THE IMPACT OF THE 101S POSITIVE DISCIPLINE TEACHER TRAINING ON TEACHER PRACTICES AND PRESCHOOLERS' EXECUTIVE FUNCTION SKILLS

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR
THE DEGREE OF MASTER OF SCIENCE
(HUMAN DEVELOPMENT)
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
2012

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was submitted to the Faculty of Graduate Studies, Mahidol University
for the degree of Master of Science (Human Development)
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ACKNOWLEDGEMENTS

This thesis could not be completed without the attentive support from my major advisor, Dr. Panadda Thanasetkorn, my co-advisor, Dr. Vasunun Chumchua, and Asst. Prof. Dr. Nuanchan Chutabhakdikul, all my research committee members. I thank them deeply for all help, encouragement, and suggestions throughout my work.

Next, I would like to thank my family; specifically my parents, for their encouragement, care and love. Next, I would like to thank all of the colleague in the National Institute for Child and Family Development, for your sincerity and kindness. Importantly, I also would like to thank all the teachers and students of my study for their volunteering and for coordination.

Additionally, I also would like to express my appreciation to The 60th Year Supreme Reign of His Majesty King Bhumibol Adulyadej for granting a scholarship to my master degree.

Last but not least, I would like to thank to this project for bringing me to realize that true success is not in learning, but in its application to the benefit of mankind.

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THE IMPACT OF THE 101S POSITIVE DISCIPLINE TEACHERTRAINING ON TEACHER PRACTICES AND PRESCHOOLERS' EXECUTIVE FUNCTION SKILLS

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ABSTRACT

The objectives of this study were (1) to investigate the impact of *The 101s* teacher training on the changes in teacher interaction practices, (2) to investigate the impact of *The 101s* teacher training on changes in preschoolers' executive functions and (3) to examine the correlations between teacher interaction practices and executive functions. Two kindergarten schools in Samuthprakarn were randomly assigned to an intervention group (4 teachers, 31 four to six-year-old children) and a control (3 teachers, 29 four to six-year-old children) group.

For the data analysis, independent *t* tests were employed to investigate the mean differences on each subscale of a teacher interaction checklist between the intervention and control groups. The results of this study showed that the trained teachers in *The 101s* teacher training had significantly higher scores on positive teacher interaction practice subscales and significantly lower scores on negative teacher interaction practice subscales, compared to the teachers in the control group.

In addition, a series of multivariate analyses of covariance (MANCOVA) were employed to investigate the mean differences on each subscale of BRIEF-P between the intervention and control groups. The results showed that the students whose teachers received *The 101s* Positive Discipline training had significantly lower scores on inhibitions, emotional controls, working memory and planning/organization ($F= 5.087, 7.873, 7.230$ and 5.562 respectively, $p<.05$) as measured by the BRIEF-P, compared to the control group. Finally, bivariate-correlations were performed to examine the relationships between teacher interaction practices and executive function skills. The results showed the significant negative correlations with the use of the positive principles in *The 101s* and BRIEF-P subscale. The results indicated that *The 101s* training had an impact on teacher interaction practices and children's executive function skills. The discussion, limitations, implications, and suggestions for future research are also presented.

KEY WORDS: THE 101s: A GUIDE TO POSITIVE DISCIPLINE / EXECUTIVE FUNCTIONS / TEACHER INTERACTION PRACTICES / PRESCHOOLERS / BRIEF-P

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ผลของการอบรม 101s การสร้างวินัยเชิงบวกต่อการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัย

THE IMPACT OF THE 101S POSITIVE DISCIPLINE TEACHER TRAINING ON TEACHER PRACTICES AND PRESCHOOLERS' EXECUTIVE FUNCTION SKILLS

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บทคัดย่อ

การศึกษาครั้งนี้มีวัตถุประสงค์(1) เพื่อศึกษาผลกระทบของการอบรมครูในเรื่อง 101s การสร้างวินัยเชิงบวกต่อการใช้วินัยเชิงบวกของครู(2) เพื่อศึกษาผลกระทบของการอบรมครูในเรื่อง 101s การสร้างวินัยเชิงบวกต่อกระบวนการคิดขั้นสูงในเด็กปฐมวัยและ (3) เพื่อทดสอบความสัมพันธ์ระหว่างการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัยโดยใช้เครื่องมือ Teacher Interaction Checklist ในการประเมินการใช้วินัยเชิงบวกของครูและใช้ The BRIEF-P ในการประเมินกระบวนการคิดขั้นสูงกลุ่มตัวอย่างได้มาจากการสุ่มจากโรงเรียนอนุบาลในจังหวัดสมุทรปราการ (1) กลุ่มที่ได้รับการอบรมครูในเรื่อง 101s การสร้างวินัยเชิงบวกประกอบด้วยคุณครูจำนวน 4 ท่าน และนักเรียนที่มีอายุอยู่ในช่วง 4-6 ปี จำนวน 31 คน และ(2) กลุ่มควบคุมประกอบด้วยคุณครูจำนวน 3 ท่าน และนักเรียนที่มีอายุอยู่ในช่วง 4-6 ปี จำนวน 29 คน

ในการวิเคราะห์ข้อมูลใช้ independent *t* tests เพื่อสำรวจความแตกต่างของค่าเฉลี่ย Teacher Interaction Checklist ในกลุ่มที่ได้รับการอบรมครูและกลุ่มควบคุมผลจากการศึกษาพบว่าครูที่ได้รับการอบรมในเรื่อง 101s การสร้างวินัยเชิงบวกมีคะแนนการใช้วินัยเชิงบวกมากขึ้นและมีคะแนนการใช้วินัยเชิงลบลดลงอย่างมีนัยสำคัญทางสถิติที่ระดับ $p < .05$ เมื่อเปรียบเทียบกับกลุ่มควบคุมรวมทั้งใช้สถิติการวิเคราะห์ความแปรปรวนร่วมพหุคูณ (MANCOVA) เพื่อสำรวจความแตกต่างของค่าเฉลี่ย BRIEF-P ในกลุ่มนักเรียนที่ครูได้รับการอบรมและกลุ่มควบคุมผลจากการศึกษาพบว่า กลุ่มนักเรียนที่ครูได้รับการอบรมมีคะแนน BRIEF-P ทางด้านการบกพร่องในเรื่องยับยั้งชั่งใจ, การควบคุมอารมณ์ความจำระยะสั้นและการคิดวางแผนลดลงอย่างมีนัยสำคัญทางสถิติ (F= 5.087, 7.873, 7.230 และ 5.562 ตามลำดับ, $p<.05$) เมื่อเปรียบเทียบกับกลุ่มควบคุม สุดท้ายใช้ Bivariate-correlations เพื่อทดสอบความสัมพันธ์ระหว่างการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัยผลจากการศึกษาพบว่ามีความสัมพันธ์ในเชิงลบระหว่างคะแนนการใช้วินัยเชิงบวกของครูกับคะแนนความบกพร่องกระบวนการคิดขั้นสูงผลการทดลองบ่งชี้ให้เห็นว่าการอบรมครูในเรื่อง 101s การสร้างวินัยเชิงบวกมีผลต่อการใช้วินัยเชิงบวกของครู และกระบวนการคิดขั้นสูงในเด็กปฐมวัยในส่วนท้ายของรายงานนี้จะนำเสนอการอภิปรายผลข้อจำกัดผลกระทบและข้อเสนอแนะสำหรับการวิจัยต่อไปในอนาคต

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CHAPTER I
INTRODUCTION

1.1 Background and Rationale of the research

Neuroscientists have confirmed for decades that early childhood period is the critical development; especially brain development in the areas of emotional comprehension and executive functions (1). Numerous factors such as low cognitive stimulation, insecure attachment relationships, low socioeconomic status, inadequate social support, poor nutrition, insufficient health care, and negative teacher interaction are known as the negative influence on children's development (2). Children growing up in the more stressful environments are more likely to have maltreatment experiences that maltreatment contributed to poor developmental outcomes andacademicproblems (3-4). In contrary, children growing up in the more supportive environment are likely to develop well.

The majority of research suggested that maltreatment during the earliest years caused the high rates of cognitive delays, poor social-emotional, and hindered normal development and the progress toward appropriate milestones (3). Thereby, preschool education increasingly plays an important role in early childhood development. Specifically, social-emotional development competence such as getting along with other children, sharing, contributing tocircle time is the fundamental skills for later school success (5). One of the main factors playing a significant role in a child social-emotional development is the quality of relationships between the teacher and the child. The pertinent studies on teacher-child relationships and child development have demonstrated that teacher-child relationships have an influence on young children's social-emotional and cognitive development. Interestingly, finding from the research in the teacher and child relationships have shown that the children who had secure relationships with their teachers were significantly associated with the teachers' ratings of better social competence, fewer behavioral problems and higher levels of competence in school. The findings suggested that the warmth and positive

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teacher-child relationships may enhance the children's academic motivation, executive function skills such as attention, concentration and conscious strategies for self-control (6-7).

In contrary, the children who frequentlyreceive negative responses (*i.e.*, verbal, physical, or emotional abused, neglected) from caregivers during the first 5 year old have long terms of their adverse influences on executive functions (8). The children's executive function skills emerge during the first few years of life and it continues to strengthen significantly throughout childhood and adolescence (9). Among these executive functions that develop in the early childhood are inhibitory control, selective attention, set shifting, planning, and working memory (10). Therefore, the development that occurs during this period is important because it could provide the foundation for subsequent cognitive and social-emotional development. Other studies also indicated that complex executive functions linked to social–emotionalperformance; for example, inhibition of impulsive behavioral responses, awareness and regulation of feelings, accurate perception of the perspectives of others, correct identification of problems, and development of positive and informed problem solutions and goals (11).

The findings of previous research studied the impact of teachers' interaction practices on teacher-child relationship quality and children's school outcomes showed that the positive teacher-child relationships is particularly significant to children's social-emotional and academic development (12). According to previous research, the positive teacher-child relationships could predict the extent to which children were able to function appropriately in learning activities and engaged the instructions presented in the classroom (13). Especially, the research in the field of attachment theory has shown that the children who had got secure relationships with their teachers were significantly associated with teachers' ratings of better social competence and fewer behavioral problems and higher levels of school competence (7). As a result, there have been an increasing number of intervention programs targeting the impact of teaching practices on the developmentally appropriate skills including inhibition of impulsive behavioral responses, awareness and regulation of feelings, accurate perception of the perspectives of others, correct identification of problems, and development of positive and informed problem solutions in young

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people (14). Particularly, there areevidences that*The 101s* teacher training, an intervention program targeting the impact of positive discipline techniques on social-emotional development, built positive teachers' interaction skills, teacher-child relationship, and children's social-emotional development (15). Moreover, *The 101s*: A Guide to Positive Discipline has also been studied in preschool classrooms in Thailand and has found to increase in positive teacher-child relationship quality, children's school adjustment and achievements. The findings from the previous research studies on *The101*s training suggested that *The101*s: A Guide to Positive Discipline is a universal targeting the promotion of social and emotional competence in the preschoolers (12).

In Thailand, the teacher practices using positive discipline in order to deal with young children in the classrooms have still been limited. In contrary, negative discipline has been accepted in Thai culture and has been used in schools. Furthermore, the negative discipline in schools involves corporal (physical) or emotional punishment, carried out by teachers and other school staff, are the practices of teaching or training students to obey rules or a code of behavior (16). According to previous research, the negative discipline could hinder children's development (3). Therefore, there is a need for teacher training targeting on sensitive and responsive practices. Moreover, previous researches in the field of early childhood education focused on teacher-child relationship and positive teacher practices have shown valuable results on the positive impact of teacher-child relationship and positive teacher practices on children's development (17). However, there has been little research on any applications to the promotion of complex executive functions. Thus, the current study aimed to study the impact of *The 101*s training on teacher practices and preschoolers' executive functions in order to complement the gaps in early childhood research field. In addition, few studies have used naturalistic observations to examine the contribution of intervention programs to executive functions. The research investigating executive functions in terms of children's everyday behaviors were limited (18). The concomitant use of parent and teacher reports of children's everyday behaviors may add to the ecological validity of executive function assessments. Thus, the current research assessed Thai preschoolers' executive functions by the Behavior Rating Inventory of Executive Function- Preschool Version (BRIEF-P).

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1.2 Research Questions

1.2.1 After *The 101s* Positive Discipline teacher training, do the teachers in the training group have significantly higher scores on positive teacher interaction practices subscales and significantly lower scores on negative teacher interaction practices subscales as measured by Teacher Interaction Checklist, comparing to the teachers in the control group?

1.2.2 After *The 101s* Positive Discipline teacher training, do the students in the training group have significantly lower mean scores on BRIEF-P subscales as measured by the BRIEF-P comparing to the students in the control group?

1.2.3 Are there any correlations between teacher interactions practices as measured by Teacher Interaction Checklist and preschoolers' executive function skills as measured by the BRIEF-P?

1.3 Objectives of the study

1.3.1 To investigate the impact of *The 101s* Positive Discipline teacher training on teacher interaction practices.

1.3.2 To investigate the impact of *The 101s*Positive Discipline teacher training on preschoolers' executive function skills.

1.3.3 To examine the correlation between teachers interaction practices and preschoolers' executive function skills.

1.4 Research Hypothesis

1.4.1 After *The 101s* Positive Discipline training, the teachers in the training group have significantly higher scores on positive teacher interaction practices subscales and significantly lower scores on negative teacher interaction practices subscales,comparing to the teachers in the control group.

1.4.2 After *The 101s* Positive Discipline training, the students in the teacher training group have significantly lower mean scores on BRIEF-P subscales as measured by the BRIEF-P comparing to the students in the control group.

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1.4.3 There are some significant correlations between teacher interactions practices as measured by Teacher Interaction Checklist and preschoolers' executive function skills as measured by the BRIEF-P.

1.5 Expected Benefits

It is expected that this research can enhance the following benefits:

1.5.1 To actually learn about the impact of *The 101s*positive discipline teacher training on teacher interaction practices and students' executive function skills.

1.5.2 To acquire the guidelines of positive teacher-child relationship.

1.5.3 To equip teacher with positive practices sensitive and responsive to children's social-emotional and academic needs.

1.6 Scope of Study

The purposes of this current study were (1) to investigate the impact of *The101s* teacher training on the changes in teacher interaction practices, (2) to investigate the impact of *The101s* teacher training on changes in preschoolers' executive function and (3) to examine the correlations between teacher interaction practices and executive function skills. Therefore, the current research focused on the impact of *The 101s* Positive Discipline teacher training on teacher interaction practices and preschoolers' executive functions. After teachers have been trained in *The 101s* Positive Discipline training, this study focused on teacher interaction practices as measured by *The 101s* Teacher Interaction Checklist and preschoolers' executive functions using the BRIEF-P. The subjectswerekindergarten teachers and preschooler at ages of 4-6 who is studying at kindergarten, Educational Year 2011 under the supervision of Samutprakarn Education Service Area office, Region 2 in Samutprakarn Province, Thailand.

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1.7 Definitions

1.7.1 *The 101s* Positive Discipline is a set of research-based techniques for teaching children to be self-discipline. *The 101s* techniques were carefully studiedina lab school in the United States, a university professor in Old Dominion University, and her research team. Moreover, the teacher in*The 101s*teacher training builds positive classroom climate and helps childcare providers, parents, and teachers build children's prosocial skill development, decision-making and growth of self-regulation.*The 101s* Positive Discipline created by Dr. Katharine C. Kersey, Professor of Early Childhood Education, Darden College of Education at Old Dominion University in Norfolk, Virginia through documentation of previoustrainings and detailed researcher notes from observations of pilot trainings andprocedures at the Old Dominion University (ODU) Directors' Institute (12). This version of *The 101s* positive discipline training was designed for Thai teachers by the researcher. The chosen fifteen positive disciplines weretranslated into Thai and distributed to the intervention participants. The fifteen positive disciplinesaredivided into 2 groups as follows:

The Ten Principles of *The 101s* related to classroom behavioral management.

1.7.1.1 Make a Big Deal Principle - Make a big deal over responsible, considerate, appropriate behavior - with attention (your eyeballs), thanks, praise, thumbs-up, recognition, hugs, special privileges, incentives (NOT food).

1.7.1.2 Ask the Child Principle - Ask the child for input. "Do you think this was a good choice?" "What were you trying to accomplish or tell us with your behavior?" "What do you think could help you in the future to remember to make a better choice?" "How would you like for things to be different?" "How about drawing a picture of how you feel right now." Children have wonderful insight into their own behavior and great suggestions for ways to make things better.

1.7.1.3 Choice Principle - Give the child two choices, both of which are positive and acceptable to you. "Would you rather tiptoe or hop upstairs to bed?" ("You choose or I'll choose.") This can be used with spouses."The garage needs to be cleaned out. Would you rather do it tonight or Saturday?"

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1.7.1.4 When/Then - Abuse it/Lose it Principle - "When you have finished your homework, then you may watch TV." (No homework - no TV.)

1.7.1.5 I Message Principle – Own your own feelings. “When you leave wet towels on the bed, the bed gets wet, and I feel angry. I would like for you to hang them on the hook behind the door.”

1.7.1.6 Timer Says it’s Time Principle - Set a timer to help children make transitions. “When the timer goes off, you will need to put away your books.” “In five minutes, we will need to line up for lunch.” It is also a good idea to give the child a chance to choose how long he needs to pull himself together. “It’s okay to be upset, how long do you need?” Then allow him to remove himself from the group and set the timer. You may offer the child a choice (and set the timer) when it's necessary for him to do something he doesn't want to do. “Do you want to pick up your toys/let Susan have the wagon/take your bath -in one minute or two?”

1.7.1.7 Whisper Principle – Instead of yelling, screaming or talking in a loud voice, surprise the child by lowering your voice to a whisper. This surprise often evokes immediate attention. It also helps you to stay in control and think more clearly.

1.7.1.8 Cueing Principle - Give the child a cue such as a hand gesture to remind him - ahead of time - of the behavior you want him to exhibit. For example, teach the child that instead of interrupting when you are talking with somebody else, he is to squeeze your hand. This will let you know that he wants to talk to you (as you return the squeeze) and as soon as you can, you will stop the conversation and find out what he wants.

1.7.1.9 Divide and Conquer Principle - Separate children who are reinforcing each other’s misbehavior. Put adult between two children in a restaurant.

1.7.1.10 Empowerment Principle - Develop child's competency, skills, mastery, and independence. Encourage him to solve his own problems. Let him know that his choices will determine his future.

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The Five Principles of *The 101s* related to creating emotional support environment.

1.7.1.11 Belonging and Significance Principle – Remember that everyone needs to feel that s/he belongs and is significant. Help your child to feel important by giving him important jobs to do and reminding him that if he doesn't do them, they don't get done! Help him/her feel important by being responsible.

1.7.1.12 Get on the Child's Eye Level Principle – When talking with the child, get down on his/her eye level and look him in the eye while talking softly to him/her.

1.7.1.13 Validation Principle - Acknowledge (validate) his wants and feelings. "I know you feel angry with your teacher and want to stay home from school. I don't blame you. The bus will be here in 45 minutes."

1.7.1.14 Change of Environment Principle - If the child's misbehavior cannot be stopped, move to another room or location. (Go outside.)

1.7.1.15 Encouragement Principle – Give encouragement as often as possible. Help the child see the progress he has made. ("You got three spelling words correct. That is better than last week!" "Doesn't it feel good to be able to zip your own zipper, make your own bed, and clean up your own spills?")

1.7.2 Executive Functions (EFs) are higher-order cognitive functioning that generally refers to the mental operations involved in the conscious control of thoughts and actions (19). EFsare multidimensional include the processes of inhibition, shifting, working memory, emotional control, and plan/organize.

1.7.2.1 Inhibition is the ability to resist responding or acting on an impulse (*i.e.,* inhibit) and to stop his or her behavior at the appropriate time. Items on theBRIEF-P related to inhibition include such items as "Is impulsive" and "Acts too wild or out of control".

1.7.2.2 Shifting, or "attention switching," refers to the ability to move from one situation to another (*i.e.,* from one aspect of a problem to another) as is required by the current conditions. BRIEF-P items include "Is upset by change in plans or routines, "Becomes upset with new situations," and "Has trouble with activities that involve more than one step".

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1.7.2.3 Emotional control is the ability to modulate his or her emotional responses. Examples of the BRIEF-P items related to emotional control are “Becomes upset too easily” and “Mood changes frequently”.

1.7.2.4 Working Memory (WM) is the ability to update refers to the updating and monitoring of representations held in working memory. These processes involve the monitoring and coding of incoming information that is relevant to the task at hand, followed by the revision of items held in WM and a replacement of old irrelevant information with new relevant information. The BRIEF-P items related to WM include “Cannot stay on the same topic when talking” and “Has trouble remembering something, even after a brief period of time”.

1.7.2.5 Planning/Organization is the ability to create a plan, implement and monitoring the plan and finally reviewing the outcome. Items on the BRIEF-P related to planning/organization include such items as “completes tasks or actives too quickly”.

1.7.3 Preschoolers mean children at ages of 4-6 whom studying at Kindergarten 2, Educational Year 2011 under the supervision of Education Service Area Office, Region 2 in Samutprakarn Province, Thailand.

1.8 Conceptual framework

This research examinedthe impact of *The 101s* teacher training on teacher interaction practices and preschooler’s executive functions (*i.e.*, inhibition, shifting, emotional control, working memory and planning/organization) in Thailand. Figure 1.1 shows the conceptual frameworks.

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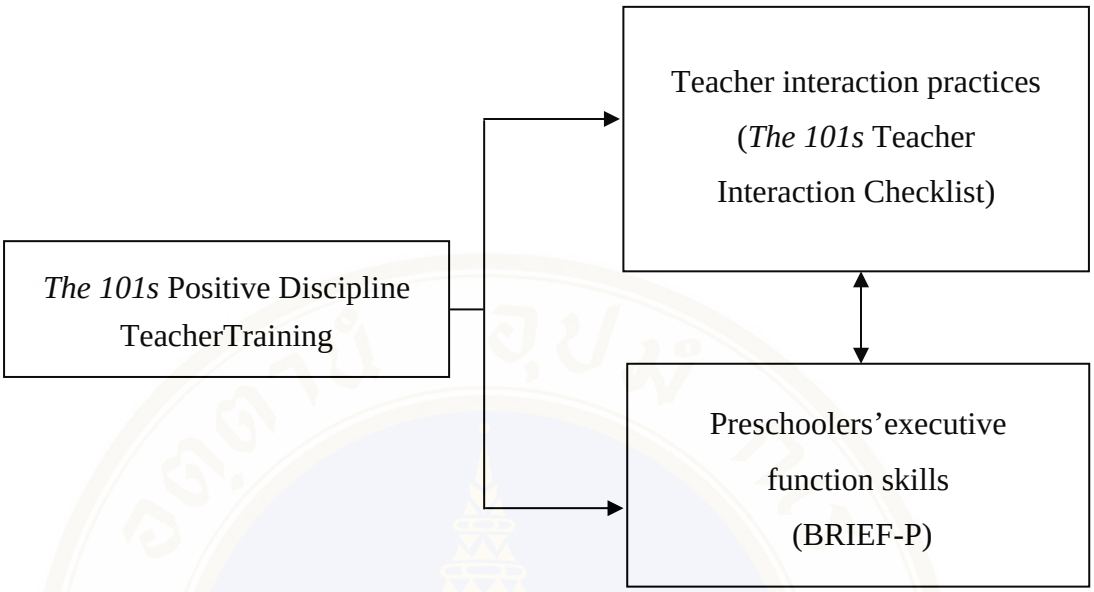

Figure 1.1 The Conceptual frameworks

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CHAPTER II
LITERATURE REVIEW

The purposes of this study were (1) to investigate the impact of *The 101s* teacher training on the changes in teacher interaction practices, (2) to investigate the impact of *The 101s* teacher training on the changes in preschoolers' executive function and (3) to examine the correlations between teacher interaction practices and executive function skills. This chapter contains a substantial amount of research in multidisciplinary regarding to the purposes of the study. The research studies on executive function, development of the executive functions, programs focusing on the promotion of executive function in preschoolers, measuring executive function skills, the relationship between executive function and social-emotional competence, and teacher practices were reviewed.

2.1 Executive Functions

Executive Functions (EFs) are higher order cognitive operations involved in the conscious control of thoughts and actions. EFs help a person control and organize behaviors and direct all cognitive activities, emotional response and overt behaviors (1). In other words, EFs have found to be highly complex sets of processes essential to the completion of everyday work in everyday life (20). It is important to note that early EFs in the preschool year have been correlated with later school readiness and social-emotional skills in the school year. For example, children with poor EFs in the preschool year, specifically inhibition are likely to have poor social interactions with other people in the school year (21-22). The factors affecting children's EFs include gender, ethnicity, and family poverty (23). The pertinent researches in EFs have focused on 5 components including inhibition, shifting, emotional control, working memory and planning/organization that contributed differentially to performance on complex EF tasks.

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2.1.1 Inhibition begins to emerge in late infancy and exhibit dramatic development in the preschool years, a pattern coinciding with age-related changes in frontal lobe maturation and connectivity (24). In young children, inhibition has been split into simple and complex inhibition. Simple inhibition requires little to no working memory ability while complex inhibition tasks require a heavier working memory. Simple inhibition tasks show a development of basic inhibition from infancy to toddler hood. Preschoolers show a greater ability to inhibit during simple tasks, moving many researchers to investigate the more complex skills available to children at that age. By the age of 3 years, children begin to inhibit certain behaviors and become able to shift to new responses. In 5-years-of-age, children continue to have a decrease in impulsivity; allowing them to inhibit initial responses relatively well (25). On the other hand, complex inhibition tasks involve holding a rule in memory while inhibiting a prepotent response, such as in a Stroop task. In a modified Stroop task, children from ages 3.5 to 7 showed developmental improvements in performance on this task, requiring children both to hold a rule in their head and to inhibit their visual input in responding (26). Similarly, even more complex games, such as Simon Says, showed an effect of age (27). Moreover, inhibitory abilities have been examined in multiple ways in the laboratory, usually under conditions of conflict, delay, or other challenges. The developmental trajectory of inhibition has been assessed by using a Go/No go task, the Eriksen Flankers task, and the Stop-signal task (28-29).

Much pertinent research on inhibition highlights the significant skills that inhibition plays in developing skills in the area of social emotional skills, self-regulation and school adjustment. Kolnik (2010) conducted a study on the relationships among children's executive functions, problem behavior, theory of mind and their school readiness with 162 preschoolers and their teachers from 17 classrooms and 6 preschools in Maiami, Florida. The children's executive functions were examined, using The Behavior Rating Inventory of Executive Function–Preschool Version (BRIEF-P).Their findings showed that the children who had lower scores on the BRIEF-P were less likely to be called out in class, less likely to hit other, and more likely to have appropriate classroom control, comparing to the children who had higher scores on inhibition. The finding suggested that children's executive functions were an important part of the theory of mind and their school readiness. The

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teachers could prevent a child from having inappropriate behaviors by early interventions based on improving children's EFs, leading to better school readiness (21).

2.1.2 Shifting is the moving attention from one mental representation to another. Previous research conducted by Fisher (2010) examined the automatic shifts of attention in the dimensional card change sorts (DCCS) tasks: subtle changes in task materials lead to flexible switching reducing with a sample of 27 preschoolers. The purpose of the research was to reduce demands on flexible switching in dimensional card change sorts tasks lead to improved performance in preschoolers. The results indicated that increasing saliency of posts witch dimesion and reducing attentional weights of individual dimension values leaded to a marked improvement in the postswithch sorting accuracy in preschoolers. Further, Fisher (2010) explained that young children with 3-year olds can have difficulty in separating features of a single object while children age 4 and above sort along both dimensions (30). Moreover, Kolnik's (2010) presented that children's shifting abilities made transitions, or problem solve in the preschool classroom (21).

2.1.3 Emotional control is a skill that takes a long time to develop but shows marked improvement in the preschool period. A study of children among 53 children age 4 to 6 years, conducted by Carlson and Wang (2007) found that children's ability to inhibit and emotion control were significantly correlated in typically developing preschoolers, even controlling for age and verbal ability (27). Moreover, in a study conducted by Garner and Power (1996) used the disappointment paradigm to measure the relationship among temperament and emotional knowledge to preschoolers' emotional control ability. Their facial displays of 82 preschoolers were recorded after they were presented a "disappointing" prize. Their mothers were asked to state about the preschoolers' temperament the frequency of positive and negative affect expressed within their families. Significant relations were found among emotional control, temperamental dimension of emotional intensity and children's understands of emotion in the children. Overall, Garner and Power (1996) concluded

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that the unique and joint contributions of temperament, and emotional knowledge in predicting preschoolers' expressive control of emotion (31).

2.1.4 Working memory has been found to gradually develop throughout childhood and into adolescence (24). Neuroimaging research suggests that the lateral areas of the prefrontal cortex (LPFC) play a central role in working memory (WM). In addition, pertinent research on the Prefrontal Cortical Activation Associated with working memory in Adults and Preschool Children: An Event-related Optical Topography Study shown that the LPFC involved in maintenance of context or task instructions. The latter may be related to the involvement of this structure in WM (32). Thus, Laboratory batteries were designed for the WM tasks vary by how much the task elicits PFC activity (33). Furthermore, the simple and complex WM tasks had a linear increase from ages 4 to 14 and a leveling off between ages 14 and 15 across nearly all tasks examined (1).

2.1.5 Planning/Organization has been associated with prefrontal cortex, in particular, dorsolateral prefrontal cortex using various neuropsychological planning tasks (34-35). On the developmental continuum, the capacities related to planning/organization are in place by four years of age that begins to display some basic planning skills on planning-based tasks (*i.e., Tower of London, Tower of Hanoi, D-KEFS Tower* subtest, and *NEPSY Tower* subtest), and continually improve and increase performance at least to 15-years of age (35). In addition, some researchers such as Bull and colleagues (2004) found that younger children have difficulty when were assessed with planning-based tasks than inhibition because they have more limited cognitive capacity. Thus, evidence of age-related neurological differences in plan/organize processing indicated that planning/organization processes continued to develop through early childhood and into adolescence (36).

In summary, researches in EFs have focused on 5 components including inhibition, shifting, emotional control working memory and planning/organization. These components affect how people think, decide, solve problem, and behave in daily activities. The EFs continue to develop through early childhood to adolescence. Moreover, the EFs are more strongly associated with developing skills in the area of

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social emotional skills, self-regulation and school readiness. Next section will focus on the development of EFs, specially the critical period in early childhood.

2.2 Development of the executive functions

Executive Functions (EFs) begin to develop rapidly in early childhood and continue to adolescence because EFs development tending to correspond with growth and development in the prefrontal cortex (25).

The developmental changes of EFs are linked to development in the prefrontal cortex (*i.e.*, growth in brain weight, increased myelination, glucose use, synaptic growth) (26). However, there remain few investigations directly exploring the behavioral expression of EFs during early development.

Moreover, there are growing bodies of research indicating differential trends in the development of EFs component processes during infancy and the preschool period (24). In the first 5 years of life, rapid improvements occur on EF tasks because the core components emerged before 3 years of age and formed a critical foundation for the development of higher cognitive processes in adulthood period. Thus, research on EFs during preschoolers has been increasingly focused. For example, Hughes and colleagues (2010) found that a unitary model of EF evidenced a good fit to preschool children's EF task performance in a longitudinal study where children were assessed at 4 and 6 years of age using a task battery that included measures of inhibitory control, WM, and planning. They demonstrated adequate measurement invariance for gender and age, with better EFs in older children. An important brain region for EFs is the frontal lobe, specifically within the prefrontal cortex (PFC) which plays a key monitoring role in EFs, but other brain areas such as posterior, cortical and subcortical regions are also involved (37).

Additionally, Carlson (2005) described that significant changes in EF processes are clearly identifiable from infancy through early childhood(38). During the preschool years, the prefrontal brain system undergoes rapid changes in synaptic development and myelination (25). At the start of the preschool period, child's brain has achieved 50 percent of its adult weight. By the age of 6, child's brain has grown to 90 percent of its weight (39). During these years, children learn to demonstrate

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sustained attention, which is governed by goal-directed behavior and impulse control. Moreover, the preschoolers' EFs, specifically emotion regulation associated the ability to focus selective attention and to apply the mental processes necessary for learning and the preschool years are a "sensitive period" for learning to regulate development of aggression. Moreover, the development of self-regulatory systems during the preschool years usually has difficulty to control coordinate their thoughts and actions based on the directions of others (40-42).

Regarding the preschool gender, Wiebe and colleagues (2007) examined the influence of socioeconomic status or sex on children's executive control by using confirmatory factor analysis. A sample of 243 preschoolers (135 girls, 108 boys) completed of executive control task. They found that girls displayed a higher level of latent executive control than boys, and children of higher and lower SES did not differ in level (43).

The previous neuroimaging research has demonstrated that individual differences in EEG activity recorded from frontal scalp locations during EF processing associated with performance on infant and preschool-age tasks. Infants with less developed EF skills exhibited no changes in EEG power values from baseline to task. Children with better performance on preschool tasks of EF demonstrated baseline-to task changes in EEG power at the medial frontal region, whereas preschoolers who performed poorly on the task showed no task-related changes in EEG power (44). However, there is less known about frontal functions from 1 to 3 years of age than during any other period of life (41). Thus, a biobehavioral investigation of preschoolers' EF has the ability to significantly inform the developmental cognitive neuroscience literature.

In summary, research in development of the EFs has focused on the critical period in early childhood and brain region for EFs, specifically the prefrontal cortex (PFC), which plays a key monitoring role in EFs. In the neuroimaging, the preschoolers who better performed on tasks of EF had baseline task changes in EEG power at the medial frontal region, comparing to the preschoolers who performed poorly on the task. Next section will focus on the programs focusing on the promotion of executive function in preschoolers.

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2.3 Programs focusing on the promotion of executive function in preschoolers

According to the purposes of the current search, this section focuses on the effective early intervention practices for preschoolers targeting the increases in EFs. Studies on cognitive training generally aim to improve children's executive functions needed for everyday activities (*i.e.*, computerized training, noncomputerized games, aerobics, martial arts, yoga, mindfulness, and classroom curricula) (45). In this section, computerized training and classroom curricula are focused.

2.3.1 Computerized training

The computerized training has showed to improve executive functions (*i.e.*, attention training, working-memory), children should repeatedly practice and assigned to the same program with difficulty increasing. These is short-duration intervention, however, the computerized training mentioned cost money. There were 2 major limitations. First limitation was that the computerized training required high cost of money. The second limitation was that the results could not apply to all children (45).

In the study conducted by Rueda and colleagues (2009), they examined the effects of computerized attention training, maturation and genetic on attention (Child ANT), intelligence (Kaufman Brief Intelligence Test, K-BIT), and parent-reported temperament (Children's Behavior Questionnaire, CBQ) with 73 4 and 6-year-old children. Rueda and colleagues reported that the 4 year-old children in the intervention group had significantly more improved, comparing to a control sample, based on their performance on the Kaufman Brief Intelligence Test (K-BIT) after the 5 days training (over a 2- to 3-week period). Nonetheless, there was no evidence on the intelligent improvement at 6 year olds as measured by improved performance on K-BIT. Furthermore, they found that attentional training programs had no effect on event-related potentials recorded from the scalp during attention network test performance (the flanker task) in either age group (46).

In addition to the previous research, Thorell and colleagues (2009) designed to investigate the effects of computerized training focusing on either visuo-spatial working memory or inhibitory control (go/no go tasks, stop-signal task, and

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Flanker task). They found in their study of 65 four to five-year-old children that children who received visuo-spatial working memory training (15 min/day during 5 weeks) had significantly improved their skills in all trained tasks. Children who received inhibition training had significantly improved on the go/no-go tasks and the flanker task but not on the stop-signal tasks. The findings suggested that the training program was able to increase only working memory among preschoolers, not inhibitory control tasks and problem solving (47).

In a more recent study, Nutley and colleagues (2011) investigated whether fluid intelligence could be improved by computerized non-verbal reasoning (NVR) training or working memory training with a sample of 101 4-year-old children. The participants were trained (15 min / day for 25 days) on visuo-spatial working memory, using computerized training, one on non-verbal reasoning (NVR) training, a combination of both, and a placebo version of the combined training. The findings indicated that the trained preschoolers in the working memory training group significantly more improved on working memory transfer tasks and the NVR trained preschoolers significantly more improved on Raven's Matrices (reasoning transfer tasks) than the placebo group. The combined group showed significantly less improvement on both because they received less practice on each. Nutley and colleagues (2011) suggested that it as possible to improve working memory with training, which could have implications for early interventions in children (48).

2.3.2 Classroom curricula

There has been growing interest in the school-based interventions. The school-based interventions may have improved preschoolers' executive functions by using language and classroom structure to create a positive classroom climate. For example, Tools of the Mind curriculum (*Tools*) was designed to build foundational skills in literacy, mathematics and promote executive functions through play, especially intentional dramatic play on the basis of Luria's (1980) and Vygotsky's (1978) theories. This view is supported by several studies that found links between The Tools of the Mind curriculum and preschoolers' executive functions (45). A recent literature review completed by Barnett and colleagues (2008) found that 88 children in Tools classrooms exhibited higher levels of executive function and had

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fewer behavior problems than 122 children in control classrooms. The findings further showed that the Tools classrooms improved preschoolers' executive functions and increased the positive student–teacher interactions (49).

Similarly, Diamond and colleagues (2007) studied 147 preschoolers on the impact of The Tools of the Mind curriculum on cognitive control. The sample has divided into 2 groups (85 in the Tools of the mind curriculum and (2 in the district curriculum) in their second year of preschool from 4 to 5 years of age. The results showed that Tools Children had significant improvement on computer-based executive function tasks than dBL children. The finding suggested that The Tools could improve EFs in preschoolers because the Tools teachers were trained in how to improve EFs for preschoolers (50).

In addition to the Tools of the Mind curriculum, the Head Start REDI program was developed and implemented in partnership with Head Start programs in Pennsylvania by the researchers at the Pennsylvania State University. Bierman and colleagues (2008) examined the impact of the Head Start REDI intervention on executive functions in the context of a randomized-controlled trial with 356 children on average 4.49 years old (*SD* = 0.31, range = 3.72–5.65) in 44 Head Start classrooms. The results showed that the Head Start REDI program promoted the improvement of the skills on two EF measures: DCCS and task orientation. Bierman and colleagues (2008) further explained that children in REDI classrooms were less aggressive than children in other Head Start classrooms (51).

In a similar study, Promoting Alternative Thinking Strategies Preschool (PATHS Preschool) curriculum was designed to enhance areas of social-emotional development and problem-solving for children 3 to 5 years old. Domitrovich and colleagues (2007) examined a randomized clinical trial evaluating an adaptation of the Promoting Alternative Thinking Strategies curriculum (PATHS) for preschool-age children in Head Start. The study sample consisted of 12 classrooms in two Pennsylvania communities participated. Teachers in the 10 intervention classrooms implemented weekly lessons and extension activities across a 9-month period. Child assessments and teacher and parent reports of child behavior assessments were collected at the beginning and end of the school year. The results suggested that after PATHS was exposed to the classrooms, preschoolers received the PATHS

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intervention had significantly higher emotion knowledge skills and were rated by parents and teachers as more socially competent compared to preschoolers in the control group peers. Furthermore, teachers rated intervention children as less socially withdrawn at the end of the school year compared to control groups (52).

A final example for classroom curricula program is the Chicago School Readiness Project (CSRP). The CSRP was designed to support children's development of optimal executive functions and provide teachers with extensive training and support on effectively managing children's dysregulated behavior. Raver and colleagues' (2011) study followed 238 children in Head Start classrooms assigned to CSRP and 229 control children on an executive function battery. Raver and colleagues (2011) suggested that CSRP teachers provided more classroom managed and more emotional support than control teachers. The CSRP children's EFs improved significantly more so than control groups. Moreover, CSRP children's improving academic skills was associated with their improving EFs (53).

In summary, researchers and educators are still attempting to identify and to develop effective interventions for improving children' executive functions: computerized training, and school curricula. The repeated practice and progressively increase the challenge to executive functions produces the benefits of programs. However, a child's willingness to improve and develop better practices is one key element. Next section will focus on the measuring executive function skill development in preschoolers.

2.4 The instruments for measuring executive function development in Preschoolers

In preschool year, researchers have used a variety of procedures to measure executive function skills, including performance-based tasks and rating scales. The performance-based tasks evaluate specific process components of executive functioning. Rating scales are observational tool that evaluate executive functioning behaviors in the everyday context. In the following the Behavior Rating Inventory of Executive Function-Preschool Version (BRIEF-P), an assessment tool for assessing executive function behavior, is reviewed.

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In 2003, the Behavior Rating Inventory of Executive Function-Preschool Version (BRIEF-P) was developed from the original BRIEF to assess everyday executive behaviors of children aged 2 to 5 years. It contains 63-items parent/teacher rating scale within five executive function domains: inhibit (16 items), shift (10 items), emotional control (10 items), working memory (17 items), and plan/organize (10 items). The items are rated on a likert scale (*never* = 1, *sometimes* = 2, *often* = 3) comparing with normative values in tables for two age groups (2–3-year-olds and 4–5-year-olds) separately by gender (boys and girls).The results reveal that high scores on BRIEF-P significantly correlate with executive function deficits (18, 54).

According to Isquith, Gioia, and Espy (2004), the BRIEF-P was used to measure in executive function deficits in preschoolers with clinically diagnosed disorders and a control group as rated by parents and teacher. A sample of 50 preschoolers between the ages of 24 and 60 months participated in the study. Isquith and colleagues (2004) noted that executive behaviors in the clinical group were rated significantly as higher levels of executive dysfunction than in control group by the BRIEF-P. These results indicated that the BRIEF-P was sensitive to detect variations in executive dysfunction and typically developing children (18).

In a more recent study, Liebermann and colleagues (2007) investigated the relation between executive function (EF), emotion regulation (ER) and theory of mind (ToM), including both performance-based measures and parent ratings in 60 children between the age of 3 and 5 years old. This study found that inhibit in the EF tasks was significantly correlated with children's displays of positive behaviors during the ER task. Parental ratings of the BRIEF-P and the ToM tasks were correlated with performance on the EF and ER task. However, the emotional control scale of the BRIEF-P was significantly correlated with ToM tasks and was significantly correlated with all other scales on the BRIEF-P after controlling for the effects of language (19).

In summary, the strengths of the BRIEF-P are simple to understand, a useful complementary instrument by which to reliably assess preschoolers' everyday executive functions in natural settings. Conversely, the weakness includes the use of the subjective ratings that are affected by rater biases. Next section will focus on the relationship between executive function and social-emotional competence.

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2.5 The relationship between executive function and social-emotional competence

Executive functions have been directly related to the development of a preschooler's social-emotional skills. They also impact overall academic and behavioral development in young children (38). In the more recent research, Ganesalingam and colleagues' (2011) longitudinal study of children between ages of 3 years 0 months and 6 years 11 months at time of injury was designed to investigate the impact of traumatic brain injury (TBI) in young children on executive functions and social competence, particularly on the role of executive functions as a predictor of social competence. Executive functions were assessed using neuropsychological tests (Delayed Alternation task and Shape School) and parent ratings on the Behavior Rating Inventory of Executive Function and Child Behavior Questionnaire. Moreover, children's social competences were assessed using the Adaptive Behavior Assessment System, Preschool and Kindergarten Behavior Scales, and Home and Community Social Behavior Scales. The finding indicated that behavioral ratings of executive functions were strongly related to social competence and the children who were better able to inhibit their behavior had better social skills and fewer behavior problems (55).

Consistently, another research on the examination of the relationship between executive function skills and behavioral outcomes with106 middle-class children during 22, 33, and 45 months, using multitask behavioral batteries. The findings showed that the executive functions, specifically inhibitory control, in young children was related to emotion regulation, fewer externalizing problems, stronger conscience, and greater committed compliance later in childhood (56).

Additionally, Hughes and colleagues consistently report that EF skills were the most important skill predicting young children's behavior and they negatively related to antisocial behavior and positively related to prosocial behaviors during peer interactions. They found that children exhibiting behavior problems had poorer EF skills in general compared to normally developing children. Within an intervention context, children exposed to a social–emotional intervention had fewer problem behaviors at one year post-intervention as compared to control children and that this intervention effect was mediated by improvements in inhibitory control (57). Although the aforementioned research, largely conducted on middle class samples, suggests that

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inhibitory control is central to the development of social–emotional competence, it is important to investigate whether this relationship holds for low-income children as well in order to understand the generalizability of these findings (58).

In summary, research in the relationship between executive function and social-emotional competence has focused on EF skills as one of the most important skills that can predict preschoolers' social-emotional competence. Next section will focus on the relationship between executive function and teacher practices, specifically the teacher-child relationship, which is a factor for enhancing the executive function skills.

2.6 The relationship between executive function and teacher practices

In this section, the review of literature focusing on the relationship between executive function skills and both negative and positive teacher practices is illustrated.

Traditionally, some conservative teachers in Thailand have been using punishment to decrease inappropriate classroom behaviors. Richmonnd (2007) noted that in Thailand, the popular strategy having been used for managing children's behaviors in the classroom is punishment. Similar to China, authority and obedience are the national tradition. The authoritarian teacher discipline that used of physical and/or verbal punishment to control the children's behavior in the classroom have been shown to have adverse effects on children's cognitive and social-emotion skills(59-60).Unfortunately, the children who have been punished by teachers are likely to exhibit disruptive behavior (poor social and emotional skills) over time (61). Several reviews of literature have concluded that punishment is associated with an increase in children's disruptive behavior.

Moreover, Deveney (2005) examined the impact of Thai culture on Thai students' behaviors in an international school in Thailand. A sample of the study included 29 primary and secondary teachers. The teacher's attitudes toward the factor differences between teaching their foreign and Thai students and Thai children's behaviors were reported by primary and secondary teachers on the Questionnaires. The results showed that the factors for teaching Thai students were a positive and

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supportive classroom environment to develop the student's confident to participate in classroom activities. The findings further showed that teachers perceived their children as passive student. In addition, the findings also indicated that the teachers expected their students not to express their feelings but instead the teachers expected the students to keep their feeling inside when they were in the classroom. As a result, when the students had negative emotions, Thai teachers were not familiar with showing the students emotional support the authors suggested that Thai teachers need to improve skills required for emotional support in classroom (62).

Gamez and his colleagues (2010) examined the relationship between physical punishment and disruptive behaviors in Spanish children. The sample of the study consisted of 1071 students. The results showed that physical punishment linked to aggression and negative outcomes for children. The researchers concluded that physical punishment could significantly reduce some disruptive behaviors. However, it could also increase the probability of deviance, including emotional disturbances, impulsive and aggressive behaviors later (63).

Moreover, the children who have been punished by teachers would be less socially and academically competent and could have detrimental effects on children's executive function development, which cut off an important avenue for learning and emotional support. Although using punitive strategies, particularly the younger levels, could decrease some undesirable behaviors (64).These punitive strategies triggered stress responses (*i.e.*, cortisol hormone) and intense pressure throughout childhood (65). In young children, using punitive strategies have produced stress reactions and elevation in cortisol level. For example, in more recent research, Talwarand colleagues (2011) examined the impact of a punitive harsh school environment on West African children's EF abilities with 63 children between 3 and 6 years of age. All children were tested on 3 EF tasks included a 'cool' (relatively non-affective) and 'hot' (relatively affective/motivational) version: delay of gratification; gift delay; and dimensional change card sort. The finding demonstrated children exposed to a harsh punitive environment had more difficulties with the EF tasks than children in non-punitive school after controlling for verbal ability (Peabody picture vocabulary test-third edition). The authors suggested that harsh punitive environment affected adverse effects on children's cognitive development (66).

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Furthermore, these punitive strategies may affect the quality of teacher-child relationships. The poor quality of teacher-child relationships may contribute to children's cortisol elevation. Several studies have investigated the effects of poor quality of teacher-child relationships on cortisol levels among preschoolers. Lisonbeeand colleagues (2008), for example, collected cortisol from 4 year-old children (*N*=191) in the two settings: (a) in the morning and afternoon in the classroom and (b) before and after a series of challenging tasks and a teacher-child interaction outside the classroom across. They found that children with poorer quality relationships with teachers were linked with higher cortisol levels increases from morning to afternoon in the classroom and outside of the classroom even. Therefore, the results from these studies demonstrated associations between teacher-child relationship characteristics and preschoolers' cortisol levels at the child-care day (67).

The chronic or repeated exposure to stress in life, especially early childhood, has been affected on children's cognitive functioning such as executive functions. For example, in the study of Blair and colleagues (2005), cortisol in saliva samples of 169 children, aged 48-60 months, was examined to assess the relations between the child's cortisol reactivity and cognitive function at daycare. Saliva samples were collected at the beginning, middle, and end of assay of cortisol. Results indicated that moderate increase in salivary cortisol during the testing session was positively associated with better performance on executive function tasks (68).

Blair and colleagues (2010) further explained that possible stress hormones (*i.e.,* glucocorticoids and catecholamines)modulate PFC neural circuitry associated with the self-regulation of behavior and executive functions, especially chronic or repeated exposure to stress in early childhood. In both human and animal studies, glucocorticoids and catecholamines levels demonstrate an inverted U-shaped relation with EFs. Hypercortisolismor hypocortisolism are associated with problems with EFs, whereas moderately higher levels are associated with better performance on measures of EFs (69).

For the relationship between executive function skills and positive teacher practices, the findings from previous research suggested that positive discipline techniques used in the classroom lead to a more effective way to manage students in prekindergarten and kindergarten classroom. The positive disciplines contribute to

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secure teacher-child relationships (70). According to Attachment Theory, the quality of teacher-child relationships is fundamental for children's academic and social-emotional development (71). Research strongly supports the importance of teacher-child relationship in predicting increased positive relationship with others in elementary school. For example, the children with histories of undesirable classroom behaviors who developed positive relationships with teachers have predicted the decrease of undesirable classroom behaviors in subsequent school years (72). On the other hand, children who had negative or conflict relationships with teachers were linked to poor academic performance, and difficulty interacting with others in elementary school (73).

In a study by Mashburn and colleagues (2008), their of a sample of 2,439 children among 4-year-olds and 671 teachers examined the impact of the teacher-child interactions on development of academic, language, and social skills. They found the teacher-child interactions were more likely to lead to better academic, language outcomes and teachers' emotional interactions associated with children's social skills. In addition, the researchers suggested that positive teacher-child interactions can facilitate children's school readiness (7).

In the pilot study conducted by Baker-Henningham and colleagues (2009), they studied the impact of the Incredible Years Teacher Training program on social and emotional skills in Jamaica preschools. The study sample consisted of 21 children and 27 preschool teachers. By using the Teacher-Pupil Observation Tool measuring the positive and negative teacher practice, they found the trained teachers had significantly increased positive behavior (*i.e.*, use of praise, describing what children are doing) and the promoting children's social and emotional competence (*i.e.,* talking about feeling and promoting friendship skills), and significantly reduced negative behaviors (*i.e.*, critical comments, physical punishment). Moreover, the structured observations of four observer ratings: two rating scales measuring the child's behavior and two rating scales measuring classroom climate were conducted in the study, they found that the children in the teacher training had significantly more appropriate classroom behavior than control group. The authors suggested that the teacher-child relationship also benefited classroom climate with increases in opportunities provided for children to improve social and emotional skills (74).

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Additionally, the previous research of techniques of *The 101s* Positive Discipline in the United States with a sample of 34 preschool classroom studied b Masterson (2008) found significant increases in teacher interaction quality as measured by *The 101s*Teacher Interaction Checklist for responsive social emotional support and positive behavior redirection. Moreover, the results also showed that teacher interaction practices were highly positively correlated with children's prosocial skills, including self-control, compliance, emotional regulation, attention, helping, asking, sharing, and cooperation. The findings suggested that *The 101s* training had an impact on the significant increase in over classroom quality (15).

On the other hand, researchers such as Reinke and colleagues (2008) found the relationships between teacher's positive classroom management skills and the students' academic achievement and appropriate classroom behavior. The purpose of their study was to evaluate the effects of teacher's positive classroom management skills on student behavior. The sample included four White female general education elementary teachers and their students in the Pacific Northwest region of the U.S. Results indicated that teacher's positive classroom management skills, including increased use of praise, use of behavior specific praise, were associated with students' decrease disruptive behavior in classroom (75).

Much research has studied the relationships between teacher interaction skills and children's social-emotional development and academic achievement. For example, Denham and Burton (1996) examined the impact of teacher interaction skills on children's social-emotional skills and achievement with at-risk 4 year-old children who lived under chaotic and stressful conditions. They found that the teachers received the training (*i.e.,* building teacher-child relationship, understanding emotions, and interpersonal cognitive problem-solving) were able to build positive teacher-child relationships. The findings further showed that the intervention children whose teachers received the training would show significantly increased social-emotional competence compared to the control group. The authors suggested that the building positive teacher-child relationship were important for at-risk children (76).

In Thailand, other researches were also demonstrated that *The 101s*: A Guide to Positive Discipline Teacher Training associated increased the teacher interaction practices, the quality of the teacher-child relationship, students' school

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adjustment and school achievement (12). Moreover, the students' self-directedness scores also had significant correlation with parents' use of *The 101s* Positive Discipline techniques. In addition, *The 101s*: A Guide to Positive Discipline Parent Training parents' interactions also showed significantly correlation children' school achievement and self-directedness scores (77). Previous research in Thailand suggested that *The 101s*: A Guide to Positive Discipline training is an effective intervention for increasing Thai positive parenting skills, the teacher-child relationship and children's school adjustment (12).

Summary

Previous research has shown the relationship between executive functions (EFs) and the development of a preschooler's social-emotional skills, academic and behavioral development in young children. EFs should be emphasized in order to help children succeed in their life. As a result, there are many intervention programs designed to improve children's EFs skills such as training, noncomputerized games, aerobics, martial arts, yoga, mindfulness, and teacher-child interactions. The current study focused on teacher-child interactions. The warmth and positive teacher-student interactions have consistently been proven to be linked to increase of child's willingness to devote time to the EFs interventions, academic motivation, enthusiasm in class activities, and emotional regulation.

Previous research found that *The 101s*: A Guide to Positive Discipline teacher training had significant effect on forming positive teacher-student relationships and developing preschoolers' social-emotional and academic competence in the classroom. Thus, the purpose of the current study is to examine the impact of *The 101s* teacher training on the changes in preschoolers' executive functions in kindergarten classroom in Thailand. The next chapter describes the methodology of this research. Through this chapter, the setting and population, variables, measurement instruments and data collection procedures and data analysis.

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CHAPTER III
METHODOLOGY

This chapter describes the methodology and procedures of this research. The topics are as followed: research questions and hypotheses, the population, intervention, variables, measurement instruments, data collection, ethical issues and data analysis.

3.1 Populations and Sample Group

3.1.1 Populations of the research

Previous research related to *The 101s* Positive Discipline teacher training was conducted in Bangkok. The researcher suggested that the impact of positive teacher interaction onteacher interaction practices and preschoolers' executive function skills could be further studied in rural areas. Therefore, the population of the current study is the kindergarten teachers and their students at ages of 4-6 studying in kindergartens for the educational year 2011 in a rural area in Thailand.

3.1.2 Sample group

The sample groups of this research were 60 preschoolers at ages of 4-6 who were studying at studying in kindergarten, Educational year 2011 under the Samutprakarn Education Service Area Office, Region 2, as well as 7 teachers of those children. The sample groups were selected by the Multistage Random Sampling as per the following step:

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The Multistage Random Sampling was applied as the following steps:

3.1.2.1 Samutprakarn Province consists of 2 education regions.One of two regions was selected by the simple random sampling. The Education Service Area Office, Region 2 was selected.

3.1.2.2 The researcher utilized systematic random sampling to select participated schools by sending an e-mail and making a phone call to every fourth kindergartens of the list of kindergartens in Education Service Area Office, Region 2. The training and control schools were the first two schools that agreed toparticipate in the current study (*i.e.,* Pasinee Kindergarten and Anuban chumchonbangbou Kindergarten). Thus, the sample of study consisted of 7 kindergarten teachers and 60 four to six years-old students enrolled in kindergarten 2, May 2011.

3.1.2.3 Questionnaires also were developed in order to control the confounding variables of the sample attending in the two schools.Therefore, the teachers and the students in kindergarten of both schools were chosen. Four to six year-old students were chosen because previous research showed that the cognitive executive function was the function that developed continually. Therefore, it was necessary to control the age of the subject. The students of kindergartens whose teachers received *The 101s* training were the intervention group and the students in other kindergartens whose teachers received no *The 101s* training group were in control group. The background of the sample in the control group such the parents' socio-economic status, parent education, and teacher education were similar to those in the intervention group.

3.1.2.3 The number of the sample size of the current studywas based on the sample size principle suggested by Polit and Hungler (1995), recommended the sample of 20-30case. For comparison purpose, the number of sample in each group should not be less than 10 cases depending on the research design. Moreover, limited sample size was due to high cost of the instrument used for data collection (78). The sample size of the current research included 4 teachers who received *The 101s*teacher training and their 31 children in the intervention group and 3 teachers and 29 children in the control group. The sample size of the study met the requirement.

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There were the inclusion and exclusion criteria for both intervention group and control group. The factors affecting teacher practices and preschoolers' executive functions skills were evaluated in order to control confounding variables. The factors for the inclusion and exclusion criteria were showed as follows,

Inclusion criteria

Kindergarten Teachers

- The rage of years of teaching experiences in the kindergarten is 1 to 15.
- Agree to participate to this study and consent form signed.
- Know the child well (*i.e.*, at least 1 month)

Preschoolers

- Gender: Boys and Girls.
- Ages ranging from 48 to 72 months.
- Agree to participate to this study and consent form signed by their parent.

Exclusion criteria

Kindergarten Teachers

- Disagree to be studied and refuse to sign the consent forms for the experiment.
- The rage of years of teaching experiences in the kindergarten is more than 20 years.

Preschoolers

- The general information of preschoolers such as parent's education, family income that was not in the normal distribution.
- History of a problem prenatal, perinatal or neonatal period.
- Disorder of Cognitive difficulties or attention problems which diagnosed by neurological specialists.

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- Disagree to participate to this study and consent form signed by their parent.

In conclusion, there were 60 children at ages of 4-6 whose parents allowed to participate in the research and 7 kindergarten teachers who agreed to participate in the research. The sample was divided into two groups. First, 4 teachers who received *The 101s* training and their 31 children were assigned to the intervention group. Second, 3 teachers who received no training and 29 children were assigned to the control group. It was important to note that two students were not included in the final sample because their parents did not complete the posttest rating scale on the BRIEF-P. Thus, for the posttest parent rating scale, only 58 students remained. In which students in the intervention group included 30 students and students in the control group included 28 students.

3.2 Intervention

3.2.1 Teacher Training

The teachers volunteered to participate in *The 101s* teacher training in 1 half-day session of *The 101s* Positive Discipline training by *The 101s* professional trainer. *The 101s*: A Guide to Positive Discipline manual was given to the trained teachers. The topics for the training included (a) the significance of positive teacher-child relationships to preschoolers' executive function skills, (b) the impact of teacher interaction strategies on brain development, and (c) the significant of social and emotional development to preschoolers' executive functions. Then, the teachers in *The 101s* teacher training group were introduced to the fifteen principles positive principles (*i.e.*, Make a Big Deal Principle, Ask the Child Principle, Choice Principle, When/Then - Abuse it/Lose it Principle, I Message Principle, Timer Says it's Time Principle, Whisper Principle, Cueing Principle, Divide and Conquer Principle, Empowerment Principle, Belonging and Significance Principle, Get on the Child's Eye Level Principle, Validation Principle, Change of Environment Principle and Encouragement Principle). In addition, the trained teachers received a timer as additional tool for using Timer Principle as part of the research implementation.

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Teachers in the control school received no training during collecting data. The teachers in the control group used their regular school curriculum and services. However, after collecting data, the teachers in the control group received *The 101s* teacher training.

3.2.2 Following up process

The teachers in *The 101s* teacher training group were asked to participate in 4 following up sessions of *The 101s* teacher training. The trained teachers met with the researcher approximately two hours on 4 Fridays. The trained teachers were asked to record the principles they used in their classrooms each day and the results of using positive discipline in *The 101s* record form. The purposes of *The 101s* record form were (1) to establish the criterion validity and (2) to affirm that the use of *The 101s*principles was actually used by the trained teachers during the research. Each session, the trained teachers were required to bring the record form and share their experiencesin the group discussion with the researcher and *The 101s* professional trainer. The following up sessions focused on group discussion concerning the feedback, comment, and questions about the use of the positive discipline. Moreover, the trained teachers were given extensive support through 24 hours crisis intervention as needed, daily telephone contact with the researcher and *The 101s* professional trainer. Finally, both teachers in *The 101s* teacher training and control groups were given the incentive such as recompense for participation in the study after completely data collection.

3.3 Independent variables and dependent variables

Independent Variable is *The 101s* teacher training in this study.

Dependent Variables are teacher practices and preschoolers' executive functions.

Confounding Variables are gender, status, extracurricular activity and educational background of parents and teachers.

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3.4 Instruments

In this research, 2 questionnaires and 2 standardized instruments were used as follows.

3.4.1 Questionnaires

3.4.1.1 The general information questionnaires of teacher, which comprised Questions about gender, age, status, level of education and income.

3.4.1.2 The general information questionnaires of preschoolers have developed to control confounding variables such as gender, status, extracurricular activity and level of education. There are 20 questions 2 parts different.

Part 1: The general information of parent of preschoolers. There are 6 questions

Part 2: The general information of preschoolers. There are 14 questions such as gender, age, health, daily activity.

3.4.2 Standardized Instruments

3.4.2.1 *The 101s* Teacher Interaction Checklist.

***The 101s* Teacher Interaction Checklist** is designed and was developed by Thanasetkorn (2009). The purposes of *The 101s*Teacher Interaction Checklist were (1) to assess the frequency of the use of teacher positive and negative interaction to the children in the kindergarten classroom and (2) to assess the intervention integrity. *The 101s* Teacher Interaction Checklist was piloted in Thai kindergarten classrooms to ensure the validity.

The 101s Teacher Interaction Checklist consists of 2 parts: Positive Interaction Checklist and Negative Interaction Checklist.

For Positive Interaction Checklist, there are 2 sessions. The first session contains 15 principles of *The 101s* related to the classroom behavioral management skills, including Make a big Deal Principle, Ask the child Principle, Choice Principle, When/Then Abuse it/Lose it Principle, I Message Principle, Timer Says It's Time Principle, Whisper Principle Cueing Principle, Divide and Conquer principle, Empowerment Principle, are drawn from *The 101s* Teacher Interaction Checklist (16). The second session contains5 principles of *The 101s related to* the

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positive emotional support skills, including Belonging and Significance Principle, Get on the child' Eye Level principle, Validation Principle, Change of Environment principle, Encouragement Principle.

All items in the Positive Interaction Checklist subscale are written in a 3-point Likert-type scale, ranged from Not characteristic = 1 (happened 1-2 times with 20 minutes), Somewhat characteristic = 2 (happened 3-5 times with 20 minutes), Usually characteristic = 3 (happened 6 and over times with 20 minutes). The observation system contained four time observations by two trained observers. The inter-rater reliability agreement was .80 to .89.

For Negative Interaction Checklist, there are 3 sessions.The first session contains 5 items related to critical/harsh, including seems critical of the children, speak with irritation or hostile to the children, threatens children in trying to get attention and in control, embarrass a child in front of the class, and seems unnecessary harsh when scolding or prohibiting children.The second session contains 4 items related to verbal punishment, including talk to the children with explanation, reprimand the children when they misbehavior, find fault easily with children, seems to prohibit many of the things the children want to do. Finally, the third session is the use physical punishment. There are 3 assessment levels for each item: not characteristic = 3 (happened 1-2 times with 20 minutes), somewhat characteristic = 2 (happened 3-5 times with 20 minutes), usually characteristic = 1 (happened 6 and over times with 20 minutes).

3.4.2.2 The Behavior Rating Inventory of Executive Function–Preschool Version® (BRIEF®-P)

Figure 3.1 The Behavior Rating Inventory of Executive Function–Preschool Version® (BRIEF®-P).

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The BRIEF-P is a standardized psychoanalytical tool that designed to assess executive function in preschoolers' everyday behavior by parents, teachers, and other caregivers.The BRIEF-P consists of a single rating form with 63 items in five clinical scales that measure the following aspects of executive functioning: inhibit, shift, emotional control, working memory, and plan/organize. There also are two Validity scales: Negativity and Inconsistency. The BRIEF-Prequires that the rater have at least a fifth grade reading level and 10-15 minutes to complete. In addition, the rater should know the child well (*i.e.*, at least 1 month). Raters are asked to determine the level of each item as to whether it is never, sometimes, or often a problem for the child (never = 1, sometimes = 2, and often = 3). Raw score responses are converted to T-scores, separated by gender. The higher T-scores indicate an increased degree of executive function difficulties. The BRIEF-P can be administered by technically trained individuals, but should be interpreted by appropriately trained professionals with experience in clinical assessment.Higher T-scores indicate the possibility of executive function difficulties. T-scores within the range of 60 to 69 suggest that the child may be *at risk* of executive function difficulties, where as T-scores of 70 and above, suggest that the child may have *clinically significant* executive function challenges that warrant further intervention.

The strengths of the BRIEF-P include easy administration and scoring, a user-friendly manual that is well organized visual information to explain technical information, a summary and profile forms that aid in interpretation and explanation of results, an adequate standardization sample, a sound theoretical basis of executive functioning, the usage with children diagnosed with childhood disorders, such as autism, and the observation of behavior in natural settings. Conversely, the weaknesses include the use of the subjective ratings that are largely influenced by how well the rater knows the child.

3.5 Data collection

3.5.1 The informed letters were sent to the faculty of Graduate Studies to get a Letter of Recommendation and permission for data collection. Then, Letter of Recommendation, and permission for data collectionwere submitted to school

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directors of thetargeted schools. The letter indicated objectives, expected benefits and data collection process of this research.

3.5.2 The consent forms and questionnaires were distributed to the teacher and parents of the students in the intervention and control groups and were collected in June, 2011. Table 3.1 demonstrated the period of the measurements.

Table 3.1 The period of the measurements

The period	The measurements
Week 1-2	Before *The 101s* Positive Discipline teacher training, intervention and control teachers' interaction practices were observed by 2 observers, using *The 101s* Teacher Interaction Checklist at pretest.
3rd weeks	Before *The 101s* Positive Discipline teacher training, the BRIEF®-P was completed by parents and teachers at pretest.
4th weeks	*The 101s*Positive Discipline teacher training for the intervention teachers.
9-10th weeks	After *The 101s* Positive Discipline teacher training, intervention and control teachers' interaction practices were observed by 2 observers, using *The 101s* Teacher Interaction Checklist at posttest.
16th weeks	After *The 101s* Positive Discipline teacher training, the BRIEF®-P was completed by parents and teachers at posttest.

3.5.3 Before *The 101s* Positive Discipline teacher training, intervention and control teachers' interaction practices were observed by 2 observers, using *The 101s* Teacher Interaction Checklist at pretest.

3.5.4 Before *The 101s* Positive Discipline teacher training, the BRIEF®-P was completed by parents and teachers at pretest.

3.5.5 After *The 101s* Positive Discipline teacher training, intervention and control teachers' interaction practices were observed by 2 observers, using *The 101s* Teacher Interaction Checklist at posttest.

3.5.6 After *The 101s* Positive Discipline teacher training, the BRIEF®-P was completed by parents and teachers at posttest.

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3.5.7 These scores were analyzed, using *t*-test and MANCOVA.

3.5.8 The results and discussion was written in approximately in December 2011, respectively. Write the results and discussion.

3.6 Ethics

The research was approved by the Committee on Human Rights Related to Research Involving Human subjects of the Mahidol University. The eligible participants were approached and asked to participate in the study. The researcher introduced self to the teachers and parents and explained the objectives, methods, characteristic of the instruments and expected benefits of the study in non-technical terms. The protection of human rights was given to the participants and indicated their willingness to participate by signing a consent form. The informed consent from was sign from all teachers and parents before the study. The researcher allowed the participants to ask for any additional information whenever they felt uncertain on the study. The participants could stop or withdraw from the study at anytime without any affected.

3.7 Data analysis

The statistic computer programs were used to analyze the obtained data on the following process:

The descriptive statistic for the sample background characteristics was used to explain general data of subjects. Then, descriptive statistics (means and standard deviations) for the total score from each subscale of *The 101s* Teacher Interaction Checklist was presented separately for each group.

An independent sample *t*-test was utilized to evaluate the mean differences on Teacher Practices between the intervention and control groups.

The inferential method of data analysis, multivariate analysis of covariance (MANCOVA) at an alpha level of .05 ($p<.05$) was utilized to evaluate the mean differences on dependent variables (BRIEF®-P score) between the intervention and control groups.

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Finally, bivariate correlation was utilized to examine the relationships between the mean subscale scores of *The 101s* Teacher Interaction Checklist and the BRIEF-P.

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CHAPTER IV
RESULTS

This study examined the impacts of *The 101s* Positive Discipline teacher training on teacher interaction practices and preschoolers' executive functions. In addition, the correlations between *The 101s* Positive Discipline teacher training on teacher interaction practicesand preschoolers' executive function skills were examined.

This chapter presents the results of the study which aredescribed in the following 4 sections. First section describesthe preschoolers' demographic data and background in each group, including family background, and teachers' demographic data and background in each group (see Appendix: Questionnaires). Next,second section presentsthe results of the analysis that focuses on the research questions 1, concentrating on the impact of *The 101s*Positive Discipline teacher training on teacher interaction practices, as measured by Teacher Interaction Checklist. The results of the analysis, using *t*-test that utilized to evaluatethe mean differences on each subscale of theTeacher Interaction Checklist between *The 101s* teacher training group and control group were followed. Furthermore, third section describesthe results of question 2, concentrating on the impact of *The 101s* Positive Discipline teacher training on children's scores on executive function skills, as measured by the BRIEF-P. The results of the BRIEF-P were analyzed for parent and teacher ratings.The subscale scores of the BRIEF-P were analyzed using multivariate analysis of covariance (MANCOVA) tests that calculated to evaluate the significance ofmean differences on each subscale of the BRIEF-P between intervention and control preschooler groups. Finally, section 4 shows the final research question asked whether the relationship between teacher interactions practices and executive function of students, using the bivariate correlation analysis.

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4.1 Section 1: Results of descriptive statistic analysis for the demographic data and background of preschoolers.

In this section, descriptive statistic analysis is utilized to explain the two dimensions of the preschooler background in the intervention and control groups: (1) the demographic data and background of preschoolers, and (2) family background.

Table 4.1 Number & Percentage mean of demographic characteristics of preschool children (n=60)

General Characteristics	School Number (%)		Total Number (%) n=60
	Intervention school n=31	Control school N=29	
Gender			
- Boy	15 (48.4)	17 (58.6)	32 (53.3)
- girl	16 (51.6)	12 (41.4)	28 (46.7)
Age ($\bar{x}$=54 , SD=4.5 , Min=48 , Max=71)			
- 48- 60 months	18 (58.1)	15 (51.7)	33(55.0)
- 61-72 months	13 (41.9)	14 (48.9)	27 (45.0)
Children's health status			
- healthy	26 (83.8)	27 (93.1)	53 (88.3)
- weak	5 (16.2)	2 (6.9)	7 (11.7)
Time for sleeping			
- less than and 8 hour	13 (41.9)	10 (34.5)	13 (21.7)
- More than 8 hour	18 (58.1)	19 (65.5)	47 (61.7)

The first dimension is the demographic data and background of preschoolers as described in Table 4.1. The total numbers of preschoolerswere 60 children from 2 kindergarten schools in Samutprakan, with 53.3% boys and 46.7% girls. The age of the preschoolers werebetween 48 to 60 months, with average age of 54 ± 4.5 months. The majority of preschoolers(88.3%) did not have underlying disease during the study. Moreover, all preschoolers did not have evidence of psychiatric or

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neurological disorders. The results showed that the majority of preschoolers (61.67%) slept at night more than 8 hours/day while 21.67% of preschoolers slept at night less than and 8 hours/day.

The sample was divided into two groups, intervention group and control group. In the intervention group, there were 31 preschoolers (15 boys, 16 girls). The average age of preschoolers was 54 months (range 4 years to 5 year). The majority of the preschoolers (83.9%) had not been on medication during the study. No preschoolers had a history of behavioral or attentional problems, or had evidence of psychiatric or neurological disorders. The results showed that 58.1%ofthe preschoolers in the intervention groupslept at night more than 8 hours/day while 41.93% of children in the intervention groupslept at night less than and 8 hours/day (Table 4.1).

In the control group, there were 29 preschoolers between the ages of 48-60 months, with 17 boys and 12 girls. All preschoolers were healthy. The results showed that 65.51% of the preschoolersslept at night more than 8 hours/day while 34.48% of the preschoolersslept at night less than and 8 hours/day (Table 4.1).

In conclusion, the majority of the sample in both groups had similar in gender, age, children's health status and time for sleeping. Based on previous research, the results suggested that age and gender may have an effect on cognitive development. Therefore, gender and age wereused as covariates in order to covariate out theses confound variables in this study.

The second dimension is family background as described in Table 4.2. Approximately 95% of the parents were the mothers of the participants who were main caretakers. The majority of the sample group (43.3%) earned monthly income in the range of 10,001-20,000 baths while 25% earned monthly income in the range of 20,001-30,000 baths. 26.67% of the parents was the factory employee, about 20% was the merchant and Governmental officer/State Enterprise officer and about 16.67% was the labor. All of parents had completed a high school education. The average parent's education (48.3%) was a bachelor degree. About 20% reported a high school diploma or equivalent, and 1.67% reported some education beyond bachelor degree.

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Table 4.2 Number& Percentage mean of demographic characteristics of parents (N=60)

Characteristics	School Number (%)		Total Number (%) n=60
	Intervention school n=31	Control school n=29	
Family income (bath per month)			
- < 10,000	1 (3.2)	3 (10.3)	4 (6.7)
- 10,001-20,000	11 (35.6)	15 (51.7)	26 (43.3)
- 20,001-30,000	8 (25.8)	7 (24.1)	15 (25.0)
- 30,001-40,000	5 (16.1)	1 (3.4)	6 (10.0)
- 40,001-50,000	5 (16.1)	2 (6.9)	7 (11.7)
- > 50,000	1 (3.2)	1 (3.4)	2 (3.3)
Occupation			
- Labor	5 (16.1)	5 (17.2)	10 (16.7)
- Governmental officer	8 (25.8)	4 (13.79)	12 (20.0)
- Factory employee	6 (19.4)	10 (34.48)	16 (26.7)
- Housewife	1 (3.2)	0 (0.0)	1 (1.7)
- Merchant	5 (16.1)	7 (34.5)	12 (20.0)
- Others	6 (19.4)	3 (10.3)	9 (15.0)
Level of education			
- High school	8 (25.9)	10 (34.5)	18 (30.0)
- Diploma	5 (16.1)	7 (24.1)	12 (20.0)
- Bachelor degree	17 (54.8)	12 (41.4)	29 (48.3)
- Master degree	1 (3.2)	0 (0)	1 (1.7)

In intervention group, the Table 4.2 showed that most of the parents (98.8%) were the mothers of the participants. The majority of the sample group (35.6%) earned income in the range of 10,000-20,000 Bath per month. For parents' occupation, most of the parents (25.8%) were the Governmental officer/State Enterprise officer, about 19.35% was the factory employee and other and about 16.13% was the labor and merchant. For parent's education, 54.8% was a bachelor

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degree, 25.9% reported a high school diploma or equivalent, and 3.2% reported some education beyond bachelor degree as described in Table 4.2.

In the control group, all parents were the mothers of the participants. The majority of the sample group (43.3%) earned income in the range of 10,000-20,000 Bath per month. All of the parents had completed a high school education. The results showed that most of occupations (34.48%) were the factory employee, about 34.5% were the merchant and about 17.24% were the labor. The average parent's education (41.4%) was a bachelor degree, 34.5% reported a high school diploma or equivalent as described in Table 4.2.

It is important to note the some background variable could not be computed because the data could not be collected. Therefore, these variables could not be used to explain the sample as well as to perform in MANCOVA as covariates.

4.2 Section 2: The impact of *The 101s* teacher training on change in teacher interaction practices

For research Question I: After *The 101s* teacher training, do teachers in *The 101s* training group have higher measures of positive teacher interaction subscale scores and lower measures of negative teacher interaction subscale scores than control teachers who not trained in *The 101s* training as measured by *The 101s* Teacher Interaction Checklist? *The 101s* teacher training, teacher gender, educational level, and years of teaching experience were expected to predict the changes in teacher interaction practices. However, since all teachers were female andthe majority of the teachers had a B.A degree in early childhood education, teacher gender and educational levels and the number of years of teaching experience were not included as variables in the analysis. The change scores for *The 101s* Teacher Interaction Checklist subscales were created by subtracting posttest scores from pretest scores in order to quantify the changes. The change scores of *The 101s* Teacher Interaction Checklist subscales increased after *The 101s* teacher training, to negative indicating that the posttest means scores of *The 101s*Teacher Interaction Checklist subscales decreased after *The 101s* teacher training. Table 4.3 showed the descriptive statistical of the groups' means and standard deviations as measured by *The 101s* Teacher Interaction Checklist.

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Table 4.3 Standardized means (and standard deviation) for *The 101s* Teacher Interaction Checklist.

***The 101s* Teacher Interaction Checklist.**	**Trained teachers (n = 4)**	**Control teachers (n = 3)**	***p*-value**
Positive Classroom Management	0.193 (0.100)	-0.023 (0.064)	**0.024***
Positive Emotional Support	0.000 (0.173)	0.003 (0.153)	0.980
Critical/ Harsh	-0.058 (0.339)	0.147 (0.157)	0.385
Verbal Punishment	-0.525 (0.121)	-0.113 (0.146)	**0.009***
Physical punishment	-0.625 (0.750)	0.833 (0.763)	0.053

Note: The mean scores were calculated by subtracting posttest scores from pretest scores in order to quantify the change.

**p*<0.05, two-tailed.

For inferential statistics,independent samples *t*-tests were performed to evaluate the significance of the mean differences between the two group of independent variable (*i.e.,The 101s* teacher training group, and control group)on the subscale scores of *The 101s* Teacher Interaction Checklist (*i.e.*, positive classroom management skills, positive emotional support skills, critical/harsh practices, verbal punishment practices, and physical punishment).The results, as illustrated in Table 4.3, showed that there were significant difference in the mean scores on positive classroom management skills, and verbal punishment between *The 101s*trained teacher group and control group at alpha level of 0.05 (*p.*<0.05).It indicated that *The 101s* teacher training had an effect on the change scores on positive classroom management skills and verbal punishment. The teachers in *The 101s* trained teacher group had significantly higher mean scores on positive classroom management skills, comparing to the teachers in the control group (M=-0.02, SD=0.06). Together, the teachers in *The 101s* trained teacher group had significantly lower mean scores on verbal punishment (M=-0.53, SD=0.12), comparing to the teachers in the control group (M=-0.11, SD=0.14). However, no significant difference was found between *The 101s* trained teacher group and control groups on positive emotional support, critical/ harsh and physical punishment. Therefore, it can be concluded that the variance of group mean differences for positive classroom management skills and verbal punishment are statistically related to *The 101s* teacher training.

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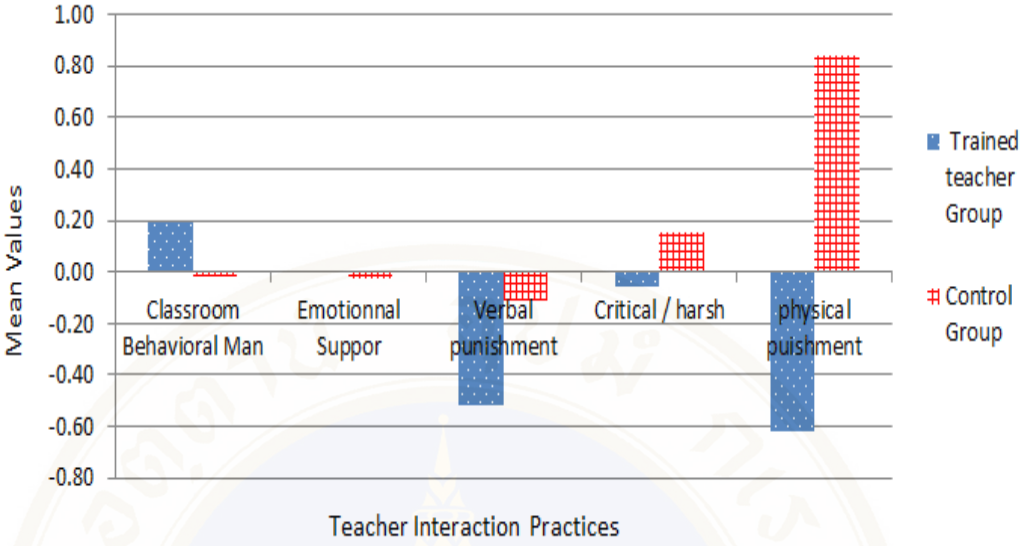

Figure 4.1 The Comparison between Groups on the changes of *The 101s* Teacher Interaction Subscale Scores

Figure 4.1 presents the comparison between the mean scores on Teacher Interaction Practices of the teachers who received *The 101s* teacher training and the teachers in the control group scores of teachers who did not receive *The 101s* teacher training in the teacher interaction practices. For teacher interaction skills, *The 101s* teacher training groups statistically and significantly had higher increase in positive classroom management and decrease in verbal punishment practices, comparing to the teachers in the control group.

4.3 Section 3: The comparison between the executive function skills of the intervention and control preschoolersas measured by Behavior Rating Inventory for Executive Function, Preschool Version (BRIEF-P)

Research Question 2: After *The 101s* teacher training, do preschoolers in *The 101s* training group have lower measures of BRIEF-P subscale scores than control group as rated on the BRIEF-P by parents and teachers. To investigate the group difference between the intervention and control preschoolers, a MANCOVA was performed.

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Table 4.4 Descriptive Statistics of the BRIEF-P Parent Rating

The subscales	Schools	N	Mean(SD)	Skewness	Kurtosis
Inhibition	Intervention preschoolers	30	-1.700 (3.798)	0.456	0.192
	Control preschoolers	28	-0.643 (4.218)	0.203	-0.155
Shifting	Intervention preschoolers	30	-2.367 (4.958)	0.033	-0.791
	Control preschoolers	28	-1.214 (4.375)	0.341	-0.515
Emotional control	Intervention preschoolers	30	-0.600 (4.157)	0.498	-0.350
	Control preschoolers	28	-2.286 (4.099)	0.805	0.147
Working memory	Intervention preschoolers	30	-2.133 (4.783)	0.550	0.158
	Control preschoolers	28	-0.750 (3.950)	0.281	-0.313
Plan/Organize	Intervention preschoolers	30	-0.767 (4.150)	-0.236	0.365
	Control preschoolers	28	-1.321 (5.368)	-0.073	-0.297

Note: The mean scores were calculated by subtracting posttest scores from pretest scores in order to quantify the change.

For parent rating, the assumptions of the MANCOVA are normally distributed, homogeneity of variance-covariance matrices, and correlation among dependent variables. The 5 scales of the BRIEF-P as rated by parents as the dependent variables were calculated using the Explore procedure at an alpha level of .01. Results shown in Table 4.4 revealed that the most variable were located within the -1 to 1 rage of skewness and kurtosis. The significance levels of 5 scales of the BRIEF-P as rated by parents were greater than 0.01 (p>0.01); therefore, they are normally distributed within groups. The homogeneity of variance-covariance matrices was tested for by Box's M Test. Results revealed that the significant level of the Box's M Test was more than 0.001(p>0.001) then the variance-covariance matrix of 5 scales of the BRIEF-P as rated by parents did not violate this assumptionand were not different. The correlation among dependent variables was tested using Bartlett's Test. Since the significant level of the Bartlett's Test was significant at an alpha level of .05 (p<0.05), the dependent variables in this study (*i.e.*, inhibition, shifting, emotional control, working memory and plan/organize) were related. Therefore, MANCOVA analysis could be performed.

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Table 4.5 Multivariate Tests Table of BRIEF-P subscales as rated by parents

Effect of Pillai's Test	F	Hypothesis Degree of Freedom (df)	*p*-value
Intercept	1.071	5	0.387
Preschool Age	0.449	5	0.812
Preschool Gender	1.194	5	0.326
Preschool Group	0.992	5	0.432

After screening the data variable, a MANCOVA was performed to evaluate the significance between mean differences for two groups of independent variables (*i.e.*, intervention preschoolers and control preschoolers) on the subscale of BRIEF-P as rated by parents (*i.e.*, inhibition, shifting, emotional control, working memory and plan/organize). Pillai's Trace statistic was reported since it was considered to have acceptable power and to be the most robust statistic against violations of assumption. The intercept was examined the effect of *The 101s* training interaction on executive function skills. Results shown in Table 4.5 revealed that the multivariate test for the intercept was not significant ($F = 1.071$, $p>0.05$), indicating that there were not significant main effects for preschool age, preschool gender and preschool group.

For the preschool age, the multivariate test was not significant ($F = 0.449$, $p>0.05$). Results shown in Table 4.5 revealed that there was no difference on any of the scales rated by parents.

For preschool gender, the multivariate test was not significant ($F = 1.194$, $p>0.05$). Results shown in Table 4.5 revealed that there was no difference in how parents rated the boys and girls on any of the scales.

For preschool group, the multivariate test was not significant ($F = 0.992$, $p>0.05$). Results shown in Table 4.5 revealed that preschool group did not have any main effect on a statistically significant difference between the mean scores on any of the scales.

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Table 4.6 The Univariate F-test table for the BRIEF-P Subscales as rated by parents

Source	Dependent Variables	Degree of Freedom (df)	F	*p*-value
Preschool Age	Inhibition	1	0.131	0.719
	Shifting	1	0.935	0.338
	Emotional control	1	0.001	0.971
	Working memory	1	0.290	0.593
	Plan/Organize	1	0.839	0.364
Preschool Gender	Inhibition	1	0.263	0.610
	Shifting	1	3.980	0.051
	Emotional control	1	0.809	0.373
	Working memory	1	0.094	0.760
	Plan/Organize	1	0.633	0.430
Preschool Group	Inhibition	1	1.070	0.306
	Shifting	1	0.719	0.400
	Emotional control	1	2.156	0.148
	Working memory	1	1.289	0.261
	Plan/Organize	1	0.124	0.726

The univariate followed-up F-test were performed to examine the effect of independent variable (*i.e.*,preschool age, preschool gender, and preschool group) on each individual dependent variable (*i.e.*, inhibition, shifting, emotional control, working memory and plan/organize) (see Table 4.6).

For preschool age, the univariate F-test for inhibit, shift, emotional control, working memory and plan/organize was not significant (F= 0.131, 0.935, 0.001, 0.290and 0.839 respectively, $p>0.05$). Results shown in Table 4.6 revealed that inhibition, shifting, emotional control, working memory and plan/organize were not significantly influenced by preschool age.

For preschool gender, the univariate F-test for inhibition, shifting, emotional control, working memory and plan/organize was not significant (F= 0.263,

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3.980, 0.809, 0.094and 0.633 respectively, p>0.05). Results shown in Table 4.6 revealed that inhibition, shifting, emotional control, working memory and plan/organize were not significantly influenced by preschool gender.

For preschool groups, the univariate F-test for inhibition, shifting, emotional control, working memory and plan/organize was not significant (F= 1.070, 0.719, 2.156, 1.289 and 0.124 respectively, p>0.05). Results shown in Table 4.6 revealed that inhibition, shifting, emotional control, working memory and plan/organize were not significantly influenced by preschool groups.

For teacher ratings, the assumptions of the MANCOVA are normally distributed, homogeneity of variance-covariance matrices, and correlation among dependent variables. The 5 scales of the BRIEF-P as rated by teachers as the dependent variables were calculated using the Explore procedure at an alpha level of .01. Results revealed that the most variable were located within the -1 to 1 rage of skewness and kurtosis. They were shown in Table 4.7.

Table 4.7 Descriptive Statistics of the BRIEF-P Teacher Rating

The subscales	Schools	N	Mean(SD)	Skewness	Kurtosis
Inhibition	Intervention preschoolers	30	-7.903(7.900)	0.317	0.384
	Control preschoolers	28	-3.103 (7.394)	-0.571	0.586
Shifting	Intervention preschoolers	30	-7.194 (5.618)	-0.155	-0.944
	Control preschoolers	28	-4.793 (9.774)	0.702	1.238
Emotional control	Intervention preschoolers	30	-4.839 (5.373)	-0.339	-1.314
	Control preschoolers	28	-1.069 (4.200)	0.120	0.500
Working memory	Intervention preschoolers	30	-8.677 (7.281)	-0.112	-0.392
	Control preschoolers	28	-3.276 (7.367)	-1.197	1.329
Plan/ Organize	Intervention preschoolers	30	-12.387 (8.977)	-0.888	1.174
	Control preschoolers	28	-7.276 (8.049)	0.098	-0.496

Note: The mean scores were calculated by subtracting posttest scores from pretest scores in order to quantify the change.

The significance levels of 5 scales of the BRIEF-P as rated by teachers were greater than 0.01 (p>0.01); therefore, the 5 scales of the BRIEF-P as rated by teachers were normally distributed within groups. The homogeneity of variance-

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covariance matrices was tested for by Box's M Test. Results revealed that the significant level of the Box's M Test was more than 0.001 (p>0.001) then the variance-covariance matrix of 5 scales of the BRIEF-P as rated by teachers did not violate this assumptionand were not different. The correlation among dependent variables was tested using Bartlett's Test. Since the significant level of the Bartlett's Test was significant at an alpha level of .05 (p<0.05), the dependent variables in this study (*i.e.*, inhibition, shifting, emotional control, working memory and plan/organize) were related. Therefore, MANCOVA analysis could be performed.

After screening the data variable, a MANCOVA was performed to evaluate the significance between mean differences for two groups of independent variables (*i.e.*, intervention preschoolers and control preschoolers) on the subscale of BRIEF-P as rated by teachers (*i.e.*,inhibition, shifting, emotional control, working memory and plan/organize). Pillai's Trace statistic, as illustrated in Table 4.8,was reported since it was considered to have acceptable power and to be the most robust statistic against violations of assumption. The intercept was examined the effect of *The 101s* training interaction on executive function skills. The multivariate test for the intercept was not significant (F = 1.887, p>0.05), indicating that there were not significant main effects for preschool age, preschool gender and preschool group.

Table 4.8 Multivariate Tests Table of BRIEF-P subscales as rated by teachers

Effect of Pillai's Test	F	Hypothesis Degree of Freedom (df)	*p*-value
Intercept	1.887	5	0.112
Preschool Age	1.409	5	0.237
Preschool Gender	6.628	5	0.000
Preschool Group	2.642	5	0.033

For preschool age, the multivariate test shown in Table 4.8 was not significant (F= 1.409, p>0.05). It indicated that the preschool age did not have some main effect on a statistically significant difference between the mean score on

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inhibition, shifting, emotional control, working memory and plan/organize for the intervention and control groups.

For preschool gender and group, the multivariate test shown in Table 4.8 was significant (F = 6.628 and 2.642, respectively $p<0.05$). It indicated that preschool gender and group had some main effects on a statistically significant difference between the mean scores on inhibition, shifting, emotional control, working memory and plan/organize for the intervention and control groups.

In summary, the multivariate tests showed that preschool gender and preschool group had effects on executive functions. It indicated that *The 101s* training and gender affected the significant differences in the mean scores on BRIEF-P subscalesbetween *The 101s* teacher training and control preschooler groups.

The univariate followed-up F-test was performed to examine the effect of independent variable (*i.e.*,preschool age, preschool gender, and preschool group) on each individual dependent variable (*i.e.*, inhibition, shifting, emotional control, working memory and plan/organize) (see Table 4.9).

For preschool age, the univariate F-test for inhibition, shifting, working memory and plan/organize was not significant (F= 0.764, 1.227, 4.017, 0.022 and 0.759 respectively, $p>0.05$). Results shown in Table 4.9 revealed that there was no difference on inhibition, shifting, working memory and plan/organize scales on teacher ratings. However, the univariate F-test for emotion control was significant (F=4.017, $p<0.05$). Results shown in Table 4.9 revealed that teachers rated the younger children significantly higher on the emotion control scales.

For preschool gender, the univariate F-test for emotional control, working memory and plan/organize was not significant (F= 1.960, 3.390, and 0.08 respectively, $p>0.05$). Results shown in Table 4.9 revealed that there was no difference in how teachers rated the boys and girls on emotional control,working memory and plan/organize scales. However, the univariate F-test for inhibition and shifting were significant (F=21.987 and 8.190 respectively, $p<0.05$). Results shown in Table 4.9 revealed that inhibition and shifting were significantly influenced by preschool gender. The girls had significantly lower mean scores on inhibition and shifting as measured by the BRIEF-P, comparing to the boys.

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For preschool group, the univariate F-test for shifting was not significant (F= 0.755, p>0.05). Results shown in Table 4.9 revealed that shifting was not significantly influenced by preschool group on teacher ratings. However, the univariate F-tests for inhibition, emotional control, working memory and plan/organize were significant (F= 5.087, 7.873, 7.230 and 5.562 respectively, p<0.05). Results shown in Table 4.9 revealed that inhibition, emotional control, working memory and plan/organize were significantly influenced by preschool group. Moreover, the students in the training group had significantly lower scores on inhibition (M=-7.903, SD =7.900), emotional control (M=-4.839, SD =5.373), working memory (M=-8.677, SD =7.281), and plan/organize (M=-12.387, SD=8.977), as measured by the BRIEF-P comparing to the control group (M=-3.103, SD= 7.394, M=-1.069, SD= 4.200,M=-3.276, SD= 7.367, and M=-7.276, SD= 8.049, respectively).

Table 4.9 The Univariate F-test table for the BRIEF-P Subscales as rated by teachers

Source	Dependent Variables	Degree of Freedom (df)	F	*p*-value
Preschool Age	Inhibition	1	0.764	0.386
	Shifting	1	1.227	0.273
	Emotional control	1	4.017	0.051
	Working memory	1	0.022	0.883
	Plan/Organize	1	0.759	0.387
Preschool Gender	Inhibition	1	21.987	0.000
	Shifting	1	8.190	0.006
	Emotional control	1	1.960	0.167
	Working memory	1	3.390	0.071
	Plan/Organize	1	0.080	0.778
Preschool Group	Inhibition	1	5.087	0.028
	Shifting	1	0.755	0.389
	Emotional control	1	7.873	0.007
	Working memory	1	7.230	0.009
	Plan/Organize	1	5.562	0.022

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4.4 Section 4: The relationship between *The 101s*Teacher-Interaction Checklist Subscales and BRIEF-P subscales.

Question 3 Does *The 101s*training result in a positive correlation between the teachers' use of positive discipline as measured by *The 101s*Teacher Interaction Checklist and preschoolers' executive function skills as measured by the BRIEF-P? A bivariate correlation was undertaken between *The 101s*Teacher Interaction Checklist subscales and the BRIEF-P subscales for both the parent and teacher ratings?

Table 4.10 Correlation Table of *The 101s*Teacher-Interaction Checklist Subscales and BRIEF-P Subscales on the parent ratings.

Correlations

		different Classroom Behavioral Man	different Emotionnal Support	different Verbal punishment	different Critical / harsh	different physical punishment	different Inhibition	different Shift	different Emotional control	different Working memory	different Plane/Organize
different Classroom Behavioral Man	Pearson Correlation	1	-.016	-.539**	-.692**	-.758**	.051	.000	.166	.015	.140
	Sig. (2-tailed)		.902	.000	.000	.000	.703	.998	.212	.910	.294
	N	58	58	58	58	58	58	58	58	58	58
different Emotionnal Support	Pearson Correlation	-.016	1	.430**	.517**	.529**	.192	.067	-.070	.136	-.004
	Sig. (2-tailed)	.902		.001	.000	.000	.149	.615	.602	.308	.976
	N	58	58	58	58	58	58	58	58	58	58
different Verbal punishment	Pearson Correlation	-.539**	.430**	1	.602**	.615**	.231	.166	-.105	.117	-.091
	Sig. (2-tailed)	.000	.001		.000	.000	.081	.212	.433	.383	.497
	N	58	58	58	58	58	58	58	58	58	58
different Critical / harsh	Pearson Correlation	-.692**	.517**	.602**	1	.658**	.138	.101	-.051	.016	-.104
	Sig. (2-tailed)	.000	.000	.000		.000	.302	.448	.703	.903	.437
	N	58	58	58	58	58	58	58	58	58	58
different physical punishment	Pearson Correlation	-.758**	.529**	.615**	.658**	1	.039	-.053	-.184	.038	-.149
	Sig. (2-tailed)	.000	.000	.000	.000		.772	.694	.167	.778	.266
	N	58	58	58	58	58	58	58	58	58	58
different Inhibition	Pearson Correlation	.051	.192	.231	.138	.039	1	.195	.191	.450**	.274*
	Sig. (2-tailed)	.703	.149	.081	.302	.772		.143	.151	.000	.037
	N	58	58	58	58	58	58	58	58	58	58
different Shift	Pearson Correlation	.000	.067	.166	.101	-.053	.195	1	-.084	.275*	.165
	Sig. (2-tailed)	.998	.615	.212	.448	.694	.143		.532	.037	.214
	N	58	58	58	58	58	58	58	58	58	58
different Emotional control	Pearson Correlation	.166	-.070	-.105	-.051	-.184	.191	-.084	1	-.083	-.020
	Sig. (2-tailed)	.212	.602	.433	.703	.167	.151	.532		.537	.880
	N	58	58	58	58	58	58	58	58	58	58
different Working memory	Pearson Correlation	.015	.136	.117	.016	.038	.450**	.275*	-.083	1	.083
	Sig. (2-tailed)	.910	.308	.383	.903	.778	.000	.037	.537		.536
	N	58	58	58	58	58	58	58	58	58	58
different Plane/Organize	Pearson Correlation	.140	-.004	-.091	-.104	-.149	.274*	.165	-.020	.083	1
	Sig. (2-tailed)	.294	.976	.497	.437	.266	.037	.214	.880	.536	
	N	58	58	58	58	58	58	58	58	58	58

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

For the parent ratings, a bivariate correlation was undertaken to examine the relationships between *The 101s* Teacher Interaction Checklist subscales and BRIEF-P subscales.Results shown in Table 4.10 revealed that there were not relationships between *The 101s* Teacher Interaction Checklist subscales and BRIEF-P subscaleson the parent ratings

In contrary, a bivariate correlation was undertaken to examine the relationships between *The 101s*Teacher Interaction Checklist subscales and BRIEF-P subscales on the teacher ratings. It was hypothesized that *The 101s* training results in

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relationships between the five dimensions of *The 101s*Teacher Interaction Checklist and the five aspects of BRIEF-P on the teacher rating (see Table 4.11).

Table 4.11 Correlation of *The 101s* Teacher-Interaction Checklist Subscales and BRIEF-P Subscales on the teacher ratings

Correlations

		different Classroom Behavioral Man	different Emotionnal Support	different Verbal punishment	different Critical / harsh	different physical punishment	different inhibition	different shift	different emotional control	different working memory	different plane/organize
different Classroom Behavioral Man	Pearson Correlation	1	-.031	-.551**	-.703**	-.767**	-.127	-.123	-.431**	-.277*	-.216
	Sig. (2-tailed)		.813	.000	.000	.000	.332	.351	.001	.032	.097
	N	60	60	60	60	60	60	60	60	60	60
different Emotionnal Support	Pearson Correlation	-.031	1	.434**	.522**	.532**	.170	.064	.219	-.002	.006
	Sig. (2-tailed)	.813		.001	.000	.000	.195	.626	.093	.990	.962
	N	60	60	60	60	60	60	60	60	60	60
different Verbal punishment	Pearson Correlation	-.551**	.434**	1	.615**	.622**	.245	.313*	.483**	.220	.338**
	Sig. (2-tailed)	.000	.001		.000	.000	.059	.015	.000	.091	.008
	N	60	60	60	60	60	60	60	60	60	60
different Critical / harsh	Pearson Correlation	-.703**	.522**	.615**	1	.670**	.016	.182	.446**	.012	.159
	Sig. (2-tailed)	.000	.000	.000		.000	.906	.164	.000	.925	.225
	N	60	60	60	60	60	60	60	60	60	60
different physical punishment	Pearson Correlation	-.767**	.532**	.622**	.670**	1	.311*	.200	.517**	.299*	.173
	Sig. (2-tailed)	.000	.000	.000	.000		.016	.126	.000	.020	.185
	N	60	60	60	60	60	60	60	60	60	60
different inhibition	Pearson Correlation	-.127	.170	.245	.016	.311*	1	.335**	.432**	.540**	.346**
	Sig. (2-tailed)	.332	.195	.059	.906	.016		.009	.001	.000	.007
	N	60	60	60	60	60	60	60	60	60	60
different shift	Pearson Correlation	-.123	.064	.313*	.182	.200	.335**	1	.408**	.132	.273*
	Sig. (2-tailed)	.351	.626	.015	.164	.126	.009		.001	.314	.035
	N	60	60	60	60	60	60	60	60	60	60
different emotional control	Pearson Correlation	-.431**	.219	.483**	.446**	.517**	.432**	.408**	1	.251	.323*
	Sig. (2-tailed)	.001	.093	.000	.000	.000	.001	.001		.053	.012
	N	60	60	60	60	60	60	60	60	60	60
different working memory	Pearson Correlation	-.277*	-.002	.220	.012	.299*	.540**	.132	.251	1	.452**
	Sig. (2-tailed)	.032	.990	.091	.925	.020	.000	.314	.053		.000
	N	60	60	60	60	60	60	60	60	60	60
different plane/organize	Pearson Correlation	-.216	.006	.338**	.159	.173	.346**	.273*	.323*	.452**	1
	Sig. (2-tailed)	.097	.962	.008	.225	.185	.007	.035	.012	.000	
	N	60	60	60	60	60	60	60	60	60	60

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

For positive classroom management skills, the results of the correlation showed a significantly negative relationship between positive classroom management and emotion control scores (r=-0.431, p<0.01), Since the interpretation of the emotion control scores is reverse, meaning that the lower scores on emotion control is the better emotion control skills. Thus, the result indicated that higher positive classroom management scores were associated with the increase in emotion control skills. Moreover, the results of the correlation showed a significantly negative relationship between positive classroom management and working memory scores (r=-0.277, p<0.05). Since the interpretation of the working memory scores is reverse, meaning that the lower scores on working memory is the better working memory skills. Thus, the result indicated that higher positive classroom management scores were associated with the increase in working memory skills.

For teachers' verbal punishment practices, the results of the correlation showed a significant positive relationship between verbal punishment practices and

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shifting scores (r=0.313, p<0.05), indicating that higher verbal punishment practices scores were positively associated with poor shift skills. The results of the correlation showed a significant positive relationship between verbal punishment practices and emotional control scores (r=0.483, p<0.01), indicating that higher verbal punishment practices scores were positively associated with poor emotional control skills. The results of the correlation showed a significant positive relationship between verbal punishment practices and plan/organize scores (r=0.338, p<0.01), indicating that higher verbal punishment practices scores were positively associated with poor plan/organize skills.

For teachers' critical/harsh practices, the results of the correlation showed a significant positive relationship between critical/harsh and emotional control scores (r=0.446, p<0.01), indicating that higher critical/harsh scores were positively associated with pooremotional control skills.

For teachers' physical punishment, the results of the correlation showed a significant positive relationship between physical punishment and inhibit scores (r=0.311, p<0.05), indicating that higher physical punishment scores were positively associated with poorinhibit skills. The results of the correlation showed a significant positive relationship between physical punishment and emotional control scores (r=0.517, p<0.01), indicating that higher physical punishment scores were positively associated with pooremotional control skills. The results of the correlation showed a significant positive relationship between physical punishment and working memory scores (r=0.299, p<0.05), indicating that higher physical punishment scores were positively associated with poorworking memory skills.

In conclusion, *The 101s* teacher training had a major effect on teacher interaction skills, and preschooler's executive function skills. For teacher interaction skills, the independent sample *t*-Test was utilized to evaluate the mean differences on teacher practices between the trained and control group. The trained teachers in *The 101s* teacher training groups statistically and significantly had higher increases in positiveclassroom management and decreases in verbal punishment practices, compared to the teachers in the control.

For preschooler's executive function skills, the MANCOVA was utilized to evaluate the mean differences on the BRIEF-P scores between the intervention and

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control group. The intervention group significantly had lower mean scores on executive function subscales of the BRIEF-P than the control group, as measured by teacher.

Table 4.12 Summary Correlations Table of *The 101s* Teacher-Interaction Checklist Subscales and The BRIEP Subscales by teachers rating.

***The 101s* Teacher Interaction Checklist subscales**	**The BRIEF-P**				
	Inhibit	**Shift**	**Emotional control**	**Working memory**	**Plan/ organize**
Positive classroom management	-.127	-.123	**-.431****	**-.277***	-.216
Positive emotional support	.170	.064	.219	-.002	.006
Critical/Harsh	.016	.182	**.446****	.012	.159
Verbal punishment	.245	**.313***	**.483****	.220	**.338****
Physical punishment	**.311***	.200	**.517****	**.299***	.173

Note: **Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Finally, *The 101s* teacher training resulted in negative correlations between the positive teacher interaction skills (positive classroom management skills) and executive dysfunction (emotional control and working memory) as measured by teacher in the Table 4.12. Conversely, *The 101s* teacher training resulted in positive correlations between the negative teacher-interaction skills (verbal punishment practices) and executive dysfunction (shifting) as measured by teacher rating in the Table 4.12. *The 101s* teacher training resulted in positive correlations between the negative teacher-interaction skills (critical/harsh practices) and executive dysfunction (emotional control) as measured by teacher rating in the Table 4.12. Moreover, *The 101s* teacher training resulted in positive correlations between the negative teacher-interaction skills (physical punishment) and executive dysfunction (inhibition, emotional control, and working memory) as measured by teacher rating in the Table 4.12. The findings suggested that the teachers had positive interaction to the children, the children were likely to develop their executive functions.In the next chapter, a summary of certain findings and discussions for specific findings are provided.

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CHAPTER V
DISCUSSION

The current empirical research study was carefully designed (1) to investigate the impact of *The 101s* Positive Discipline Teacher Training on teacher interaction practices,using independent samples *t*-tests, (2) to investigate the impact of *The 101s* Positive Discipline Teacher Training on preschoolers' executive function skills, using a series of multivariate of covariance analyses (MANCOVA), and (3) to examine the relationships among the dependent variables (*i.e.*,teacher practices and preschoolers' executive function skills), using bivariate correlation analyses. *The 101s* Positive Discipline in this study was a training program designed to improve teachers' interaction skills and preschoolers'executive function skills.

The sample of this study consisted of 7 kindergarten teachers and 60 four to six-year old students enrolled in six classrooms from two kindergarten schools. The sample was divided into two groups. The first group had 4 teachers who received *The 101s* training with 31 children who were assigned to the intervention group. The second group had 3 teachers who received no training with 29 children who were assigned to the control group. All teacher participants were female. The majority of the teachers (57.1%) had their B.A. in early childhood education. The teacher ages ranged from 33 to 55 years old. For the children participants, there were 32 boys and 28 girls. The ages of the children participants ranged from 48 to 72 months, with a mean age of 54 months (S.D. =4.5). The teachers in *The 101s* training were asked to implement *The 101s* Positive Discipline techniques in their classrooms. *The 101s* Teacher Interaction Checklist was used to measure pre and post-test data regarding teacher interaction practices. Moreover, the BRIEF-P was used to measure pre and post-test data regarding preschoolers' executive function skills.

Overall, the results of current study showed that *The 101s* teacher training had a positive impact on the teacher interaction practices and preschoolers' executive function. Moreover, *The 101s* training resulted in a positive correlation between

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positive teacher interactions and preschoolers' executive function skills. This provides discussion of certain findings relevant to the research questions. The potential implications and pertinent research-based evidence for specific training and further settings in which the findings might be applied is presented. A discussion of limitations and suggestions for future research is also discussed at the end of this chapter.

5.1 The Impact of *The 101s* Teacher Training on Teacher Interaction Practices.

While teacher's age, education and the number of years of teaching experience had no statistically significant impact on teacher interaction, the results indicated that *The 101s* teacher training lead to significant changes in *The 101s* Teacher Interaction Checklist subscales (*i.e.,* Positive Classroom Management and Verbal Punishment) after *The 101s* teacher training when comparing to the teachers in the control group.

For *The 101s* Teacher Interaction Checklist, the results indicated that the teachers in *The 101s* training group showed a significantly positive change from pretest to posttest in *The 101s* Teacher Interaction Checklist subscale scores of positive behavioral management as compared to the teachers in the control group in which the teachers did not receive *The 101s* teacher training. The trained teachers in *The 101s* training group had significantly lower mean score changes from the pretest to posttest in *The 101s* Teacher Interaction Checklist subscale scores of verbal punishment, comparing to the teachers in the control group. Thus, the evaluation of *The 101s* teacher training model confirmed the hypothesis that the teachers who received *The 101s* teacher training had significantly higher mean scores on the positive classroom management skills and significantly lower mean scores on negative discipline skills,comparing to the teachers in the control groups, as measured by *The 101s* Teacher Interaction Checklist.

These results are congruent with the results of previous research in teacher interaction training. Baker-Henningham and colleagues (2009) found that the trained teachers had significantly increased positive behaviors and significantly reduced

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negative behaviors (74). In the other research conducted by Materson (2009), the teachers in the teacher interaction training group had significant increases in teacher interaction quality as measured by *The 101s* Teacher Interaction Checklist and were significantly associated with positive changes in prosocial outcomes for the children (15).

Moreover, the findings in the current research also agree with the findings reported by Thanasetkorn (2009) which found that after the teachers were trained, they used more positive disciplines by making a big deal over appropriate behavior with positive attention, giving two positive and acceptable choices for the children: positively request desired behaviors and asking the child principle. They also expressed their feelings on children's undesirable behaviors and asked for desired behaviors, setting a timer to help children make transitions, using a low voice to a whisper to get attention, giving the child a cue, separate children who are reinforcing each other's misbehavior, and encouraging children to solve their own problems (12).

The findings in the present study demonstrated that after *The 101* training, the trained teachers exhibited high classroom quality. Moreover, the trained teachers were kind and firm at the same time instead of always being strict which in turn affected the classroom environment (12). Previous research indicated that classroom quality significantly contributed to preschooler's school readiness, helped their students become responsible for their own behaviors, and reduced the likelihood of misbehavior (7, 74). Moreover, Denham and Buton (1996) found that the trained teachers appropriately managed children's behaviors (76). The trained teachers also taught their children to appropriately express their own feelings through the "I Message Principle". For example, a trained teachers said, "When you have finished your work, left the pencils on the floor after writing, our room looked messy and I don't like it. I'd like you to put the pencils back on the pencil box." When trained teachers caught their student doing something good or stop them from doing something inappropriate, then the children were rewarded (*i.e.*, praise, thumbs-up, thanks) immediately through the "Make a Big Deal Principle." This normally involves helping children to understand why certain behaviors are unacceptable and other behaviors are acceptable. For example, trained teachers who were near a student who was becoming frustrated and is struggling with a task were able to prevent problem

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behaviors before they occurred and could redirect them before they escalate (Divide and Conquer Principle). Another example was the trained teachers used the “Whisper Principle” instead of yelling, screaming or talking in a loud voice to stay in control. Thus, the teachers use *The 101s* positive techniques to model the act of teaching students self-regulation.

For positive emotional support skills, the result showed that there were no significant differences between the teachers in *The 101s* teacher training group and the control group in the mean scores on Positive Emotional Support skills. The findings showed that the teachers in *The 101s* teacher training group were more likely to be able to provide the children in their classrooms with emotional support than did the teachers in the control group. However, the teachers in *The 101s* teacher training group spent less time using *The 101s* principle related to emotional support skills, including, the abilities to assign responsibility to a child (Belong and Significance Principle), get down on a child’s eye level to respond or speak (Get on the Child’s Eye Level Principle), validate children’s feeling by emotional vocabularies (Validation Principle), move to another room or location (Change of Environment Principle), and give encouragement as often as possible (Encouragement Principle). It could be explained that theprinciples mentioned above were new skills. Therefore, the teachers would need more time to practice those skills to provide a warm classroom environment.

The results could also be explained using previous research conducted by Deveney (2005) on Thai culture and its impact on Thai students’ behavior. Deveney (2005) found that culture played an important role in teacher-student interaction. According Deveney (2005), Thai teachers perceived their children as passive student. The teachers expected their students to not express their feelings, and keep their feeling inside when they were in the classroom. For example, the students lost face in a classroom and avoided eye contact with their teacher when questions were asked. As a result, when the students had negative emotions, Thai teachers were not familiar with showing the students emotional support (62).

In contrary, the teachers who did not receive *The 101s* teacher training were more likely to threaten punishment, offer severe criticism in public, talk to their children without explanation, and prohibit many of activities their children wanted to

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do when dealing with preschooler's disruptive behaviors. It was evident that teachers who did not receive *The 101s* teacher training were more likely to use negative discipline and less positive discipline compared to teachers trained in *The 101s* teacher training in the current research. It was found that Thai teachers are more likely to be stricter and more use negative discipline and less positive discipline compared to the training group. The teachers were also expected to achieve a strong control over the class (59). However, these negative practices lead to a stressful climate in the classroom, poor motivation and poor participation. Furthermore, the recipients of punishment have low self-esteem which can lead to withdrawal or aggression (61). However, the results from this study suggested that Thai teachers were able to develop their teacher interaction skills after *The 101s* teacher training. Therefore, the findings from this research propose *The 101s* teacher training can help teachers to avoid using punitive discipline with the students. Moreover, these techniques help the teachers learn to use positive disciplines as a tool for improving schools if the schools aim to increase positive teacher interaction skills.

5.2 The Impact of *The 101s* Teacher Training on the preschoolers' executive function skills

In this study, teachers' interactions statistically changed toward the use of more positive discipline with concurrent decrease in negative discipline. The students whose teachers received *The 101s* teacher training had significant lower mean scores of the BRIEF-P while the students' age did not have a significant effect on executive function skills as rated by their parents and teachers. These results provided support for the hypothesis that the children whose teachers received *The 101s* teacher training's mean scores would decline significantly from pre- to post-test in the BREIF-P comparing to the children in the control groups.

In addition, a number of previous researchers have indicated that classroom-based interventions had significant impacts on children's executive function skills. For instance, Diamond and her colleagues tested (2007) the Tools of the Mind curriculum on children's executive function and emergent literacy skills by comparing 106 children from 7 classes using the Tools of the Mind curriculum and 168 children

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from 11 classes using the district curriculum performed on measures of EFs (*i.e.*, Dots-Incongruent, Flanker, and Reverse Flanker tasks). The results showed that children in the Tools of the Mind classrooms performed better on measures of EFs and exhibited moderately more advanced language development than in the control classrooms (50). Another example, Riggs and colleagues (2006) found that after Promoting Alternative Thinking Strategies (PATHS) teacher training for improving their children's emotional and social competencies, and executive function skills, the children whose teachers received the PATHS had better inhibitory control and planning/organizing skills than the control children (58). This is consistent with Raver and colleagues' explanation that after the Chicago School Readiness Project (*CSRP)* teacher training which aimed to improve preschoolers' executive function and school readiness, CSRP teachers created a more positive classroom environment and emotionally supportive classrooms than those of the control teachers. The 4 year old children in the classrooms using CSRP had significantly higher performance on EF tasks, academic skills (*i.e.*, vocabulary, letter naming, and math) than in the control groups. These results indicatedthe Chicago School Readiness Project training benefits for children to improve executive function performance (53).

One possible explanation was that*The 101s* trained teacher was characterized by positive classroom management and positive emotional support which were associated with executive function skills. This evidence might be explained by the fact that developing children's executive function skills are associated with social-emotional competence. For instance, Rhoades and colleagues (2009) consistently reported that children who were better able to inhibit their behavior were more likely to be rated higher on social-emotional skills and had fewer behavior problems (11). In another study, Hughes and colleagues (2000) found that preschoolers' executive function skills were negatively related to antisocial behavior and positively related to prosocial behaviors after controlling for verbal skill, age and family background (57). Furthermore, the research conducted by Materson (2009) explained that the teacher ratings of children's prosocial skills in *The 101s* training group had significant changes from pre- to post-test. The results showed that *The 101s* training had a significant effect on the preschoolers' social-emotional skills (15). Therefore, *The 101s* trained teacher can be characterized by positive classroom

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management and positive emotional support which are associated with increases in social-emotional skills and increases in executive function skills by providing a more positive context for children's executive function, and social-emotional growth.

However, parents may not have witnessed the changes that the teachers noted in the classroom. Results from parents' reports showed that there were no significant changes in children's executive function skills. The results were consistent with the previous research conducted by Thansetkorn (2009). By examining the impact of *The 101s* parent training on parenting skills, teacher-child relationships, school adjustment and academic achievement,the researcher found that the children whose parents were in the control group had no significant changed in the mean scores on school adjustment skills. In contrary, the children whose parents were in the training group had significantly higher mean scores on school adjustment skills. According to the previous research, the results of the current study could be explained that the caregivers' practices would affect children's behaviors related to social-emotional and executive function skills (77).Therefore, the findings from the current research suggested that parents and teachers should receive *The 101s* positive discipline training to increase preschoolers' executive function skills effectively.

Regarding students' gender, the results of the current study showed that students' gender differences had a significant effect on executive function skills. There was some evidence that the developmental significance of executive function is different for boys and girls such as inhibitory control, shifting, and working memory. According to the results, it was found that girls displayed a higher level of latent executive control than boys, which is unsurprising due to the fact that the neural substrates of executive control and the prefrontal cortex reach maturity more quickly in girls than boys (43).

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5.3 The relationships between Teacher Interaction Practices and preschoolers' executive function skills.

The results in the current research showed that there were relationships between the five subscales of *The 101s* Teacher Interaction Checklist (positive classroom management, emotional support, verbal punishment, critical/harsh and physical punishment) and the five subscales of BRIEF-P (inhibition, shifting, emotional control, working memory and plan/organize) as rated by the teachers. In the current study, teachers' positive classroom management skills were negatively correlated with preschoolers with poor executive function abilities on emotional control and working memory. Conversely, the teachers' verbal punishment skills were positively correlated with preschoolers with poor executive functions abilities on shifting, emotional control and plan/organize. The teachers' critical/harsh skills were positively correlated with preschoolers with poor executive functions abilities on emotional control. Finally, the teachers' physical punishment skills were positively correlated with preschoolers with poor executive functions abilities on inhibition control, emotional control and working memory. It was evidenced that teacher's interactions in *The 101s* teacher training are highly statistically associated with the executive function abilities of children rated by their teachers. These results provided support for the hypothesis that *The 101s* training could result in a positive correlation between positive teacher interactions and high preschooler's executive function skills and would result in a negative correlation between negative teacher interactions and high preschooler's executive function skills.

The teachers observed as having high positive classroom management skills also had significant positive correlations with children with high emotional control and working memory. These findings are consistent with those of Reinke and colleagues (2008) who found that a relationship between teacher's positive classroom management skills and the students' academic achievement and appropriate classroom behavior. Due to the positive discipline teacher training the children felt more warmth and positive interaction with the teachers. The warmth and positive teacher-student interactions have consistently been proven to be linked to increase academic motivation, enthusiasm in class activities, emotional regulation and academic achievement (75). Moreover, trained teachers taught children the way they should

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behave and how to improve their executive function skills through practice. For example, the trained teachers immediately praised the child who put toys back on the shelf when the child was finished (Make a Big Deal Principle). Another example, the trained teachers talked with students to understand what their mistakes were and how they dealt with it (I Message Principle).

Conversely, the teachers observed as having high verbal punishment skills had significant negative correlations with children with fewer shifts, emotional control and plan/organize. The teacher observed as having high critical/harsh skills had significant negative correlations with children who had less emotional control. Finally, the teachers observed as having high physical punishment skills had significantly negative correlations with children who had less inhibition, emotional control and working memory. A recent study by Talwar and his colleagues (2011) reported findings onthe association between teachers' using negative disciplines and preschooler's executive function skills.The children in a school that used corporal punishments had long term impairment of executive functions. As a result, children in the punitive school tended to develop behavioral problems related to cognitive deficits such as disruptive behaviors, and erroneous or limited coding of events (66). Another study by Gamez and his colleagues (2010) explained that physical punishment such as spanking, slapping, or grabbing produces compliance in the short term. Although, physical punishment could significantly reduce some disruptive behaviors, it might also increase the probability of deviance, including emotional disturbances, impulsive and aggressive behaviors later (63). Other forms of punishment are critical/harsh and verbal punishment in which teachers use linguistic mechanism to control a student's disruptive behaviors. Being threatened, prohibited and being called names without explanation produced stress reactions and cortisol elevations. Therefore, frequent and severe stress in the caregiving environment is likely to contribute to deficits in executive functioning including inflexible thinking, frustratedand diminished elaboration during the preschool period.This model is supported by neurobiological research indicating that chronic stress in early childhood may be a risk for later executive function deficits and may be associated with physiological changes including increase levels of cortisol. Cortisol is a steroid hormone of the hypothalamic-pituitary-adrenal (HPA) axis which is involved in complex physiological responses in the

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regulation of stress and emotions (68). Lisonbeeand colleagues (2008), for example, found that children with poorer quality relationships with teachers were linked with higher levels of cortisol increases from morning to afternoon in the classroom and outside of the classroom even (67). In addition, Blair and colleagues (2010) explained that the stress hormones demonstrate an inverted U-shaped relation with executive functions. Very high or very low levels of cortisol modulate neural activity in PFC circuitry associated with deficits in executive functions, whereas moderate stress is associated with higher levels of executive functions (69). However, previous research did not directly examine the correlation between the effect of negative teacher interaction and children's executive functions. This research fills the gap by investigating the correlation between the effect of negative teacher interaction and children's executive functions. The current study suggests that *The 101s* positive discipline techniques help teachers to learn positive ways to deal with children's disruptive behavior in the classroom. Teachers can then apply the techniques to classroom context and teaching style to increase their children's executive functioning.

5.4 Limitations and Suggestions

The limitations of the current study associated with a threat to internal and external validity. For a threat to internal validity, major limitation of the study associated with a threat to internal validity could be the differential selection and research mortality. The sample in the current study was small.The sample lacked differences in culture and socioeconomic status. Thus, it might not represent all teachers and preschoolers in the Samutprakarn province. Therefore, replicated research using larger sample sizes in different school districts and usinga series of MANCOVA to reduce the threat to internal validity is suggested for future research.

Second, testing could be another limitation associated with a threat to internal validity. To address this concern, the time between pretest and posttest was shortened (approximately 4 months). *The 101s* teacher training might have been more effective on the changes to teacher interaction skills and preschoolers' executive functions if the intervention had been implemented over a longer period of time.

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Therefore, collecting data repeatedly over a longer period of time would be also helpful for future research.

Lastly, a limited budget could be another limitation associated with a threat to internal validity. While the results of the previous study conducted by Blair and colleagues (2010) showed that cortisol levels influenced children's behaviors related to executive function skills. The findings of the previous research showed the useful contribution to the research field; however, the current research did not measure the cortisol levels in the preschoolers due to the budget limitation. Thus, for future research, research study on the impact of *The 101s* positive discipline on executive functions and student's cortisol levels would be suggested.

For threats to external validity, the limitation associated with a threat to external validity was reactive effects of experimental arrangements. The effect on performance may be due to the "newness" of the intervention (sometimes called the "novelty effect"). While the results of the previous study conducted by Thanasetkorn (2009) showed that the teachers in *The 101s* training group showed a significantly positive change from pretest to posttest in *The 101s* Teacher Interaction Checklist subscale scores of emotional support as compared to the teachers in the control group in which the teachers did not receive *The 101s* teacher training. The researcher suggested that the researcher was in the classroom to be the model to demonstrate how to use *The 101s* principles. However, the results of the current research showed inconsistent results. The finding suggested that *The 101s* specialist should be the model and demonstrated to emotional support in the classroom.

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CHAPTER VI
CONCLUSION

After studying the impact of *The 101s* training on teacher interaction practices and preschoolers' executive functions, the results of the current research provide the promising evidence that supports the effectiveness of *The 101s* teacher training intervention. The findings of the current study yielded significant results for the changes in teachers' behaviors and preschoolers' executive functions. *The 101s* teacher training had significant effects on increasing teachers' positive classroom management and decreasing teacher's verbal punishment practices. In addition, the findings showed statistically significant decreases in the intervention preschoolers' executive function scores as rated by teachers on the BRIEF-P after *The 101s* teacher training intervention. Finally, the use of positive discipline techniques was negatively associated with poor preschoolers' executive function skills rated by their teachers on the BRIEF-P.

These findings show that the use of negative teacher interaction practices impede preschoolers' executive function development. However, Thai teachers have also used negative teacher interaction practices with their students including corporal punishment. This type of punishment can evoke feelings of fear, anxiety, and stress in children, and these emotions further influence executive function, learning and behavior.Therefore, *The 101s* positive discipline training model of the current study can lead to increases in the use of positive discipline techniques and may help these children improve their executive function development.

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APPENDIX

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COA. No. MU-IRB 2011/118.0706

Certificate of Approval
Mahidol University Institutional Review Board (MU-IRB)

Title of Project: The 101s Positive Discipline Training for Promoting Positive Nurturing Practices
Principal Investigator: Dr. Panadda Thanasetkorn
Name of Institution: National Institute for Child and Family Development

Title of Subproject: The Impact of the 101s Positive Discipline Teacher Training on Teacher Practice and Preschool Children's Self-Regulation (Thesis for Master Degree)
Principal Investigator: Miss Piyada Pichitkualachai

Approval includes:
1) MU-IRB Submission form version received date 3 June 2011
2) Participant Information Sheet for Kindergarten Teacher version date 3 June 2011
3) Participant Information Sheet for Parent version date 3 June 2011
4) Informed Consent form for Kindergarten Teacher version date 3 June 2011
5) Informed Consent form for Parent version date 3 June 2011
6) Observational Guideline version received date 31 May 2011
7) Questionnaire for Children's Behavior version received date 3 June 2011

Title of Subproject: The Impact of the 101s Positive Discipline Teacher Training on Teacher Practice and Preschooler's Executive Function Skills (Thesis for Master Degree)
Principal Investigator: Miss Pitchada Sutipan

Approval includes:
1) MU-IRB Submission form version received date 2 June 2011
2) Participant Information Sheet for Kindergarten Teacher version date 3 June 2011
3) Participant Information Sheet for Parent version date 3 June 2011
4) Informed Consent form for Kindergarten Teacher version date 2 June 2011
5) Informed Consent form for Parent version date 2 June 2011
6) Observational Guideline version received date 2 June 2011
7) Questionnaire for Children's Behavior version received date 3 June 2011

Mahidol University Institutional Review Board is in full compliance with International Guidelines for Human Research Protection such as Declaration of Helsinki, The Belmont Report, CIOMS Guidelines and the International Conference on Harmonization in Good Clinical Practice (ICH-GCP)

Date of Approval: 7 June 2011

Date of Expiration: 6 June 2012

Signature of Chair: .....
(Professor Shusee Visalyaputra)

Signature of Head of the Institute: .....
(Professor Sansanee Chaiyaroj)
Vice President for Research and Academic Affairs

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เอกสารชี้แจงผู้เข้าร่วมการวิจัย

(Participant Information Sheet)

ในเอกสารนี้อาจมีข้อความที่ท่านอ่านแล้วยังไม่เข้าใจ โปรดสอบถามหัวหน้าโครงการวิจัย หรือผู้แทนให้ช่วยอธิบายจนกว่า จะเข้าใจดี ท่านจะได้รับเอกสารนี้ 1 ฉบับ นำกลับไปอ่านที่บ้านเพื่อปรึกษาหารือกับญาติพี่น้อง เพื่อนสนิท แพทย์ประจำตัวของท่าน หรือผู้อื่นที่ท่านต้องการปรึกษาเพื่อช่วยในการตัดสินใจเข้าร่วมการวิจัย

ชื่อโครงการ(ภาษาไทย) ผลของการอบรมครูเรื่อง 101s การสร้างวินัยเชิงบวกต่อการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัย

ชื่อผู้วิจัย นางสาวพิชชาดา สุทธิแป้น นักศึกษาระดับปริญญาโท มหาวิทยาลัยมหิดล
สถานที่ที่สามารถติดต่อได้ สถาบันแห่งชาติเพื่อการพัฒนาเด็กและครอบครัว 999 ถ.พุทธมณฑล ต.ศาลายา อ.พุทธมณฑล จ. นครปฐม 73170 โทร 086-9155355

โครงการวิจัยนี้ทำขึ้นเพื่อศึกษาผลของการอบรมครูเรื่อง 101s การสร้างวินัยเชิงบวกต่อการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัย ซึ่งจะมีประโยชน์ที่คาดว่าจะได้รับคือ ทำให้สามารถช่วยปรับปรุงหลักสูตรการอบรมวิชาชีพครูปฐมวัยในการใช้วินัยเชิงบวกที่ส่งผลต่อพัฒนาการกระบวนการคิดขั้นสูงในเด็กปฐมวัย

ท่านได้รับเชิญให้เข้าร่วมการวิจัยนี้เพราะคุณครูประจำชั้นของบุตรหลานของท่านได้รับการเลือกให้เข้าร่วมอบรมในโครงการพัฒนาวิชาชีพครูปฐมวัยผ่านหลักสูตร 101 เทคนิค: คู่มือการสร้างวินัยเชิงบวก ในปีการศึกษา 2554 หรือปีการศึกษาต่อไป ซึ่งถือเป็นส่วนหนึ่งของการอบรมพัฒนาวิชาชีพเพื่อเพิ่มศักยภาพของคุณครูที่ทางโรงเรียนจัดขึ้นตามปกติ ในการวิจัย บุตรหลานของท่านยังคงมาโรงเรียนและเข้าร่วมกิจกรรมที่ทางโรงเรียนจัดขึ้นได้ตามปกติ

การวิจัยจะเริ่มขึ้นในเดือนมิถุนายนถึงเดือนตุลาคม ปีการศึกษา 2554 ระยะเวลาที่จะทำวิจัยทั้งสิ้น 4 เดือน

หากท่านตัดสินใจเข้าร่วมการวิจัยแล้ว จะมีขั้นตอนการวิจัยดังต่อไปนี้คือ

- ผู้สังเกตการณ์ 2 คนจะเข้าเยี่ยมชมห้องเรียนที่บุตรหลานของท่านกำลังศึกษาอยู่เพื่อที่จะบันทึกข้อมูลเกี่ยวกับการปฏิสัมพันธ์ของคุณครูและเด็กนักเรียน ในการสังเกตการณ์ผู้สังเกตการณ์ทั้ง 2 จะไม่รบกวนหรือพูดคุยกับคุณครูและเด็กนักเรียน และจะไม่มีการแทรกแซงหรือเข้าร่วมกิจกรรมการเรียนการสอนใดๆ ทั้งสิ้น

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- เมื่อถึงปลายเทอมการศึกษา ผู้สังเกตการณ์ 2 คน จะเข้าเยี่ยมชมห้องเรียนที่บุตรหลานของท่านกำลังศึกษาอยู่เพื่อที่จะบันทึกข้อมูลเกี่ยวกับการปฏิสัมพันธ์ของคุณครูและเด็กนักเรียนอีกครั้งหนึ่ง

- หากผู้ปกครองมีความยินดีให้บุตรหลานของท่านมีส่วนร่วมในการวิจัย ท่านจะได้รับแบบสอบถามเกี่ยวกับพฤติกรรมของบุตรหลานของท่าน 1 ฉบับ ใช้เวลาในการตอบแบบสอบถามประมาณ 15 - 20 นาที *ความเสี่ยงที่เกิดขึ้นคือ ท่านอาจรู้สึกอึดอัด ไม่สบายใจ เครียดกับบางคำถาม ท่านมีสิทธิ์ที่จะไม่ตอบคำถามเหล่านั้นได้*

หากท่านไม่เข้าร่วมในการวิจัยนี้ก็จะไม่มีผลต่อสถานะของท่านทั้งปัจจุบันและอนาคต

หากเกิดผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัย ท่านสามามารถติดต่อผู้วิจัยได้ทันทีหากมีข้อข้องใจที่จะสอบถามเกี่ยวข้องกับการวิจัย

หากมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และโทษที่เกี่ยวข้องกับการวิจัยนี้ ผู้วิจัยจะแจ้งให้ทราบโดยรวดเร็วไม่ปิดบัง

ข้อมูลส่วนตัวของผู้เข้าร่วมการวิจัยจะถูกเก็บรักษาไว้ ไม่เปิดเผยต่อสาธารณะเป็นรายบุคคล แต่จะรายงานผลการวิจัยเป็นข้อมูลส่วนรวม ข้อมูลของผู้เข้าร่วมการวิจัยเป็นรายบุคคลอาจมีคณะบุคคลบางกลุ่มเข้ามาตรวจสอบได้ เช่น ผู้ให้ทุนวิจัย, สถาบัน หรือองค์กรของรัฐที่มีหน้าที่ตรวจสอบ, คณะกรรมการจริยธรรมฯ เป็นต้น

ผู้เข้าร่วมการวิจัยมีสิทธิ์ถอนตัวออกจากโครงการวิจัยเมื่อใดก็ได้ โดยไม่ต้องแจ้งให้ทราบล่วงหน้า และการไม่เข้าร่วมการวิจัยหรือถอนตัวออกจากโครงการวิจัยนี้ จะไม่มีผลกระทบต่อการบริการและการรักษาที่สมควรจะได้รับแต่ประการใด

โครงการวิจัยนี้ได้รับการพิจารณารับรองจาก คณะกรรมการจริยธรรมการวิจัยในคนของมหาวิทยาลัยมหิดล ซึ่งมีสำนักงานอยู่ที่ สำนักงานอธิการบดีมหาวิทยาลัยมหิดล ถนนพุทธมณฑลสาย 4 ตำบลศาลายา อำเภอพุทธมณฑล จังหวัดนครปฐม 73170 หมายเลขโทรศัพท์ 02-849-6223-5 โทรสาร 02-849-6223 หากท่านได้รับการปฏิบัติไม่ตรงตามที่ระบุไว้ ท่านสามารถติดต่อกับประธานคณะกรรมการฯ หรือผู้แทน ได้ตามสถานที่และหมายเลขโทรศัพท์ข้างต้น

ข้าพเจ้าได้อ่านรายละเอียดในเอกสารนี้ครบถ้วนแล้ว

ลงชื่อ.....ผู้เข้าร่วมวิจัย

(.....)

วันที่ .....

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หนังสือแสดงเจตนายินยอมเข้าร่วมการวิจัยโดยได้รับการบอกกล่าวและเต็มใจ

วันที่..... เดือน..... พ.ศ.....

ข้าพเจ้า.....อายุ.....ปี อาศัยอยู่บ้านเลขที่.....

ถนน.....ตำบล.....อำเภอ.....

จังหวัด.....รหัสไปรษณีย์.....โทรศัพท์ .....

ขอแสดงเจตนายินยอมให้เด็กในปกครองของข้าพเจ้าเข้าร่วมโครงการวิจัยเรื่อง ผลของการอบรมครูเรื่อง 101s การสร้างวินัยเชิงบวกต่อการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัย

โดยข้าพเจ้าได้รับทราบรายละเอียดเกี่ยวกับที่มาและจุดมุ่งหมายในการทำวิจัยรายละเอียดขั้นตอนต่างๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ประโยชน์ที่คาดว่าจะได้รับของการวิจัยและความเสี่ยงที่อาจจะเกิดขึ้นจากการเข้าร่วมการวิจัย รวมทั้งแนวทางป้องกันและแก้ไขหากเกิดอันตรายขึ้น ค่าตอบแทนที่จะได้รับ ค่าใช้จ่ายที่ข้าพเจ้าจะต้องรับผิดชอบจ่ายเอง โดยได้อ่านข้อความที่มีรายละเอียดอยู่ในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด อีกทั้งยังได้รับคำอธิบายและตอบข้อสงสัยจากหัวหน้าโครงการวิจัยเป็นที่เรียบร้อยแล้ว โดยไม่มีสิ่งใดปิดบังซ่อนเร้น

ข้าพเจ้าจึงสมัครใจให้เด็กในปกครองของข้าพเจ้าเข้าร่วมโครงการวิจัยนี้

ข้าพเจ้าได้ทราบถึงสิทธิ์ที่ข้าพเจ้าจะได้รับข้อมูลเพิ่มเติมทั้งทางด้านประโยชน์และโทษจากการเข้าร่วมการวิจัย และสามารถถอนตัวหรือองดเข้าร่วมการวิจัยได้ทุกเมื่อ โดยจะไม่มีผลกระทบต่อการบริการที่ข้าพเจ้าจะได้รับต่อไปในอนาคต และยินยอมให้ผู้วิจัยใช้ข้อมูลส่วนตัวของข้าพเจ้าที่ได้รับจากการวิจัย แต่จะไม่เผยแพร่ต่อสาธารณะเป็นรายบุคคล โดยจะนำเสนอเป็นข้อมูลโดยรวมจากการวิจัยเท่านั้น

หากข้าพเจ้ามีข้อข้องใจเกี่ยวกับขั้นตอนของการวิจัย หรือหากเกิดผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัยขึ้นกับบุตรหลานของข้าพเจ้า ข้าพเจ้าจะสามารถติดต่อกับนางสาวพิชชาดา สุทธิแป้น โทร 086-9155355

หากบุตรหลานของข้าพเจ้าได้รับการปฏิบัติไม่ตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย ข้าพเจ้าจะสามารถติดต่อกับประธานคณะกรรมการจริยธรรมการวิจัยในคนหรือผู้แทน ได้ที่สำนักงานคณะกรรมการจริยธรรมการวิจัยในคน กองบริหารงานวิจัย สำนักงานอธิการบดีมหาวิทยาลัยมหิดล โทร. 02-849-6223-5 โทรสาร 02-849-6223

ข้าพเจ้าเข้าใจข้อความในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และหนังสือแสดงเจตนายินยอมนี้โดยตลอดแล้ว จึงลงลายมือชื่อไว้

ลงชื่อ.....ผู้เข้าร่วมการวิจัย/ผู้แทนโดยชอบธรรม/ วันที่.....

(.....)

ลงชื่อ.....ผู้ให้ข้อมูลและขอความยินยอม/หัวหน้าโครงการวิจัย/ วันที่.....

(.....)

ในกรณีผู้เข้าร่วมการวิจัยไม่สามารถอ่านหนังสือได้ผู้ที่อ่านข้อความทั้งหมดแทนผู้เข้าร่วมการวิจัยคือ..... จึงได้ลงลายมือชื่อไว้เป็นพยาน

ลงชื่อ..... พยาน/ วันที่.....

(.....)

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เอกสารชี้แจงผู้เข้าร่วมการวิจัย

(Participant Information Sheet)

ในเอกสารนี้อาจมีข้อความที่ท่านอ่านแล้วยังไม่เข้าใจ โปรดสอบถามหัวหน้าโครงการวิจัย หรือผู้แทนให้ช่วยอธิบายจนกว่า จะเข้าใจดี ท่านจะได้รับเอกสารนี้ 1 ฉบับ นำกลับไปอ่านที่บ้านเพื่อปรึกษาหารือกับญาติพี่น้อง เพื่อนสนิท แพทย์ประจำตัวของท่าน หรือผู้อื่นที่ท่านต้องการปรึกษาเพื่อช่วยในการตัดสินใจเข้าร่วมการวิจัย

ชื่อโครงการ(ภาษาไทย) ผลของการอบรมครูเรื่อง 101s การสร้างวินัยเชิงบวกต่อการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัย

ชื่อผู้วิจัย นางสาว พิชชาดา สุทธิแป้น

สถานที่ที่สามารถติดต่อได้ สถาบันแห่งชาติเพื่อการพัฒนาเด็กและครอบครัว 999 ถ.พุทธมณฑล ต.ศาลายา อ.พุทธมณฑล จ. นครปฐม 73170 โทร 086-9155355

โครงการวิจัยนี้ทำขึ้น เพื่อศึกษาผลของการอบรมครูเรื่อง 101 การสร้างวินัยเชิงบวกต่อการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัย ซึ่งจะมีประโยชน์ที่คาดว่าจะได้รับคือ ทำให้สามารถช่วยปรับปรุงหลักสูตรการอบรมวิชาชีพครูปฐมวัยในการใช้วินัยเชิงบวกที่ส่งผลต่อพัฒนาการกระบวนการคิดขั้นสูงในเด็กปฐมวัย

ท่านได้รับเชิญให้เข้าร่วมการวิจัยนี้เพราะท่านเป็นคุณครูประจำชั้นอนุบาล 2 ท่านได้รับการเลือกให้เข้าร่วมอบรมในโครงการพัฒนาวิชาชีพครูปฐมวัยผ่านหลักสูตร 101 เทคนิค: คู่มือการสร้างวินัยเชิงบวก ในปีการศึกษา 2554 ซึ่งถือเป็นส่วนหนึ่งของการอบรมพัฒนาวิชาชีพเพื่อเพิ่มศักยภาพของคุณครูที่ทางโรงเรียนจัดขึ้น

การวิจัยจะเริ่มขึ้นในเดือนมิถุนายนถึงเดือนตุลาคม ปีการศึกษา 2554 ระยะเวลาที่จะทำวิจัยทั้งสิ้น 4 เดือน

หากท่านตัดสินใจเข้าร่วมการวิจัยแล้ว จะมีขั้นตอนการวิจัยดังต่อไปนี้คือ

- ผู้สังเกตการณ์ 2 คน จะเข้าเยี่ยมชมห้องเรียนที่ท่านกำลังสอนอยู่ เพื่อที่จะบันทึกข้อมูลเกี่ยวกับการปฏิสัมพันธ์ของคุณครูและเด็กนักเรียน ในการสังเกตการณ์ ผู้สังเกตการณ์ทั้ง 2 คน จะไม่รบกวนหรือพูดคุยกับท่านและเด็กนักเรียน และจะไม่มีการแทรกแซง หรือเข้าร่วมกิจกรรมการเรียนการสอนใด ๆ ทั้งสิ้น

- ในการอบรมครูเรื่อง 101s การสร้างวินัยเชิงบวกนั้น จะใช้เวลา 1 วันเต็มในการอบรมในหัวข้อดังต่อไปนี้

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1. ผลของความสัมพันธ์ระหว่างครูกับนักเรียนที่ดีต่อทักษะกระบวนการคิดขั้นสูงของเด็กโดยอาจารย์ ดร.ปนัดดา ธนเศษฐกร

2. ผลของความสัมพันธ์ระหว่างครูกับนักเรียนที่ดีต่อพัฒนาการทางสมองของเด็กโดยอาจารย์ ดร.ปนัดดา ธนเศษฐกร

3. พัฒนาการทางอารมณ์ และสังคมต่อการทักษะกระบวนการคิดขั้นสูงของเด็กโดยอาจารย์ ดร.ปนัดดา ธนเศษฐกร

4. 15 เทคนิคการสร้างวินัยเชิงบวกจาก 101 เทคนิคในการสร้างวินัยเชิงบวก โดยอาจารย์ ดร.ปนัดดา ธนเศษฐกร

หลังจากนั้นท่านจะได้รับแบบบันทึกการใช้เทคนิคการสร้างวินัยเชิงบวกในแต่ละวันภายในห้องเรียนและผลหลังจากการใช้เทคนิคการสร้างวินัยเชิงบวกโดยให้ท่านเป็นคนบันทึกเองและจะมีการนัดประชุมทุกวันศุกร์ใช้เวลาประมาณ 2 ชั่วโมงในการอภิปราย และสอบถามข้อสงสัยในการนำเทคนิคการสร้างวินัยเชิงบวกไปใช้ เป็นเวลาจำนวนทั้งสิ้น 12 ครั้ง

- เมื่อถึงปลายเทอมการศึกษา ผู้สังเกตการณ์ 2 คนจะเข้าเยี่ยมชมห้องเรียนที่ท่านกำลังสอนอยู่เพื่อที่จะบันทึกข้อมูลเกี่ยวกับการปฏิสัมพันธ์ของท่านและเด็กนักเรียนอีกครั้งหนึ่ง

- หากท่านมีความยินดีมีส่วนร่วมในการวิจัย ท่านจะได้รับแบบสอบถามเกี่ยวกับพฤติกรรมของเด็กนักเรียนของท่าน 1 ฉบับ ใช้เวลาในการตอบแบบสอบถามประมาณ 15 – 20 นาที

ความเสี่ยงที่อาจจะเกิดขึ้นเมื่อเข้าร่วมการวิจัย ท่านอาจรู้สึกอึดอัด ไม่สบายใจ เครียด หรือเสียเวลาท่านมีสิทธิ์ที่จะไม่อนุญาตให้สังเกต หรือตอบคำถามเหล่านั้นได้

หากท่านไม่เข้าร่วมในการวิจัยนี้ก็จะไม่มีผลต่อ หน้าที่การงานกรณีของท่าน

หากท่านไม่เข้าร่วมในโครงการวิจัยนี้ จะไม่มีผลต่อสถานะของท่านทั้งปัจจุบันและอนาคต

หากเกิดผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัย ท่านสามามารถติดต่อผู้วิจัยได้ทันทีหากมีข้อข้องใจที่จะสอบถามเกี่ยวข้องกับการวิจัย

หากมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และโทษที่เกี่ยวข้องกับการวิจัยนี้ ผู้วิจัยจะแจ้งให้ทราบโดยรวดเร็วไม่ปิดบัง

หากมีข้อข้องใจที่จะสอบถามเกี่ยวข้องกับการวิจัย หรือเมื่อบาดเจ็บ/เจ็บป่วยจากการวิจัย สามารถติดต่อ นางสาว พิชชาดา สุทธิแป้น ได้ สถาบันแห่งชาติเพื่อการพัฒนาเด็กและครอบครัว หมายเลขโทรศัพท์ 0869155355

ในการศึกษาครั้งนี้จะไม่มีค่าตอบแทนที่จะได้รับ และไม่มีค่าใช้จ่ายที่ผู้เข้าร่วมการวิจัยจะต้องรับผิดชอบเอง

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หากมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และโทษที่เกี่ยวข้องกับการวิจัยนี้ ผู้วิจัยจะแจ้งให้ทราบโดยรวดเร็วไม่ปิดบัง

ข้อมูลส่วนตัวของผู้เข้าร่วมการวิจัยจะถูกเก็บรักษาไว้ ไม่เปิดเผยต่อสาธารณะเป็นรายบุคคล แต่จะรายงานผลการวิจัยเป็นข้อมูลส่วนรวม ข้อมูลของผู้เข้าร่วมการวิจัยเป็นรายบุคคลอาจมีคณะบุคคลบางกลุ่มเข้ามาตรวจสอบได้ เช่น ผู้ให้ทุนวิจัย, สถาบัน หรือองค์กรของรัฐที่มีหน้าที่ตรวจสอบ, คณะกรรมการจริยธรรมฯ เป็นต้น

ผู้เข้าร่วมการวิจัยมีสิทธิ์ถอนตัวออกจากโครงการวิจัยเมื่อใดก็ได้ โดยไม่ต้องแจ้งให้ทราบล่วงหน้า และการไม่เข้าร่วมการวิจัยหรือถอนตัวออกจากโครงการวิจัยนี้ จะไม่มีผลกระทบต่อการบริการและการรักษาที่สมควรจะได้รับแต่ประการใด

โครงการวิจัยนี้ได้รับการพิจารณารับรองจาก คณะกรรมการจริยธรรมการวิจัยในคนของมหาวิทยาลัยมหิดล ซึ่งมีสำนักงานอยู่ที่ สำนักงานอธิการบดีมหาวิทยาลัยมหิดล ถนนพุทธมณฑลสาย 4 ตำบลศาลายา อำเภอพุทธมณฑล จังหวัดนครปฐม 73170 หมายเลขโทรศัพท์ 02-849-6223-5 โทรสาร 02-849-6223 หากท่านได้รับการปฏิบัติไม่ตรงตามที่ระบุไว้ ท่านสามารถติดต่อกับประธานคณะกรรมการฯ หรือผู้แทน ได้ตามสถานที่และหมายเลขโทรศัพท์ข้างต้น

ข้าพเจ้าได้อ่านรายละเอียดในเอกสารนี้ครบถ้วนแล้ว

ลงชื่อ.....ผู้เข้าร่วมวิจัย

(.....)

วันที่.....

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หนังสือแสดงเจตนายินยอมเข้าร่วมการวิจัยโดยได้รับการบอกกล่าวและเต็มใจ

วันที่..... เดือน..... พ.ศ.....

ข้าพเจ้า.....อายุ.....ปี อาศัยอยู่บ้านเลขที่.....

ถนน.....ตำบล.....อำเภอ.....

จังหวัด.....รหัสไปรษณีย์.....โทรศัพท์ .....

ขอแสดงเจตนายินยอมเข้าร่วมโครงการวิจัยเรื่องผลของการอบรมครูเรื่อง 101s การสร้างวินัยเชิงบวกต่อการใช้วินัยเชิงบวกของครูและกระบวนการคิดขั้นสูงในเด็กปฐมวัย

โดยข้าพเจ้าได้รับทราบรายละเอียดเกี่ยวกับที่มาและจุดมุ่งหมายในการทำวิจัยรายละเอียดขั้นตอนต่างๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ประโยชน์ที่คาดว่าจะได้รับของการวิจัยและความเสี่ยงที่อาจจะเกิดขึ้นจากการเข้าร่วมการวิจัย รวมทั้งแนวทางป้องกันและแก้ไขหากเกิดอันตรายขึ้น ค่าตอบแทนที่จะได้รับ ค่าใช้จ่ายที่ข้าพเจ้าจะต้องรับผิดชอบจ่ายเอง โดยได้อ่านข้อความที่มีรายละเอียดอยู่ในเอกสารชี้แจงผู้เข้าร่วมการวิจัยโดยตลอด อีกทั้งยังได้รับคำอธิบายและตอบข้อสงสัยจากหัวหน้าโครงการวิจัยเป็นที่เรียบร้อยแล้ว โดยไม่มีสิ่งใดปิดบังซ่อนเร้น

ข้าพเจ้าจึงสมัครใจเข้าร่วมในโครงการวิจัยนี้ :

ข้าพเจ้าได้ทราบถึงสิทธิ์ที่ข้าพเจ้าจะได้รับข้อมูลเพิ่มเติมทั้งทางด้านประโยชน์และโทษจากการเข้าร่วมการวิจัย และสามารถถอนตัวหรือองดเข้าร่วมการวิจัยได้ทุกเมื่อ โดยจะไม่มีผลกระทบต่อการบริการและการรักษาพยาบาลที่ข้าพเจ้าจะได้รับต่อไปในอนาคต และยินยอมให้ผู้วิจัยใช้ข้อมูลส่วนตัวของข้าพเจ้าที่ได้รับจากการวิจัย แต่จะไม่เผยแพร่ต่อสาธารณะเป็นรายบุคคล โดยจะนำเสนอเป็นข้อมูลโดยรวมจากการวิจัยเท่านั้น

หากข้าพเจ้ามีข้อข้องใจเกี่ยวกับขั้นตอนของการวิจัย หรือหากเกิดผลข้างเคียงที่ไม่พึงประสงค์จากการวิจัยขึ้นกับข้าพเจ้า ข้าพเจ้าจะสามารถติดต่อกับนางสาวพิชชาดา สุทธิแป้น โทร 086-9155355

หากข้าพเจ้าได้รับการปฏิบัติไม่ตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงผู้เข้าร่วมการวิจัย ข้าพเจ้าจะสามารถติดต่อกับประธานคณะกรรมการจริยธรรมการวิจัยในคนหรือผู้แทน ได้ที่สำนักงานคณะกรรมการจริยธรรมการวิจัยในคน กองบริหารงานวิจัย สำนักงานอธิการบดีมหาวิทยาลัยมหิดล โทร. 02-849-6223-5 โทรสาร 02-849-6223

ข้าพเจ้าเข้าใจข้อความในเอกสารชี้แจงผู้เข้าร่วมการวิจัย และหนังสือแสดงเจตนายินยอมนี้โดยตลอดแล้ว จึงลงลายมือชื่อไว้

ลงชื่อ.....ผู้เข้าร่วมการวิจัย/ผู้แทนโดยชอบธรรม/ วันที่.....

(.....)

ลงชื่อ.....ผู้ให้ข้อมูลและขอความยินยอม/หัวหน้าโครงการวิจัย/วันที่.....

(.....)

ในกรณีผู้เข้าร่วมการวิจัยไม่สามารถอ่านหนังสือได้ผู้ที่อ่านข้อความทั้งหมดแทนผู้เข้าร่วมการวิจัยคือ..... จึงได้ลงลายมือชื่อไว้เป็นพยาน

ลงชื่อ..... พยาน/ วันที่.....

(.....)

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แบบสอบถามสำหรับผู้ปกครอง

ขอให้ท่านโปรดอ่านข้อความต่อไปนี้แล้วกรุณาเติมข้อความลงในช่องว่าง และเขียน ✓ลงใน □ หน้าข้อความที่ตรงกับความเป็นจริงมากที่สุด และกรุณาทำให้ครบทุกข้อ เพื่อความสมบูรณ์ของแบบสอบถาม

<u>ส่วนที่ 1</u> ข้อมูลเกี่ยวกับผู้ปกครอง

1. ผู้ตอบแบบสอบถามมีความเกี่ยวข้องกับเด็กเป็น
   - ❒ บิดา ❒ มารดา
   - ❒ ปู่/ ย่า/ ตา/ ยาย ❒ ลุง/ ป้า/ น้า/ อา
   - ❒ อื่นๆ (ระบุ).....
2. เด็กอยู่ภายใต้การดูแลของ
   - ❒ บิดาและมารดา ❒ บิดา
   - ❒ มารดา ❒ อื่นๆ(ระบุ)……..

   จำนวนสมาชิกในครอบครัว……..คน
3. ระดับการศึกษาของ

   บิดา ❒ต่ำกว่ามัธยมศึกษา ❒มัธยมศึกษา ❒ปริญญาตรี ❒ปริญญาโท ❒ปริญญาเอก ❒อื่นๆ (ระบุ) ……..

   มารดา ❒ต่ำกว่ามัธยมศึกษา ❒มัธยมศึกษา ❒ปริญญาตรี ❒ปริญญาโท ❒ปริญญาเอก ❒อื่นๆ (ระบุ) ……..
4. อาชีพของ

   บิดา (โปรดระบุ) …….

   มารดา (โปรดระบุ) ……..
5. รายได้เฉลี่ยของครอบครัวต่อเดือน (บาท)

   ❒ต่ำกว่า 10,000 ❒20,000 – 30,000 ❒40,000 – 50,000 ❒10,000 – 20,000 ❒30,000 – 40,000 ❒50,000 ขึ้นไป

<u>ส่วนที่ 2</u> ข้อมูลเกี่ยวกับเด็ก

1. เพศ ❒ชาย ❒หญิง
2. เด็กอายุ……..ปี……..เดือน (เกิดวันที่……..เดือน……..ปี……..)

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3. กำลังศึกษาอยู่ในระดับชั้น……..
4. เด็กมีโรคประจำตัวหรือไม่

❒ไม่มี ❒ มี (ระบุ) ……..

5. เด็กมีความพิการทางด้านร่างกายหรือไม่

❒ ไม่มี ❒มี (ระบุ) ……..……..

6. ตั้งแต่แรกเกิดถึงปัจจุบัน เด็กมีปัญหาเรื่องการเรียนหรือไม่ เช่น ความบกพร่องทางการเรียนรู้ (Learning Disability)

❒ ไม่มี ❒ถ้ามี (ระบุ) ……..

7. คุณคิดว่าที่ผ่านมาสุขภาพของเด็กเป็นอย่างไร

❒สุขภาพดีมาก (ไม่ค่อยป่วยหรือน้อยกว่า 2 ครั้ง / ปี)

❒สุขภาพดี (ป่วยบ้าง 2-4 ครั้ง / ปี)

❒สุขภาพไม่ค่อยดี (ป่วยบ่อย หรือมากกว่า 5 ครั้ง / ปี)

8. เคยมีอาการชักหรือไม่

❒ไม่เคย ❒เคย แต่ไม่ทราบสาเหตุ

❒เคย ทราบสาเหตุ คือ (ระบุสาเหตุ ระยะเวลาที่ชัก, มีอาการบ่อยหรือไม่ เป็นต้น)

……

9. โดยเฉลี่ยเด็กนอนหลับ (ในเวลากลางคืน) ……..ชั่วโมงต่อวัน
10. เด็กมีปัญหาในการนอนหลับหรือไม่

❒ไม่มี ❒มี(ระบุ) ……..ครั้งต่อเดือน

11. เด็กมีโอกาสได้เรียนพิเศษเกี่ยวกับกิจกรรมต่างๆ ที่เพิ่มจากการเรียนการสอนในโรงเรียน

- กิจกรรมส่งเสริมพัฒนาการ

❒ไม่ได้รับ ❒ได้รับ .....ชั่วโมงต่อสัปดาห์

- กิจกรรมทางด้านภาษา

❒ไม่ได้รับ ❒ได้รับ .....ชั่วโมงต่อสัปดาห์

- กิจกรรมทางด้านศิลปะ

❒ไม่ได้รับ ❒ได้รับ .....ชั่วโมงต่อสัปดาห์

- กิจกรรมทางด้านวิชาการ

❒ไม่ได้รับ ❒ได้รับ .....ชั่วโมงต่อสัปดาห์

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- กิจกรรมทางด้านกีฬา

❒ไม่ได้รับ ❒ได้รับ .....ชั่วโมงต่อสัปดาห์

- กิจกรรมอื่นๆ (ระบุ)…….....ได้รับ.....ชั่วโมงต่อสัปดาห์

12. บุตรของท่านเริ่มเข้ามาศึกษาในโรงเรียนปัจจุบันตั้งแต่ระดับชั้นใด……..

13. เด็กใช้เวลาในการทำกิจกรรมอะไรมากที่สุดเมื่ออยู่ที่บ้าน

1. ……เป็นเวลา……..ชั่วโมงต่อสัปดาห์
2. ……เป็นเวลา……..ชั่วโมงต่อสัปดาห์
3. ……เป็นเวลา……..ชั่วโมงต่อสัปดาห์
4. ……เป็นเวลา……..ชั่วโมงต่อสัปดาห์

14. ท่านทำกิจกรรมอะไรร่วมกับบุตรหลานของท่าน

1. ……เป็นเวลา……..ชั่วโมงต่อสัปดาห์
2. ……เป็นเวลา……..ชั่วโมงต่อสัปดาห์
3. ……เป็นเวลา……..ชั่วโมงต่อสัปดาห์
4. ……เป็นเวลา……..ชั่วโมงต่อสัปดาห์

ขอขอบพระคุณในการให้ความร่วมมือ

นางสาวพิชชาดา สุทธิแป้น

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แบบสอบถามสำหรับคุณครู

<u>คำชี้แจง</u> ขอให้ท่านโปรดอ่านข้อความต่อไปนี้แล้วกรุณาเติมข้อความลงในช่องว่าง และโดยทำเครื่อง ✓ลงใน ช่องว่าง □ หน้าข้อความที่ตรงกับความเป็นจริงมากที่สุด และกรุณาทำให้ครบทุกข้อ เพื่อความสมบูรณ์ของแบบสอบถาม

1. เพศ
   - ❒ ชาย ❒ หญิง
2. อายุ
   - ❒ ต่ำกว่า 25 ปี ❒ 26-30 ปี
   - ❒ 31-35 ปี ❒ 35-40 ปี
   - ❒ สูงกว่า 40 ปี
3. ระดับการศึกษา
   - ❒ ต่ำกว่าปริญญาตรี ❒ปริญญาตรี
   - ❒ ปริญญาโท ❒ปริญญาเอก
4. วิชาเอก
   - ❒ อนุบาลศึกษาหรือปฐมวัยศึกษา
   - ❒ ประถมศึกษา
   - ❒ อื่นๆ (โปรดระบุ).....
5. รายได้เฉลี่ยต่อเดือน (บาท)
   - ❒ ต่ำกว่า 10,000 ❒ 20,001 – 30,000 ❒ 40,001 – 50,000
   - ❒ 10,001 – 20,000 ❒ 30,001 – 40,000 ❒ 50,001 ขึ้นไป
6. ประสบการณ์การสอนระดับก่อนประถมศึกษา
   - ❒ ต่ำกว่า 5 ปี ❒ 6-10 ปี
   - ❒ 11-15 ปี ❒ มากกว่า 15 ปี

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แบบสอบถามเกี่ยวกับเด็ก (สำหรับผู้ปกครอง)

ผู้ปกครองของ_____

อายุของบุตรหลานของท่าน_____**เพศ**_____

<u>คำชี้แจง</u> ขอให้ท่านสังเกตพฤติกรรมของบุตรหลานของท่าน และเขียน ✓ ในช่องความถี่ของพฤติกรรมที่เกิดขึ้นในระยะ 6 เดือนที่ผ่านมา **<u>กรุณาทำให้ครบทุกข้อ</u>** เพื่อความสมบูรณ์ของแบบสอบถาม

พฤติกรรม	ความถี่ของการเกิดพฤติกรรม		
	เป็นประจำ	บางครั้ง	ไม่เคย
1.บุตรของท่านแสดงอารมณ์มากเกินไปในเรื่องเล็กน้อย			
2.เมื่อให้ทำงานสองอย่าง บุตรของท่านจำได้แค่อย่างใดอย่างหนึ่ง			
3.บุตรของท่านไม่ระวังว่าพฤติกรรมของตนส่งผลหรือรบกวนผู้อื่น			
4.เมื่อบอกขั้นตอนให้บุตรของท่านทำความสะอาด บุตรของท่านไม่สามารถทำตามขั้นตอนนั้นๆได้			
5.บุตรของท่านมักแสดงอาการหงุดหงิด อารมณ์เสียเมื่อพบสถานการณ์ใหม่ๆ			
6.บุตรของท่านมักจะแสดงอารมณ์โกรธรุนแรง เดือดดาลง่าย			
7.บุตรของท่านมีความยากลำบากในการทำงานให้เสร็จตามขั้นตอนและตามเวลาที่กำหนด			
8.บุตรของท่านไม่หยุดหัวเราะในเรื่องหรือเหตุการณ์ที่ตลกแม้ว่าผู้อื่นหยุดแล้ว			
9.จำเป็นต้องบอกให้บุตรของท่านเริ่มทำสิ่งต่างๆ แม้ว่าสิ่งนั้นเป็นสิ่งที่บุตรของท่านตั้งใจจะทำเอง			
10.บุตรของท่านปรับตัวยากเมื่อเจอกับคนที่เพิ่งรู้จัก เช่น พี่เลี้ยงใหม่ ครูใหม่ เพื่อนใหม่			
11.บุตรของท่านหงุดหงิด อารมณ์เสียได้ง่าย			
12.บุตรของท่านไม่มีสมาธิอย่างต่อเนื่องในการทำกิจกรรมอย่างใดอย่างหนึ่ง เช่น ตอนทำกิจกรรม เล่นเกม หรือต่อจิ๊กซอว์			
13.บุตรของท่านต้องการคำชี้แนะอย่างใกล้ชิดมากกว่าเพื่อนวัยเดียวกัน			
14.เมื่อให้บุตรของท่านไปหยิบสิ่งของ บุตรของท่านจะลืมสิ่งที่บอกให้ไปหยิบ			
15.บุตรของท่านแสดงอาการหงุดหงิด อารมณ์เสียเมื่อเปลี่ยนแผนหรือเปลี่ยนกิจวัตรประจำวัน เช่น ลำดับของกิจกรรมที่ทำในแต่ละวัน การเพิ่มงานในนาทีสุดท้ายของกำหนดการ เปลี่ยนเส้นทางการเดินทาง			

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พฤติกรรม	ความถี่ของการเกิดพฤติกรรม		
	เป็นประจำ	บางครั้ง	ไม่เคย
15.บุตรของท่านแสดงอาการหงุดหงิด อารมณ์เสียเมื่อเปลี่ยนแผนหรือเปลี่ยนกิจวัตรประจำวัน เช่น ลำดับของกิจกรรมที่ทำในแต่ละวัน การเพิ่มงานในนาทีสุดท้ายของกำหนดการ เปลี่ยนเส้นทางการเดินทาง			
16.บุตรของท่านแสดงอารมณ์โกรธ เดือดดาลในเรื่องเล็กๆน้อยๆ			
17.บุตรของท่านทำความผิดพลาดซ้ำแล้วซ้ำอีก แม้จะได้รับการช่วยเหลือแล้วก็ตาม			
18.บุตรของท่านแสดงความก้าวร้าวหรือไร้สาระมากกว่าคนอื่นในกลุ่ม เช่น ในงานวันเกิด ตอนเล่นกับเพื่อนๆ			
19.บุตรของท่านไม่สามารถหาเสื้อผ้า รองเท้า ของเล่น หรือหนังสือ แม้ว่าจะบอกสถานที่วางแล้วก็ตาม			
20.บุตรของท่านใช้เวลานานกว่าจะรู้สึกอุ่นใจในสถานที่หรือสถานการณ์ใหม่ๆ เช่น ญาติห่างๆที่มาเยี่ยม หรือการพบเพื่อนใหม่			
21.บุตรของท่านมีอารมณ์ไม่คงที่ เดี๋ยวดีเดี๋ยวร้าย			
22.บุตรของท่านทำความผิดพลาดในเรื่องง่ายๆ			
23.บุตรของท่านมักมีอาการหงุดหงิด ไม่อยู่นิ่งหรือชอบดิ้นไปมา			
24.บุตรของท่านมีความยากลำบากในการทำตามกิจวัตรที่กำหนด ไม่ว่าจะเป็นการนอน การกิน หรือการทำกิจกรรม			
25.บุตรของท่านถูกรบกวนได้ง่ายด้วยเสียงดัง แสงจ้า หรือกลิ่นบางกลิ่น			
26.บุตรของท่านแสดงอารมณ์เกินกว่าเหตุในเหตุการณ์เล็กน้อย			
27.บุตรของท่านมีความยากลำบากในการทำกิจกรรมหรืองานที่มากกว่าหนึ่งขั้นตอน			
28.บุตรของท่านมักมีอาการหุนหันพลันแล่น ตัดสินใจเร็ว			
29.บุตรของท่านมีความยากลำบากในการคิดแก้ปัญหาด้วยวิธีการต่างๆ เมื่อมีอุปสรรคในการทำกิจกรรมนั้นๆ			
30.บุตรของท่านแสดงอาการวิตกกังวลใจหรือเครียด เมื่อเปลี่ยนสิ่งแวดล้อมใหม่ เช่น เฟอร์นิเจอร์ใหม่ ของในห้องถูกย้าย หรือเสื้อผ้าใหม่			
31.บุตรของท่านโกรธหรือร้องไห้รุนแรงแต่จู่ๆก็หยุดในทันที			
32.บุตรของท่านต้องการความช่วยเหลือจากผู้ใหญ่ในการทำงานต่างๆ			

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พฤติกรรม	ความถี่ของการเกิดพฤติกรรม		
	เป็นประจำ	บางครั้ง	ไม่เคย
33.บุตรของท่านไม่รู้ว่าสิ่งที่ตนเองทำ ทำให้ผู้อื่นตอบสนองต่อตนเองในแง่ลบ			
34.เมื่อได้รับคำสั่งให้ทำความสะอาดหรือเก็บของเล่น บุตรของท่านไม่ยอมทำและปล่อยให้ผู้อื่นทำแทน			
35.บุตรของท่านมีความกังวลเมื่อต้องเปลี่ยนกิจกรรม			
36.บุตรของท่านตอบสนองอย่างรุนแรงมากกว่าเด็กคนอื่นในสถานการณ์เดียวกัน			
37.บุตรของท่านมักลืมว่าตนกำลังทำอะไรอยู่ในระหว่างทำกิจกรรมนั้น			
38.บุตรของท่านไม่ตระหนักว่าการกระทำบางอย่างของตนเองรบกวนผู้อื่น			
39.บุตรของท่านมักติดอยู่กับรายละเอียดเล็กๆน้อยๆของงานและไม่สนใจความคิดหลักของงาน			
40.บุตรของท่านมีความกังวลเมื่อต้องเข้าร่วมกิจกรรมทางสังคมที่ไม่คุ้นเคย เช่น ก่อกวนในงานวันเกิด			
41.บุตรของท่านตื่นตระหนกแม้ในกิจกรรมที่ทำเป็นประจำ			
42.บุตรของท่านมีความยากลำบากในการทำงานให้สำเร็จ เช่น การเล่นเกมต่อจิ๊กซอว์			
43.บุตรของท่านไม่สามารถควบคุมตนเองได้เมื่อเทียบกับเพื่อนวัยเดียวกัน			
44.บุตรของท่านไม่สามารถหาสิ่งของในห้องได้ แม้ว่าจะบอกสถานที่ตั้งให้แล้ว			
45.บุตรของท่านต่อต้านการเปลี่ยนแปลงกิจวัตรประจำวัน อาหาร สถานที่ เป็นต้น			
46.หลังจากเผชิญกับปัญหา บุตรของท่านจะรู้สึกผิดหวังเสียใจเป็นเวลานาน			
47.บุตรของท่านไม่สามารถจดจ่อในหัวข้อเดิมที่กำลังพูดคุยได้			
48.บุตรของท่านมักพูดหรือเล่นเสียงดังมากเกินไป			
49.บุตรของท่านทำงานที่มอบหมายไม่สำเร็จ แม้ว่าบอกวิธีทำแล้วก็ตาม			
50.บุตรของท่านตื่นตระหนกกับสถานการณ์ที่วุ่นวายมีคนพลุกพล่าน เสียงดัง เป็นต้น			
51.บุตรของท่านมีความยากลำบากในการเริ่มต้นทำกิจกรรม แม้ว่าจะได้รับคำแนะนำแล้วก็ตาม			
52.บุตรของท่านแสดงความก้าวร้าวมากหรือไม่สามารถควบคุมตนเองได้			
53.บุตรของท่านไม่พยายามอย่างเต็มที่ในการทำกิจกรรม			
54.บุตรของท่านไม่สามารถหยุดการกระทำแม้ว่าจะมีคนขอให้หยุดแล้วก็ตาม			

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54.บุตรของท่านไม่สามารถหยุดการกระทำแม้ว่าจะมีคนขอให้หยุดแล้วก็ตาม			
55.บุตรของท่านไม่สามารถอธิบายเรื่องราว เหตุการณ์จนจบเรื่องได้			
56.บุตรของท่านทำงานที่ได้รับมอบหมายหรือกิจกรรมต่างๆเสร็จเร็วเกินไป			
57.บุตรของท่านไม่สนใจว่างานที่ทำจะออกมาดีหรือไม่			
58.บุตรของท่านวอกแวกได้ง่ายระหว่างทำกิจกรรม			
59.บุตรของท่านลืมในเรื่องที่บอก แม้ว่าเวลาจะผ่านไปเพียงครู่เดียว			
60.บุตรของท่านมักจะดื้อและไม่มีเหตุผล			
61.บุตรของท่านมีระยะความสนใจสั้น			
62.บุตรของท่านมักเล่นอย่างไม่ระวังหรือประมาทในสถานการณ์ที่อาจเกิดอันตรายได้ (เช่น ในสนามเด็กเล่น ในสระว่ายน้ำ)			
63.บุตรของท่านไม่สนใจว่างานที่ทำจะถูกหรือผิด			

ลงชื่อ_____

(_____)

ขอขอบพระคุณในการให้ความร่วมมือ

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แบบสอบถามเกี่ยวกับเด็ก (สำหรับคุณครู)

ชื่อนักเรียนของท่าน_____**เพศ**_____

ระดับชั้น_____**ท่านสอนนักเรียนคนนี้เป็นเวลา**_____

คำชี้แจง ขอให้ท่านสังเกตพฤติกรรมของนักเรียนของท่าน และเขียน ✓ในช่องความถี่ของพฤติกรรมที่เกิดขึ้นในระยะ 6 เดือนที่ผ่านมา **กรุณาทำให้ครบทุกข้อ** เพื่อความสมบูรณ์ของแบบสอบถาม

พฤติกรรม	ความถี่ของการเกิดพฤติกรรม		
	เป็นประจำ	บางครั้ง	ไม่เคย
1.นักเรียนของท่านแสดงอารมณ์มากเกินไปในเรื่องเล็กน้อย			
2.เมื่อให้ทำงานสองอย่าง นักเรียนของท่านจำได้แค่อย่างใดอย่างหนึ่ง			
3.นักเรียนของท่านไม่ระวังว่าพฤติกรรมของตนส่งผลหรือรบกวนผู้อื่น			
4.เมื่อบอกขั้นตอนให้นักเรียนของท่านทำความสะอาด นักเรียนของท่านไม่สามารถทำตามขั้นตอนนั้นๆได้			
5.นักเรียนของท่านมักแสดงอาการหงุดหงิด อารมณ์เสียเมื่อพบสถานการณ์ใหม่ๆ			
6.นักเรียนของท่านมักจะแสดงอารมณ์โกรธรุนแรง เดือดดาลง่าย			
7.นักเรียนของท่านมีความยากลำบากในการทำงานให้เสร็จตามขั้นตอนและตามเวลาที่กำหนด			
8.นักเรียนของท่านไม่หยุดหัวเราะในเรื่องหรือเหตุการณ์ที่ตลกแม้ว่าผู้อื่นหยุดแล้ว			
9.จำเป็นต้องบอกให้นักเรียนของท่านเริ่มทำสิ่งต่างๆ แม้ว่าสิ่งนั้นเป็นสิ่งที่นักเรียนของท่านตั้งใจจะทำเอง			
10.นักเรียนของท่านปรับตัวยากเมื่อเจอกับคนที่เพิ่งรู้จัก เช่น พี่เลี้ยงใหม่ ครูใหม่ เพื่อนใหม่			
11.นักเรียนของท่านหงุดหงิด อารมณ์เสียได้ง่าย			
12.นักเรียนของท่านไม่มีสมาธิอย่างต่อเนื่องในการทำกิจกรรมอย่างใดอย่างหนึ่ง เช่น ตอนทำกิจกรรม เล่นเกม หรือต่อจิ๊กซอว์			
13.นักเรียนของท่านต้องการคำชี้แนะอย่างใกล้ชิดมากกว่าเพื่อนวัยเดียวกัน			
14.เมื่อให้นักเรียนของท่านไปหยิบสิ่งของ นักเรียนของท่านจะลืมสิ่งที่บอกให้ไปหยิบ			
15.นักเรียนของท่านแสดงอาการหงุดหงิด อารมณ์เสียเมื่อเปลี่ยนแผนหรือเปลี่ยนกิจวัตรประจำวัน เช่น ลำดับของกิจกรรมที่ทำในแต่ละวัน การเพิ่มงานในนาทีสุดท้ายของกำหนดการ เปลี่ยนเส้นทางการเดินทาง			

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16.นักเรียนของท่านแสดงอารมณ์โกรธ เดือดดาลในเรื่องเล็กๆ น้อยๆ			
17.นักเรียนของท่านทำความผิดพลาดซ้ำแล้วซ้ำอีก แม้จะได้รับการช่วยเหลือแล้วก็ตาม			
18.นักเรียนของท่านแสดงความก้าวร้าวหรือไร้สาระมากกว่าคนอื่นในกลุ่ม เช่น ในงานวันเกิด ตอนเล่นกับเพื่อนๆ			
19.นักเรียนของท่านไม่สามารถหาเสื้อผ้า รองเท้า ของเล่น หรือหนังสือ แม้ว่าจะบอกสถานที่วางแล้วก็ตาม			
20.นักเรียนของท่านใช้เวลานานกว่าจะรู้สึกอุ่นใจในสถานที่หรือสถานการณ์ใหม่ๆ เช่น ญาติห่างๆ ที่มาเยี่ยม หรือการพบเพื่อนใหม่			
21.นักเรียนของท่านมีอารมณ์ไม่คงที่ เดี๋ยวดีเดี๋ยวร้าย			
22.นักเรียนของท่านทำความผิดพลาดในเรื่องง่ายๆ			
23.นักเรียนของท่านมักมีอาการหงุดหงิด ไม่อยู่นิ่งหรือชอบดิ้นไปมา			
24.นักเรียนของท่านมีความยากลำบากในการทำตามกิจวัตรที่กำหนด ไม่ว่าจะเป็นการนอน การกิน หรือการทำกิจกรรม			
25.นักเรียนของท่านถูกรบกวนได้ง่ายด้วยเสียงดัง แสงจ้า หรือกลิ่นบางกลิ่น			
26.นักเรียนของท่านแสดงอารมณ์เกินกว่าเหตุในเหตุการณ์เล็กน้อย			
27.นักเรียนของท่านมีความยากลำบากในการทำกิจกรรมหรืองานที่มากกว่าหนึ่งขั้นตอน			
28.นักเรียนของท่านมักมีอาการหุนหันพลันแล่น ตัดสินใจเร็ว			
29.นักเรียนของท่านมีความยากลำบากในการคิดแก้ปัญหาด้วยวิธีการต่างๆ เมื่อมีอุปสรรคในการทำกิจกรรมนั้นๆ			
30.นักเรียนของท่านแสดงอาการวิตกกังวลใจหรือเครียด เมื่อเปลี่ยนสิ่งแวดล้อมใหม่ เช่น เฟอร์นิเจอร์ใหม่ ของในห้องถูกย้าย หรือเสื้อผ้าใหม่			
31.นักเรียนของท่านโกรธหรือร้องไห้รุนแรงแต่จู่ๆก็หยุดในทันที			
32.นักเรียนของท่านต้องการความช่วยเหลือจากผู้ใหญ่ในการทำงานต่างๆ			

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33.นักเรียนของท่านไม่รู้ว่าสิ่งที่ตนเองทำ ทำให้ผู้อื่นตอบสนองต่อตนเองในแง่ลบ			
34.เมื่อได้รับคำสั่งให้ทำความสะอาดหรือเก็บของเล่น นักเรียนของท่านไม่ยอมทำ และปล่อยให้ผู้อื่นทำแทน			
35.นักเรียนของท่านมีความกังวลเมื่อต้องเปลี่ยนกิจกรรม			
36.นักเรียนของท่านตอบสนองอย่างรุนแรงมากกว่าเด็กคนอื่นในสถานการณ์เดียวกัน			
37.นักเรียนของท่านมักลืมว่าตนกำลังทำอะไรอยู่ในระหว่างทำกิจกรรมนั้น			
38.นักเรียนของท่านไม่ตระหนักว่าการกระทำบางอย่างของตนเองรบกวนผู้อื่น			
39.นักเรียนของท่านมักติดอยู่กับรายละเอียดเล็กๆน้อยๆของงานและไม่สนใจความคิดหลักของงาน			
40.นักเรียนของท่านมีความกังวลเมื่อต้องเข้าร่วมกิจกรรมทางสังคมที่ไม่คุ้นเคย เช่น ก่อกวนในงานวันเกิด			
41.นักเรียนของท่านตื่นตระหนกแม้ในกิจกรรมที่ทำเป็นประจำ			
42.นักเรียนของท่านมีความยากลำบากในการทำงานให้สำเร็จ เช่น การเล่นเกม ต่อจิ๊กซอว์			
43.นักเรียนของท่านไม่สามารถควบคุมตนเองได้เมื่อเทียบกับเพื่อนวัยเดียวกัน			
44.นักเรียนของท่านไม่สามารถหาสิ่งของในห้องได้ แม้ว่าจะบอกสถานที่ตั้งให้แล้ว			
45.นักเรียนของท่านต่อต้านการเปลี่ยนแปลงกิจวัตรประจำวัน อาหาร สถานที่ เป็นต้น			
46.หลังจากเผชิญกับปัญหา นักเรียนของท่านจะรู้สึกผิดหวังเสียใจเป็นเวลานาน			
47.นักเรียนของท่านไม่สามารถจดจ่อในหัวข้อเดิมที่กำลังพูดคุยได้			
48.นักเรียนของท่านมักพูดหรือเล่นเสียงดังมากเกินไป			
49.นักเรียนของท่านทำงานที่มอบหมายไม่สำเร็จ แม้ว่าบอกวิธีทำแล้วก็ตาม			
50.นักเรียนของท่านตื่นตระหนกกับสถานการณ์ที่วุ่นวายมีคนพลุกพล่าน เสียงดัง เป็นต้น			

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51.นักเรียนของท่านมีความยากลำบากในการเริ่มต้นทำกิจกรรม แม้ว่าจะได้รับคำแนะนำแล้วก็ตาม			
52.นักเรียนของท่านแสดงความก้าวร้าวมากหรือไม่สามารถควบคุมตนเองได้			
53.นักเรียนของท่านไม่พยายามอย่างเต็มที่ในการทำกิจกรรม			
54.นักเรียนของท่านไม่สามารถหยุดการกระทำแม้ว่าจะมีคนขอให้หยุดแล้วก็ตาม			
55.นักเรียนของท่านไม่สามารถอธิบายเรื่องราว เหตุการณ์จนจบเรื่องได้			
56.นักเรียนของท่านทำงานที่ได้รับมอบหมายหรือกิจกรรมต่างๆ เสร็จเร็วเกินไป			
57.นักเรียนของท่านไม่สนใจว่างานที่ทำจะออกมาดีหรือไม่			
58.นักเรียนของท่านวอกแวกได้ง่ายระหว่างทำกิจกรรม			
59.นักเรียนของท่านลืมในเรื่องที่บอก แม้ว่าเวลาจะผ่านไปเพียงครู่เดียว			
60.นักเรียนของท่านมักจะดื้อและไม่มีเหตุผล			
61.นักเรียนของท่านมีระยะความสนใจสั้น			
62.นักเรียนของท่านมักเล่นอย่างไม่ระวังหรือประมาทในสถานการณ์ที่อาจเกิดอันตรายได้ (เช่น ในสนามเด็กเล่น ในสระว่ายน้ำ)			
63.นักเรียนของท่านไม่สนใจว่างานที่ทำจะถูกหรือผิด			

ลงชื่อ_____

(_____)

ขอขอบพระคุณในการให้ความร่วมมือ

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The 101s Teacher Interaction Checklist (Thanasetkorn & Thanasetkorn)

Classroom: ……..…Teacher name: ……...

Observation Date: ……Data Collector: …….

Part I: Positive Interaction Subscale
Observe the teacher 4 times for 20 minutes each. For each of these you are asked to rate the teacher interaction practices on a 3-point scale raged from, 1 (Not Characteristic) to 3 (Usually Characteristic).

Not Characteristic (1) = happened 1-2 times with 20 minutes
Somewhat Characteristic (2) = happened 3-4-5 times with 20 minutes
Usually Characteristic (3) = happened 6 and over times with 20 minutes

Classroom behavioral Man.	**Time One**	**Time Two**	**Time Three**	**Time Four**
Make a Big Deal Principle				
Ask the Child Principle				
Choice Principle				
When/Then Abuse it /Lose it Principle				
I Message Principle				
Timer Says It's Time Principle				
Whisper Principle				
Cueing Principle				
Divide and Conquer Principle				
Empowerment Principle				
Emotional Support	**Time One**	**Time Two**	**Time Three**	**Time Four**
Belonging and significance Principle				
Get on the Child's Eye Level Principle				
Validation Principle				
Change of Environment Principle				
Encouragement Principle				

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The 101s Teacher Interaction Checklist (Thanasetkorn & Thanasetkorn)

PART II: Negative Interaction Subscale

Observe the teacher 4 times for 20 minutes each. For each of these you are asked to rate the teacher interaction practices on a 3-point scale raged from, Not Characteristic (3) to Usually Characteristic (1).

Not Characteristic (3) = happened 1-2 times with 20 minutes
Somewhat Characteristic (2) = happened 3-4-5 times with 20 minutes
Usually Characteristic (1) = happened 6 and over times with 20 minutes

	Time One	**Time Two**	**Time Three**	**Time Four**
Seems critical of the children.				
Speak with irritation or hostile to the children.				
Threatens children in trying to get attention and in control.				
Reprimand the children in front of the class.				
Embarrass a child in front of the class.				
Talk to the children without explanation.				
Finds fault easily with children.				
Seems to prohibit many of the things the children want to do.				
Seems unnecessary harsh when scolding or prohibiting children.				
Use physical				

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BIOGRAPHY

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