	0	ตัดข้อนี้ออก
5	ระดับการศึกษาสูงสุด <input type="checkbox"/> 1) ปริญญาตรี <input type="checkbox"/> 2) ปริญญาโท <input type="checkbox"/> 3) ปริญญาเอก	1	1	1	1	

**ตอนที่ 1 สถานภาพของผู้ตอบแบบสอบถาม (สำหรับหัวหน้างานวิชาการของโรงเรียนหรือครูผู้สอน)**

ข้อ	ข้อความคำถาม	ความเห็น ผู้ทรงคุณวุฒิ			รวม	ข้อเสนอแนะ
		1	2	3		
1	เพศ <input type="checkbox"/> 1) ชาย <input type="checkbox"/> 2) หญิง <input type="checkbox"/> 3) อื่น ๆ	1	1	1	1	
2	อายุ <input type="checkbox"/> 1) น้อยกว่า 30 ปี <input type="checkbox"/> 2) 31 - 40 ปี <input type="checkbox"/> 3) 41 - 50 ปี <input type="checkbox"/> 4) 50 ปีขึ้นไป	1	1	1	1	
3	ตำแหน่งปัจจุบัน <input type="checkbox"/> 1) หัวหน้างานวิชาการของโรงเรียน <input type="checkbox"/> 2) ครูผู้สอน	0	1	1	0.67	เสนอให้ย้ายหัวหน้าวิชาการไปรวมกับผู้บริหาร + แยกระดับการสอนของครูเป็นอนุบาล 1-3
5	5. ระยะเวลาที่ท่านดำรงตำแหน่งตามข้อ 3. ในโรงเรียนแห่งนี้ <input type="checkbox"/> 1) น้อยกว่า 1 ปี <input type="checkbox"/> 2) 1 - 5 ปี <input type="checkbox"/> 3) 6 - 10 ปี <input type="checkbox"/> 4) มากกว่า 10 ปี	1	0	-1	0	ตัดข้อนี้ออก
6	ระดับการศึกษาสูงสุด <input type="checkbox"/> 1) ปริญญาตรี <input type="checkbox"/> 2) ปริญญาโท <input type="checkbox"/> 3) ปริญญาเอก	1	1	1	1	

ตอนที่ 2 สภาพปัจจุบันและสภาพที่พึงประสงค์ของการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน

การพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน	ความเห็น ผู้ทรงคุณวุฒิ			รวม	ข้อเสนอแนะ
	1	2	3		
<b>1. หลักสูตรในโรงเรียนของท่านมีการบูรณาการเนื้อหาเพื่อให้เกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	1	1	1	1	
<b>2. ผู้บริหารและครูในโรงเรียนของท่านสนับสนุนให้นักเรียนเลือกเรียนรู้ตามความสนใจเพื่อให้เกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	1	1	1	1	



การพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน	ความเห็น ผู้ทรงคุณวุฒิ			รวม	ข้อเสนอแนะ
	1	2	3		
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้					
<b>3. การจัดการเรียนรู้ในโรงเรียนของท่านส่งเสริมการเรียนรู้ร่วมกันให้เกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่วและประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อม วัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	1	1	1	1	
<b>4. โรงเรียนของท่านมีการจัดการเรียนการสอนที่ตอบสนองความแตกต่างระหว่างบุคคลเพื่อให้เกิดพัฒนาการแบบองค์รวมในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	1	1	1	1	

<b>การพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน</b>	<b>ความเห็น ผู้ทรงคุณวุฒิ</b>			<b>รวม</b>	<b>ข้อเสนอแนะ</b>
	1	2	3		
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อม วัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของ สังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหา ความรู้					
<b>5. โรงเรียนของท่านมีการวัดประเมินผลที่ตอบสนองความ แตกต่างระหว่างบุคคลเพื่อให้เกิดพัฒนาการแบบองค์รวม ใน ประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อม วัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของ สังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์	1	1	1	1	

การพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน	ความเห็น ผู้ทรงคุณวุฒิ			รวม	ข้อเสนอแนะ
	1	2	3		
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้					
<b>6. โรงเรียนของท่านส่งเสริมการประเมินเพื่อการเรียนรู้เพื่อให้เกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	0	1	1	0.67	ปรับจากการประเมินเพื่อการเรียนรู้เป็น “ให้ใช้ผลประเมินของผู้เรียนมาปรับปรุงการจัดการเรียนรู้”
<b>7. โรงเรียนของท่านส่งเสริมให้นักเรียนมีการประเมินการเรียนรู้ของตนเองเพื่อให้เกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	1	1	1	1	

การพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน	ความเห็น ผู้ทรงคุณวุฒิ			รวม	ข้อเสนอแนะ
	1	2	3		
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้					
<b>8. โรงเรียนของท่านมีการใช้สื่อเทคโนโลยีเพื่อให้เกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	1	1	1	1	หลังคำว่าเทคโนโลยีอาจเพิ่มคำว่า “ประกอบการเรียนการสอน”
<b>9. โรงเรียนของท่านส่งเสริมการจัดการเรียนรู้แบบสืบเสาะหาความรู้เพื่อให้เกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน	1	1	1	1	

การพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน	ความเห็น ผู้ทรงคุณวุฒิ			รวม	ข้อเสนอแนะ
	1	2	3		
3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้					
<b>10. โรงเรียนของท่านมีการจัดการเรียนรู้แบบย้อนกลับเพื่อให้ เกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	1	1	1	1	

การพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน	ความเห็น ผู้ทรงคุณวุฒิ			รวม	ข้อเสนอแนะ
	1	2	3		
<b>11. โรงเรียนของท่านส่งเสริมให้มีการเรียนรู้เพื่อให้เกิด พัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b> 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้อย่างคล่องแคล่ว และประสานสัมพันธ์กัน 3) มีสุขภาพจิตดีและมีความสุข 4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว 5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม 6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง 7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย 8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของ สังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข 9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย 10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้ 11) มีจินตนาการและความคิดสร้างสรรค์ 12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหา ความรู้	1	1	1	1	หลังคำว่า “การ เรียนร่วม” อาจเพิ่ม คำว่า “ระหว่าง นักเรียนที่มีความ ต้องการพิเศษและ นักเรียนพิการ ร่วมกับนักเรียน ปกติ”

Appendix B  
Research Questionnaire



### แบบสอบถามเพื่อการวิจัย

แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวม

ในโรงเรียนอนุบาลเอกชน

### Approaches to the Development of Universal Design for Learning to Promote Children's Holistic Development in Private Kindergartens

การวิจัยฉบับนี้เป็นส่วนหนึ่งของการศึกษาปริญญาครุศาสตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย ซึ่งมีวัตถุประสงค์เพื่อ ศึกษาความต้องการจำเป็นและออกแบบแนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อพัฒนานักเรียนในองค์กรของโรงเรียนอนุบาลเอกชน โดยแบบสอบถามฉบับนี้แบ่งออกเป็น 3 ตอน ได้แก่

ตอนที่ 1 สภาพทั่วไปของผู้ตอบแบบสอบถาม โดยใช้แบบตรวจสอบรายการ

ตอนที่ 2 สภาพปัจจุบันและสภาพที่พึงประสงค์ของพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน ซึ่งลักษณะของข้อคำถามเป็นมาตราส่วนประเมินค่า 5 ระดับ

ตอนที่ 3 ข้อเสนอแนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน

ข้อมูลในแบบสอบถามใช้สำหรับการวิจัยนี้ เท่านั้น จะไม่มีผลกระทบต่อการปฏิบัติงานและสถานภาพทางราชการของท่านแต่อย่างใด ข้อมูลที่ได้จากท่านจะเป็นประโยชน์อย่างยิ่งและมีคุณค่าต่อการวิจัย และขอขอบคุณเป็นอย่างสูงสำหรับความอนุเคราะห์และการเสียสละเวลาอันมีค่าของท่านในการตอบแบบสอบถามเพื่อการวิจัยในครั้งนี้



## นิยามศัพท์

**พัฒนาการแบบองค์รวม (Holistic Development)** หมายถึง การเรียนรู้ การเจริญเติบโต และพัฒนาการของเด็กปฐมวัยที่เกิดขึ้นพร้อมกันในทุกด้านของพัฒนาการ ทั้งด้านร่างกาย ด้านอารมณ์ ด้านสังคม และด้านจิตใจ ที่เชื่อมโยงถึงกันและไม่สามารถแยกออกจากกันได้

**พัฒนาการด้านร่างกาย (Physical Development)** หมายถึง ความสามารถในการใช้กล้ามเนื้อ และควบคุมส่วนต่าง ๆ ของร่างกายในเด็กปฐมวัย ได้แก่

- 1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี
- 2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้คล่องแคล่วและประสานสัมพันธ์กัน

**พัฒนาการด้านอารมณ์ (Emotional Development)** หมายถึง ความสามารถในการแสดงออกทางอารมณ์ ความรับรู้ถึงอารมณ์ต่าง ๆ และการควบคุมอารมณ์ในเด็กปฐมวัย ได้แก่

- 1) มีสุขภาพจิตดีและมีความสุข
- 2) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว
- 3) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม

**พัฒนาการด้านสังคม (Social Development)** หมายถึง ความสามารถในการโต้ตอบและความสามารถในการพัฒนาความสัมพันธ์กับผู้อื่นในเด็กปฐมวัย ได้แก่

- 1) มีทักษะชีวิตและปฏิบัติตามหลักปรัชญาของเศรษฐกิจพอเพียง
- 2) รักธรรมชาติ สิ่งแวดล้อม วัฒนธรรม และความเป็นไทย
- 3) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตามเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข

**พัฒนาการด้านสติปัญญา (Cognitive Development)** หมายถึง ความสามารถในการตระหนักรู้ เข้าใจ และถ่ายทอดความเข้าใจเกี่ยวกับสิ่งแวดล้อมรอบตัวในเด็กปฐมวัย ได้แก่

- 1) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย
- 2) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้
- 3) มีจินตนาการและความคิดสร้างสรรค์
- 4) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้ได้เหมาะสมกับวัย

**การออกแบบการเรียนรู้ที่เป็นสากล (Universal Design for Learning)** หมายถึง แนวทางการจัดการศึกษาทั้งระบบเพื่อลดอุปสรรคในการเรียนรู้และมอบประสบการณ์การเรียนรู้ร่วมกับเด็กปฐมวัยที่มีความต้องการที่แตกต่างกัน

**หลักสูตรบูรณาการ (Integrated Curriculum)** หมายถึง หลักสูตรการศึกษาปฐมวัยที่รวมประสบการณ์การเรียนรู้ ทักษะ และเนื้อหาการเรียนรู้ที่หลากหลายเข้าในกิจกรรมที่มีความหมายสำหรับเด็ก เพื่อส่งเสริมพัฒนาการทุกด้านแบบองค์รวม

**การเลือกเรียนรู้ตามความสนใจ (Student choice)** หมายถึง การเปิดโอกาสให้เด็กปฐมวัยได้เลือกประสบการณ์การเรียนรู้ที่ตนเองสนใจ

**การเรียนรู้ร่วมกัน (Flexible groupings / Co-operative learning)** หมายถึง การเรียนรู้แบบเข้ากลุ่มโดยเด็กปฐมวัยที่มีความสามารถและความสนใจหลากหลายระดับถูกจับเข้ากลุ่มเดียวกัน เพื่อเรียนรู้ร่วมกัน

**การจัดการเรียนการสอนที่ตอบสนองความแตกต่างระหว่างบุคคล (Differentiated Instructions)** หมายถึง การจัดประสบการณ์การเรียนรู้ที่ใช้กลยุทธ์การสอน รูปแบบการสอน เนื้อหา หลักสูตร และสื่อการสอนที่หลากหลาย เพื่อตอบสนองความต้องการส่วนบุคคลของเด็กปฐมวัยแต่ละคน

**การวัดประเมินผลที่ตอบสนองความแตกต่างระหว่างบุคคล (Differentiated Assessment)** หมายถึง การประเมินพัฒนาการอย่างต่อเนื่องผ่านวิธีการที่หลากหลายเพื่อเก็บข้อมูลเกี่ยวกับพัฒนาการความต้องการ และจุดเด่นของเด็กปฐมวัยแต่ละคน

**การประเมินเพื่อการเรียนรู้ (Assessment for Learning)** หมายถึง การประเมินพัฒนาการรายวันอย่างต่อเนื่องเพื่อปรับเปลี่ยนกลยุทธ์การสอนตามสิ่งที่เด็กปฐมวัยแต่ละคนต้องการเพื่อให้ประสบความสำเร็จ

**การประเมินการเรียนรู้ของตนเอง (Meta-cognition – Assessment as learning)** หมายถึง การประเมินความก้าวหน้าในการเรียนรู้ประสบการณ์ต่าง ๆ และการติดตามกระบวนการคิดของตนเองในเด็กปฐมวัยแต่ละคน

**สื่อเทคโนโลยี (Technology)** หมายถึง สื่อเทคโนโลยีที่ใช้ในการจัดประสบการณ์การเรียนรู้เพื่อเพิ่มประสิทธิภาพการเรียนรู้ของเด็กปฐมวัย

**การจัดการเรียนรู้แบบสืบเสาะหาความรู้ (Discipline-based Inquiry)** หมายถึง การจัดประสบการณ์การเรียนรู้ที่เน้นการแก้ปัญหาในชีวิตจริงและมีความหมายสำหรับเด็กปฐมวัย

**การจัดการเรียนรู้อย้อนกลับ (Backward Design)** หมายถึง การวางแผนการจัดประสบการณ์การเรียนรู้ โดยเริ่มจากการกำหนดตัวบ่งชี้และสภาพที่พึงประสงค์จากมาตรฐานคุณลักษณะที่พึงประสงค์ จากนั้นจึงออกแบบประสบการณ์การเรียนรู้และการประเมินพัฒนาการ

**การเรียนรู้ร่วม (Social & Academic Inclusion of Students with Exceptionalities)** หมายถึง การจัดให้เด็กปฐมวัยที่มีความต้องการพิเศษและเด็กพิการเข้าไปเรียนร่วมกับเด็กปกติในห้องเรียนเดียวกันภายใต้ระบบการศึกษาปฐมวัยแบบปกติ

สำหรับผู้อำนวยการโรงเรียนและหัวหน้า  
วิชาการของโรงเรียน

**ตอนที่ 1** ข้อมูลเกี่ยวกับผู้ตอบแบบสอบถาม

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่อง ☐ หน้าข้อความที่เป็นข้อมูลตัวท่านตามสภาพจริง

1. เพศ

☐ ชาย

☐ หญิง

☐ อื่น ๆ

2. อายุ

☐ น้อยกว่า 30 ปี

☐ 31 - 40 ปี

☐ 41 - 50 ปี

☐ 50 ปีขึ้นไป

3. ตำแหน่งปัจจุบัน

☐ ผู้อำนวยการโรงเรียน

☐ หัวหน้าวิชาการของโรงเรียน

4. ประสบการณ์การทำงานในตำแหน่งตามข้อ 3.

☐ น้อยกว่า 1 ปี

☐ 1 - 5 ปี

☐ 6 - 10 ปี

☐ มากกว่า 10 ปี

5. ระดับการศึกษาสูงสุด

☐ ปริญญาตรี

☐ ปริญญาโท

☐ ปริญญาเอก

สำหรับครูผู้สอน

**ตอนที่ 1** ข้อมูลเกี่ยวกับผู้ตอบแบบสอบถาม

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่อง ☐ หน้าข้อความที่เป็นข้อมูลตัวท่านตามสภาพจริง

1. เพศ

☐ ชาย

☐ หญิง

☐ อื่น ๆ

2. อายุ

☐ น้อยกว่า 30 ปี

☐ 31 - 40 ปี

☐ 41 - 50 ปี

☐ 50 ปีขึ้นไป

3. ตำแหน่งปัจจุบัน

☐ ครูผู้สอนระดับชั้นอนุบาล 1

☐ ครูผู้สอนระดับชั้นอนุบาล 2

☐ ครูผู้สอนระดับชั้นอนุบาล 3

4. ประสบการณ์การทำงานในตำแหน่งตามข้อ 3.

☐ น้อยกว่า 1 ปี

☐ 1 - 5 ปี

☐ 5 - 10 ปี

☐ มากกว่า 10 ปี

5. ระดับการศึกษาสูงสุด

☐ ปริญญาตรี

☐ ปริญญาโท

☐ ปริญญาเอก

**ตอนที่ 2 สภาพปัจจุบันและสภาพที่พึงประสงค์ของการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน**

ขอให้ท่านพิจารณาข้อความที่ตรงกับความคิดเห็นของท่าน โดยทำเครื่องหมาย ✓ ลงในช่อง "สภาพปัจจุบัน" และ "สภาพที่พึงประสงค์"

1) **สภาพปัจจุบัน** หมายถึง สิ่งที่ท่านได้ปฏิบัติ พบเห็น หรือรู้สึกว่าการดำเนินการในปัจจุบัน

2) **สภาพที่พึงประสงค์** หมายถึง สิ่งที่ท่านคาดหวัง หรือเห็นควรให้มีการปฏิบัติในอนาคต

**เกณฑ์ค่าระดับคะแนนในช่อง "สภาพปัจจุบัน"**

ระดับ 5 หมายถึง สิ่งที่ท่านได้ปฏิบัติ พบเห็น หรือรู้สึกว่าการดำเนินการในปัจจุบันในระดับมากที่สุด

ระดับ 4 หมายถึง สิ่งที่ท่านได้ปฏิบัติ พบเห็น หรือรู้สึกว่าการดำเนินการในปัจจุบันในระดับมาก

ระดับ 3 หมายถึง สิ่งที่ท่านได้ปฏิบัติ พบเห็น หรือรู้สึกว่าการดำเนินการในปัจจุบันในระดับปานกลาง

ระดับ 2 หมายถึง สิ่งที่ท่านได้ปฏิบัติ พบเห็น หรือรู้สึกว่าการดำเนินการในปัจจุบันในระดับน้อย

ระดับ 1 หมายถึง สิ่งที่ท่านได้ปฏิบัติ พบเห็น หรือรู้สึกว่าการดำเนินการในปัจจุบันในระดับน้อยที่สุด

**เกณฑ์ค่าระดับคะแนนในช่อง "สภาพที่พึงประสงค์"**

ระดับ 5 หมายถึง สิ่งที่ท่านคาดหวัง หรือเห็นควรให้มีการปฏิบัติในอนาคตในระดับมากที่สุด

ระดับ 4 หมายถึง สิ่งที่ท่านคาดหวัง หรือเห็นควรให้มีการปฏิบัติในอนาคตในระดับมาก

ระดับ 3 หมายถึง สิ่งที่ท่านคาดหวัง หรือเห็นควรให้มีการปฏิบัติในอนาคตในระดับปานกลาง

ระดับ 2 หมายถึง สิ่งที่ท่านคาดหวัง หรือเห็นควรให้มีการปฏิบัติในอนาคตในระดับน้อย

ระดับ 1 หมายถึง สิ่งที่ท่านคาดหวัง หรือเห็นควรให้มีการปฏิบัติในอนาคตในระดับน้อยที่สุด

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
<b>1. หลักสูตรในโรงเรียนของท่านมีการบูรณาการเนื้อหาเพื่อให้นักเรียนเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้งานได้ อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	3	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>2. ผู้บริหารและครูในโรงเรียนของท่านสนับสนุนให้นักเรียนเลือกเรียนรู้ตามความสนใจเพื่อให้นักเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้งานได้ อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>3. การจัดการเรียนรู้ในโรงเรียนของท่านส่งเสริมการเรียนรู้ร่วมกันระหว่างนักเรียนเพื่อให้นักเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้งานได้ อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>4. โรงเรียนของท่านมีการจัดการเรียนการสอนที่ตอบสนองความแตกต่างระหว่างบุคคลเพื่อให้ นักเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อม วัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1



การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>5. โรงเรียนของท่านมีการวัดประเมินผลที่ตอบสนองความแตกต่างระหว่างบุคคลเพื่อให้นักเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้งานได้ อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>6. โรงเรียนของท่านมีการนำผลการประเมินพัฒนาการรายวันของนักเรียนมาปรับปรุงการจัดประสบการณ์เรียนรู้ให้เหมาะสมกับนักเรียนแต่ละคนเพื่อให้นักเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้งานได้ อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการ เคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของ เศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็น ไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็น สมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมี พระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการ เรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการ แสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>7. โรงเรียนของท่านส่งเสริมให้นักเรียนมีการประเมินการเรียนรู้ของตนเองเพื่อให้นักเรียนเกิด พัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้งานได้ อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>8. โรงเรียนของท่านมีการใช้สื่อเทคโนโลยีประกอบการจัดประสบการณ์เรียนรู้เพื่อให้นักเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้งานได้ อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>9. โรงเรียนของท่านส่งเสริมการจัดการเรียนรู้ที่อิงชุดวิชาเพื่อให้นักเรียนเกิดพัฒนาการแบบองค์รวมในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้งานได้ อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อมวัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>10. โรงเรียนของท่านมีการออกแบบการจัดการเรียนรู้แบบย้อนกลับเพื่อให้นักเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อม วัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1

การออกแบบการเรียนรู้ที่เป็นสากล	สภาพปัจจุบัน					สภาพที่พึงประสงค์				
	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1
<b>11. โรงเรียนของท่านส่งเสริมให้มีการเรียนร่วมระหว่างนักเรียนที่มีความต้องการพิเศษและนักเรียนปกติเพื่อให้นักเรียนเกิดพัฒนาการแบบองค์รวม ในประเด็นต่อไปนี้ อยู่ในระดับใด</b>										
1) ร่างกายเจริญเติบโตตามวัยและมีสุขนิสัยที่ดี	5	4	3	2	1	5	4	3	2	1
2) กล้ามเนื้อใหญ่และกล้ามเนื้อเล็กแข็งแรง ใช้ได้อย่างคล่องแคล่วและประสานสัมพันธ์กัน	5	4	3	2	1	5	4	3	2	1
3) มีสุขภาพจิตดีและมีความสุข	5	4	3	2	1	5	4	3	2	1
4) ชื่นชมและแสดงออกทางศิลปะ ดนตรี และการเคลื่อนไหว	5	4	3	2	1	5	4	3	2	1
5) มีคุณธรรม จริยธรรม และมีจิตใจที่ดีงาม	5	4	3	2	1	5	4	3	2	1
6) มีทักษะชีวิตและปฏิบัติตนตามหลักปรัชญาของเศรษฐกิจพอเพียง	5	4	3	2	1	5	4	3	2	1
7) รักธรรมชาติ สิ่งแวดล้อม วัฒนธรรม และความเป็นไทย	5	4	3	2	1	5	4	3	2	1
8) อยู่ร่วมกับผู้อื่นได้อย่างมีความสุขและปฏิบัติตนเป็นสมาชิกที่ดีของสังคมในระบอบประชาธิปไตย อันมีพระมหากษัตริย์ทรงเป็นประมุข	5	4	3	2	1	5	4	3	2	1
9) ใช้ภาษาสื่อสารได้เหมาะสมกับวัย	5	4	3	2	1	5	4	3	2	1
10) มีความสามารถในการคิดที่เป็นพื้นฐานในการเรียนรู้	5	4	3	2	1	5	4	3	2	1
11) มีจินตนาการและความคิดสร้างสรรค์	5	4	3	2	1	5	4	3	2	1
12) มีเจตคติที่ดีต่อการเรียนรู้ และมีความสามารถในการแสวงหาความรู้	5	4	3	2	1	5	4	3	2	1

ตอนที่ 3 ข้อเสนอแนะทางพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวม  
ในโรงเรียนอนุบาลเอกชน

[illegible]

## Appendix C

An Evaluation form for the Suitability and Feasibility of the Drafted Approaches  
to the Development of Universal Design for Learning to Promote Children's  
Holistic Development in Private Kindergartens





### แบบประเมินความเหมาะสมและความเป็นไปได้

## (Drafted) Approaches to the Development of Universal Design for Learning to Promote Holistic Development in Private Kindergartens

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### Descriptions

1. This study aims to explore the gaps between the current and desirable practices regarding the development of Universal Design for Learning to promote children's holistic development in private kindergartens and recommend approaches to the development of Universal Design for Learning to promote children's holistic development in private kindergartens.

2. The researcher has developed this assessment form to assess the suitability and feasibility of the drafted approaches.

Data obtained from this suitability and feasibility assessment will only be used for research purposes which will not affect your credibility in any way. Thus far, your knowledge and expertise are believed to greatly enhance the quality of this research.

Yours sincerely,

Rattanatorn Kerdduayboon Metzger

Educational Administration

Faculty of Education, Chulalongkorn University

**คำชี้แจง** โปรดทำเครื่องหมาย ✓ ลงใน ☐ ที่ตรงกับความคิดเห็นของท่าน โดยมีเกณฑ์ในการเลือกตอบ ดังนี้

- 5 หมายถึง ระดับความเหมาะสม/ระดับความเป็นไปได้ตามรายการนั้นในระดับมากที่สุด  
 4 หมายถึง ระดับความเหมาะสม/ระดับความเป็นไปได้ตามรายการนั้นในระดับมาก  
 3 หมายถึง ระดับความเหมาะสม/ระดับความเป็นไปได้ตามรายการนั้นในระดับปานกลาง  
 2 หมายถึง ระดับความเหมาะสม/ระดับความเป็นไปได้ตามรายการนั้นในระดับน้อย  
 1 หมายถึง ระดับความเหมาะสม/ระดับความเป็นไปได้ตามรายการนั้นในระดับน้อยที่สุด

**Part 1: The Suitability and Feasibility of the Approaches to the Development of Universal Design for Learning to Promote Holistic Development in Private Kindergartens**

No.	(Drafted) Approaches to the development of Universal Design for Learning to promote holistic development in private kindergartens	Rating Scale										Suggestion
		ความเหมาะสม					ความเป็นไปได้					
		5	4	3	2	1	5	4	3	2	1	
1	Enhance positive attitude toward learning through collaboration and community	5	4	3	2	1	5	4	3	2	1	
2	Optimize student choice and autonomy to promote democratic school culture	5	4	3	2	1	5	4	3	2	1	
3	Highlight discipline-based learning as the main pedagogical approach in classroom	5	4	3	2	1	5	4	3	2	1	
4	Include children with exceptionalities at all levels of practice	5	4	3	2	1	5	4	3	2	1	
5	Develop an integrated curriculum that allows children to express emotions in a holistic way	5	4	3	2	1	5	4	3	2	1	

**Part 2: The Suitability and Feasibility of the Strategies to developing the development of Universal Design for Learning to promote holistic development in private kindergartens**

No.	(Drafted) Approaches to the development of Universal Design for Learning to promote holistic development in private kindergartens	ระดับผลการประเมิน										Suggestion
		ความเหมาะสม					ความเป็นไปได้					
		5	4	3	2	1	5	4	3	2	1	
1. Enhance positive attitude toward learning through collaboration and community												
1.1	Use flexible groupings or cooperative learning as the main engagement pedagogy	5	4	3	2	1	5	4	3	2	1	
1.2	Ensure that flexible groupings or cooperative learning experiences are based on children’s interests and abilities	5	4	3	2	1	5	4	3	2	1	
2. Optimize student choice and autonomy to promote democratic school culture												
2.1	Support teachers on the preparation of group activities and learning resources that cover a wider range of needs and interests	5	4	3	2	1	5	4	3	2	1	
2.2	Promote choice of group activities that require the use of collaboration and communication to solve problems	5	4	3	2	1	5	4	3	2	1	
3. Highlight discipline-based learning as the main pedagogical approach in classroom												
3.1	Include meaningful, hands-on learning experiences in the school curriculum	5	4	3	2	1	5	4	3	2	1	
3.2	Offer additional support for teachers through Professional Community of Learning (PCL)	5	4	3	2	1	5	4	3	2	1	
4. Include children with exceptionalities at all levels of practice												
4.1	Build a positive school culture of acceptance, respect, and appreciation	5	4	3	2	1	5	4	3	2	1	
4.2	Ensure that classroom practices are responsive to a wide range of needs, interests, and abilities	5	4	3	2	1	5	4	3	2	1	

No.	(Drafted) Approaches to the development of Universal Design for Learning to promote holistic development in private kindergartens	ระดับผลการประเมิน										Suggestion
		ความเหมาะสม					ความเป็นไปได้					
		5	4	3	2	1	5	4	3	2	1	
5. Develop an integrated curriculum that allows children to learn in a holistic way												
5.1	Set up a systematic developmental process of an integrated curriculum	5	4	3	2	1	5	4	3	2	1	
5.2	Involve all stakeholders in the developmental process of the school curriculum	5	4	3	2	1	5	4	3	2	1	

**ตอนที่ 3:** The Suitability and Feasibility of how to develop the development of Universal Design for Learning to promote holistic development in private kindergartens

No.	(Drafted) Approaches to the development of Universal Design for Learning to promote holistic development in private kindergartens	ระดับผลการประเมิน										Suggestion
		ความเหมาะสม					ความเป็นไปได้					
		5	4	3	2	1	5	4	3	2	1	
1. Enhance positive attitude toward learning through collaboration and community												
1.1 Use flexible groupings or cooperative learning as the main engagement pedagogy												
How to	1.1.1 Create cooperative learning groups with clear rules, goals, roles, and responsibilities	5	4	3	2	1	5	4	3	2	1	
	1.1.2 Create school-wide programs of positive behavior support with differentiated objectives	5	4	3	2	1	5	4	3	2	1	
1.2 Ensure that flexible groupings or cooperative learning experiences are based on children’s interests and abilities												
How to	1.2.1 Use data from formative assessments to inform groupings based on individual needs	5	4	3	2	1	5	4	3	2	1	
	1.2.2 Construct communities of children engaged in common interests or	5	4	3	2	1	5	4	3	2	1	

No.	(Drafted) Approaches to the development of Universal Design for Learning to promote holistic development in private kindergartens	ระดับผลการประเมิน										Suggestion
		ความเหมาะสม					ความเป็นไปได้					
		5	4	3	2	1	5	4	3	2	1	
	activities e.g. afterschool programs or recess corners											
2. Optimize student choice and autonomy to promote democratic school culture												
2.1 Support teachers on the preparation of group activities and learning resources that cover a wider range of needs and interests												
How to	2.1.1 Allocate sufficient funds for teaching tools and learning resources that are responsive to a wide range of needs	5	4	3	2	1	5	4	3	2	1	
	2.1.2 Provide professional development programs and support on individualizing teaching strategies to meet the specific needs of each child in group settings	5	4	3	2	1	5	4	3	2	1	
2.2 Promote choice of group activities that require the use of collaboration and communication to solve problems												
How to	2.2.1 Provide various levels of prompts that guide children to express own opinions, listen to others', and negotiate.	5	4	3	2	1	5	4	3	2	1	
	2.2.2 Encourage and support opportunities for peer interactions and supports	5	4	3	2	1	5	4	3	2	1	
3. Highlight discipline-based learning as the main pedagogical approach in classroom												
3.1 Include meaningful, hands-on learning experiences in the school curriculum												
How to	3.1.1 Provide tasks that allow for active participation, exploration, and experimentation	5	4	3	2	1	5	4	3	2	1	
	3.1.2 Vary activities so that they can be personalized and contextualized to children's lives	5	4	3	2	1	5	4	3	2	1	

No.	(Drafted) Approaches to the development of Universal Design for Learning to promote holistic development in private kindergartens	ระดับผลการประเมิน										Suggestion
		ความเหมาะสม					ความเป็นไปได้					
		5	4	3	2	1	5	4	3	2	1	
3.2 Offer additional support for teachers through Professional Community of Learning (PCL)												
How to	3.2.1 Schedule time and place for teachers to meet for PCL sessions that focus on planning discipline-based learning	5	4	3	2	1	5	4	3	2	1	
	3.2.2 Provide teachers with necessary tools for their professional learning, such as textbooks, internet, and computer	5	4	3	2	1	5	4	3	2	1	
4. Include children with exceptionalities at all levels of practice												
4.1 Build a positive school culture of acceptance, respect, and appreciation												
How to	4.1.1 Establish school norms and expectations that focus on building positive values for children, parents, and teachers.	5	4	3	2	1	5	4	3	2	1	
	4.1.2 Involve parents in school activities by creating clear, open communication and providing a platform for feedback	5	4	3	2	1	5	4	3	2	1	
4.2 Ensure that classroom practices are responsive to a wide range of needs, interests, and abilities												
How to	4.2.1 Infuse the UDL's multiple means of engagement, representation, and expression in all lesson plans, classroom activities, teaching tools, and learning resources.	5	4	3	2	1	5	4	3	2	1	
	4.2.2 Employ evidence-based practices that collect data regarding children's needs, interests, and abilities to inform lesson planning	5	4	3	2	1	5	4	3	2	1	
5. Develop an integrated curriculum that allows children to express emotions in a holistic way												
5.1 Set up a systematic developmental process of an integrated curriculum												

No.	(Drafted) Approaches to the development of Universal Design for Learning to promote holistic development in private kindergartens	ระดับผลการประเมิน										Suggestion
		ความเหมาะสม					ความเป็นไปได้					
		5	4	3	2	1	5	4	3	2	1	
How to	5.1.1 Use research-based data to identify age-appropriate instructions and learning content that promote children’s holistic development	5	4	3	2	1	5	4	3	2	1	
	5.1.2 Employ the process of PDCA for developing the curriculum	5	4	3	2	1	5	4	3	2	1	
5.2 Involve all stakeholders in the developmental process of the school curriculum												
How to	5.2.1 Create an open channel for feedbacks and opinions from stakeholders regarding the effectiveness of the integrated curriculum	5	4	3	2	1	5	4	3	2	1	
	5.2.2 Partner up with both private and governmental community organizations for additional support and resources	5	4	3	2	1	5	4	3	2	1	

Signature .....

(.....)

Expert

## Appendix D

Lists of Experts who Assessed the Content Validity of the Questionnaire and the  
Suitability and Feasibility of the Drafted Approaches



### **Lists of Experts who Assessed the Content Validity of the Research**

#### **Questionnaire**

1. Penvara Xupravati, Ph.D.

Lecturer of Education Administration Division, Department of Educational Policy, Management, and Leadership, Faculty of Education, Chulalongkorn University

2. Ponglikit Petpon, Ph.D.

Lecturer of Education Administration Division, Department of Educational Policy, Management, and Leadership, Faculty of Education, Chulalongkorn University

3. Phornchulee Lunga, Ph. D.

Lecturer of Early Childhood Education Division, Department of Early Childhood Education, Faculty of Education, Suan Dusit University

### **Lists of Experts who Assessed the Suitability and Feasibility of the Drafted Approaches**

1. Ponglikit Petpon, Ph.D.

Lecturer of Education Administration Division, Department of Educational Policy, Management, and Leadership, Faculty of Education, Chulalongkorn University

2. Chaveewan Sukjai, Ph.D.

Principal of Kajornrojwittaya Kindergarten

3. Mrs. Kallaya Khaodee

Principal of Areeyasuksa Kindergarten

Appendix E  
Letters from the Faculty



## บันทึกข้อความ

ส่วนงาน สาขาวิชาบริหารการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย โทร ๐ ๒๒๑๘ ๒๕๖๕-๙๗ ต่อ ๗๐๖๒

ที่ อว ๖๔.๖(๒๗๔๗)/๑๖๔

วันที่ ๑๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจสอบเครื่องมือในการวิจัย

เรียน อาจารย์ ดร.เพ็ญวรา ชูประวัตติ

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ ฤทธิชัยบุญ เมตซ์เกอร์ นิสิตหลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัวนิสิต ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการดำเนินงานวิจัยสารนิพนธ์เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

การนี้จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิตรวจสอบเครื่องมือวิจัย ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดเป็นผู้ทรงคุณวุฒิดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)

ประธานสาขาวิชาบริหารการศึกษา



## บันทึกข้อความ

ส่วนงาน สาขาวิชาบริหารการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย โทร ๐ ๒๒๑๘ ๒๕๖๕-๙๗ ต่อ ๗๐๖๒

ที่ อว ๖๔.๖(๒๗๔๗)/๑๖๔

วันที่ ๑๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจสอบเครื่องมือในการวิจัย

เรียน อาจารย์ ดร.พงษ์สิทธิ์ เพชรผล

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เมตซ์เกอร์ นิสิตหลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัวนิสิต ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการดำเนินงานวิจัยสารนิพนธ์เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

การนี้จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิตรวจสอบเครื่องมือวิจัย ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดเป็นผู้ทรงคุณวุฒิดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)

ประธานสาขาวิชาบริหารการศึกษา



ที่ อว ๖๔.๖(๒๗๔๗)/๑๖๔

สาขาวิชาบริหารการศึกษา ภาควิชานโยบายฯ  
คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย  
แขวงวังใหม่ เขตปทุมวัน กทม. ๑๐๓๓๐

๑๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจสอบเครื่องมือในการวิจัย

เรียน ดร. พรชูลี ลังกา

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธรร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัวนิสิต ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการดำเนินงานวิจัยสารนิพนธ์เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากล เพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

การนี้จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิตรวจสอบเครื่องมือวิจัย ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดเป็นผู้ทรงคุณวุฒิดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นันทรัตน์ เจริญกุล)  
ประธานสาขาวิชาบริหารการศึกษา

สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
เบอร์โทรศัพท์ผู้วิจัย: ๐๙ ๒๔๕๐ ๖๑๑๖ ไปรษณีย์อิเล็กทรอนิกส์ rattanatorn.k๑๙@outlook.com

ที่ อว ๖๔.๖(๒๗๔๗)/๑๙๑



สาขาวิชาบริหารการศึกษา ภาควิชานโยบายฯ  
คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย  
ถนนพญาไท กทม. ๑๐๓๓๐

๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนขจรโรจน์วิทยา แผนกอนุบาล

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

การนี้ นิสิตมีความจำเป็นต้องเก็บข้อมูลด้วยแบบสอบถามกับผู้บริหารและครู ทั้งนี้ นิสิตผู้วิจัยได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดอนุญาตให้นิสิตได้ทำการเก็บข้อมูลวิจัยดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)  
ประธานสาขาวิชาบริหารการศึกษา

สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
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ที่ อว ๖๔.๖(๒๗๔๗)/๑๙๑



สาขาวิชาบริหารการศึกษา ภาควิชานโยบายฯ  
คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย  
ถนนพญาไท กทม. ๑๐๓๓๐

๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนรุ่งอรุณ

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

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จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดอนุญาตให้นิสิตได้ทำการเก็บข้อมูลวิจัยดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)

ประธานสาขาวิชาบริหารการศึกษา

สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
เบอร์โทรศัพท์ผู้วิจัย: ๐๙ ๒๔๕๐ ๖๑๑๖ ไปรษณีย์อิเล็กทรอนิกส์ rattanatorn.k๑๙@outlook.com

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ถนนพญาไท กทม. ๑๐๓๓๐

๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลปทุมธานี

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธรร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

การนี้ นิสิตมีความจำเป็นต้องเก็บข้อมูลด้วยแบบสอบถามกับผู้บริหารและครู ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

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ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)  
ประธานสาขาวิชาบริหารการศึกษา

สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
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ที่ อว ๖๔.๖(๒๗๔๗)/๑๙๑



สาขาวิชาบริหารการศึกษา ภาควิชานโยบายฯ  
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ถนนพญาไท กทม. ๑๐๓๓๐

๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลเทพารักษ์

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

การนี้ นิสิตมีความจำเป็นต้องเก็บข้อมูลด้วยแบบสอบถามกับผู้บริหารและครู ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดอนุญาตให้นิสิตได้ทำการเก็บข้อมูลวิจัยดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)  
ประธานสาขาวิชาบริหารการศึกษา

สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
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ที่ อว ๖๔.๖(๒๗๔๗)/๑๙๑



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ถนนพญาไท กทม. ๑๐๓๓๐

๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลบูรณะศึกษา

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

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๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลฉัตรเฉลิม

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

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๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลทับทอง

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

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๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนเลิศหล้า (เกษตร-นวมินทร์)

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

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เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนราชินีบน

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธรร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

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เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนช่างตากครูสคอนแวนต์

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

การนี้ นิสิตมีความจำเป็นต้องเก็บข้อมูลด้วยแบบสอบถามกับผู้บริหารและครู ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดอนุญาตให้นิสิตได้ทำการเก็บข้อมูลวิจัยดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)  
ประธานสาขาวิชาบริหารการศึกษา

สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
เบอร์โทรศัพท์ผู้วิจัย: ๐๙ ๒๔๕๐ ๖๑๑๖ ไปรษณีย์อิเล็กทรอนิกส์ rattanatorn.k๑๙@outlook.com

ที่ อว ๖๔.๖(๒๗๔๗)/๑๙๑



สาขาวิชาบริหารการศึกษา ภาควิชานโยบายฯ  
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ถนนพญาไท กทม. ๑๐๓๓๐

๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนสาธิตบางนา

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

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๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอัสสัมชัญศึกษา

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

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๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลสุราษฎร์ธานี

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

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๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลบ้านบাত্র

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ ฤทธิชัยบุณย์ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำ สารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวม ในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

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เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลสร้างสรรค์

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

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เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนพร้อมพรรณวิทยา

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

การนี้ นิสิตมีความจำเป็นต้องเก็บข้อมูลด้วยแบบสอบถามกับผู้บริหารและครู ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดอนุญาตให้นิสิตได้ทำการเก็บข้อมูลวิจัยดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)  
ประธานสาขาวิชาบริหารการศึกษา

สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
เบอร์โทรศัพท์ผู้วิจัย: ๐๙ ๒๔๕๐ ๖๑๑๖ ไปรษณีย์อิเล็กทรอนิกส์ rattanatorn.k๑๙@outlook.com

ที่ อว ๖๔.๖(๒๗๔๗)/๑๙๑



สาขาวิชาบริหารการศึกษา ภาควิชานโยบายฯ  
คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย  
ถนนพญาไท กทม. ๑๐๓๓๐

๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลบ้านโคม

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

การนี้ นิสิตมีความจำเป็นต้องเก็บข้อมูลด้วยแบบสอบถามกับผู้บริหารและครู ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดอนุญาตให้นิสิตได้ทำการเก็บข้อมูลวิจัยดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

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ถนนพญาไท กทม. ๑๐๓๓๐

๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนปัญญทรัพย์

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

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จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดอนุญาตให้นิสิตได้ทำการเก็บข้อมูลวิจัยดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป

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๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอนุบาลสววรรณ

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

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๓๐ พฤษภาคม ๒๕๖๕

เรื่อง ขอความร่วมมือในการเก็บข้อมูลวิจัย

เรียน ผู้อำนวยการโรงเรียนอรุณาลัย

สิ่งที่ส่งมาด้วย เครื่องมือในการวิจัย

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัว ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่ระหว่างการทำสารนิพนธ์ เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่ม้อย เป็นอาจารย์ที่ปรึกษา

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## บันทึกข้อความ

ส่วนงาน สาขาวิชาบริหารการศึกษา คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย โทร ๐ ๒๒๑๘ ๒๕๖๕-๔๗ ต่อ ๗๐๖๒  
ที่ อว ๖๔.๖(๒๗๔๗)/๒๗๘ วันที่ ๔ กรกฎาคม ๒๕๖๕  
เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจสอบความเหมาะสมและความเป็นไปได้ของร่างแนวทาง

เรียน อาจารย์ ดร.พงษ์สิทธิ์ เพชรผล

สิ่งที่ส่งมาด้วย แบบประเมินความเหมาะสมและความเป็นไปได้ของร่างแนวทาง

ด้วย นางรัตนธ เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาบริหาร  
การศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัวนิสิต ๖๒๘ ๐๑๒๘๙ ๒๗ อยู่  
ระหว่างการดำเนินงานวิจัยสารนิพนธ์เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริม  
พัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่  
ปรึกษา

การนี้จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิประเมินความเหมาะสมและความเป็นไปได้ของร่างแนวทาง  
ดังกล่าว ทั้งนี้ นิสิตผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดเป็นผู้ทรงคุณวุฒิดังกล่าวเพื่อประโยชน์ทางวิชาการ  
ต่อไป และขอขอบคุณมาในโอกาสนี้

(ผู้ช่วยศาสตราจารย์ ดร.นันทน์ เจริญกุล)

ประธานสาขาวิชาบริหารการศึกษา



ที่ อว ๖๔.๖(๒๗๔๗)/ ๒๗๘

สาขาวิชาบริหารการศึกษา ภาควิชานโยบายฯ  
คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย  
แขวงวังใหม่ เขตปทุมวัน กทม. ๑๐๓๓๐

๔ กรกฎาคม ๒๕๖๕

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจสอบความเหมาะสมและความเป็นไปได้ของร่างแนวทาง

เรียน ดร.ฉวีวรรณ สุขใจ ผู้อำนวยการโรงเรียนขจรโรจน์วิทยา แผนกอนุบาล

สิ่งที่ส่งมาด้วย แบบประเมินความเหมาะสมและความเป็นไปได้ของร่างแนวทาง

ด้วย นางรัตนธร เกิดด้วยบุญ เม็ตซ์เกอร์ นิสิตหลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา เลขประจำตัวนิต ๖๒๘ ๐๑๒๘๔ ๒๗ อยู่ระหว่างการดำเนินงานวิจัยสารนิพนธ์เรื่อง “แนวทางการพัฒนาการออกแบบการเรียนรู้ที่เป็นสากลเพื่อส่งเสริมพัฒนาการแบบองค์รวมในโรงเรียนอนุบาลเอกชน” โดยมี รองศาสตราจารย์ ดร.สุกัญญา แซ่มซ้อย เป็นอาจารย์ที่ปรึกษา

การนี้จึงขอเชิญท่านเป็นผู้ทรงคุณวุฒิประเมินความเหมาะสมและความเป็นไปได้ของร่างแนวทางดังกล่าว ทั้งนี้ผู้วิจัยจะได้ประสานงานในรายละเอียดต่อไป

จึงเรียนมาเพื่อขอความอนุเคราะห์จากท่านโปรดเป็นผู้ทรงคุณวุฒิดังกล่าวเพื่อประโยชน์ทางวิชาการต่อไป และขอขอบคุณมาในโอกาสนี้

ขอแสดงความนับถือ

(ผู้ช่วยศาสตราจารย์ ดร.นันทรัตน์ เจริญกุล)

ประธานสาขาวิชาบริหารการศึกษา

สาขาวิชาบริหารการศึกษา ภาควิชานโยบาย การจัดการและความเป็นผู้นำทางการศึกษา  
เบอร์โทรศัพท์ผู้วิจัย: ๐๙๒-๔๕๐-๖๑๑๖ | อีเมล: rattanatorn.k๑๔@outlook.com

ที่ อว ๖๔.๖(๒๗๔๗)/ ๒๗๘



สาขาวิชาบริหารการศึกษา ภาควิชานโยบายฯ  
คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย  
แขวงวังใหม่ เขตปทุมวัน กทม. ๑๐๓๓๐

๔ กรกฎาคม ๒๕๖๕

เรื่อง ขอเชิญเป็นผู้ทรงคุณวุฒิตรวจสอบความเหมาะสมและความเป็นไปได้ของร่างแนวทาง

เรียน ผู้อำนวยการโรงเรียนอารีย์ศึกษา

สิ่งที่ส่งมาด้วย แบบประเมินความเหมาะสมและความเป็นไปได้ของร่างแนวทาง

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ประธานสาขาวิชาบริหารการศึกษา

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เบอร์โทรศัพท์ผู้วิจัย: ๐๙๒-๔๕๐-๖๑๑๖ ไปรษณีย์อิเล็กทรอนิกส์ rattanatom.k๑๔๙@outlook.com

## VITA

**Mrs. Rattanatorn Kerdduayboon Metzger**

### Education

- Master of Education, Early Childhood Education, Monash University, 2017
- Bachelor of Science, Psychology, Auckland University of Technology, 2013
- NZQA Level 2, Columba College, 2009

### Work Experiences

- |                |  |
|----------------|--|
| 2018 - Present | Academic Coordinator, Kajornrojwittaya Kindergarten                                      |
| 2014 - 2015    | Applied Behavioural Analysis Therapist, Centre of Autism and Related Disorder (Thailand) |