

การพัฒนาแบบวัดการมีสติ และการพัฒนาโปรแกรมการเสริมสร้างการมีสติในเด็กอายุ 8-11 ปี



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จุฬาลงกรณ์มหาวิทยาลัย

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THE DEVELOPMENTS OF MINDFULNESS INVENTORY SCALE  
AND MINDFULNESS ENHANCEMENT PROGRAM FOR  
EIGHT-TO ELEVEN-YEAR-OLD CHILDREN

Miss Jirapattara Raveepatarakul



จุฬาลงกรณ์มหาวิทยาลัย

**CHULALONGKORN UNIVERSITY**

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จักรภัทร วรวิภัทรกุล : การพัฒนาแบบวัดการมีสติ และการพัฒนาโปรแกรมการเสริมสร้างการมีสติในเด็กอายุ 8-11 ปี. (THE DEVELOPMENTS OF MINDFULNESS INVENTORY SCALE AND MINDFULNESS ENHANCEMENT PROGRAM FOR EIGHT-TO ELEVEN-YEAR-OLD CHILDREN) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: รศ. ดร. สมโภชน์ เอี่ยมสุภาษิต, อ.ที่ปรึกษาวิทยานิพนธ์ร่วม: ผศ. ดร. พรรณระพี สุทธิวรรณ, ศ. กิตติคุณ วิลเลียม แอล. มิคูลัส, 180 หน้า.

การวิจัยครั้งนี้มีสองการศึกษาตามวัตถุประสงค์หลัก 2 ข้อ คือ (1) การพัฒนาแบบวัดการมีสติสำหรับเด็ก และ (2) การพัฒนาโปรแกรมการเสริมสร้างการมีสติสำหรับเด็กอายุ 8-11 ปี โดยการศึกษาที่ 1 เป็นการสัมภาษณ์บุคคล 3 กลุ่ม คือ เด็กอายุ 7-12 ปี พ่อหรือแม่ของเด็ก และครูสอนวิชาพระพุทธศาสนา เพื่อนำข้อมูลมาประกอบการศึกษาวรรณกรรม-ทฤษฎีที่เกี่ยวข้อง และพัฒนาขึ้นเป็นแบบวัดการมีสติสำหรับเด็กในบริบทของสังคมไทยเชิงพุทธ ที่ประกอบด้วย 2 องค์ประกอบหลักของการมีสติ คือ “การตระหนักรู้” และ “การยอมรับ” และได้พัฒนาขึ้นเป็นแบบวัดการมีสติสำหรับเด็ก รวมทั้งสิ้น 3 ฉบับ คือ ฉบับการรายงานของตัวเด็กเอง ฉบับการรายงานของผู้ปกครองในบริบทของครอบครัว และฉบับการรายงานของครูในบริบทของโรงเรียน และนำไปวิเคราะห์คุณภาพของเครื่องมือ โดยวิธีหลากหลายลักษณะหลายวิธี (Multitrait-multimethod)

การศึกษาที่ 2 เป็นการพัฒนา “โปรแกรมการเสริมสร้างการมีสติสำหรับเด็ก” ตามแนวคิด MBCT-C (Mindfulness-based Cognitive Therapy for Children) และมีการปรับปรุงแก้ไขหลายครั้งโดยการตรวจสอบคุณภาพของโปรแกรมจากการศึกษานำร่องกับเด็กวัยเดียวกัน เพื่อให้เป็นโปรแกรมที่สามารถใช้ได้กับเด็กในบริบทของสังคมไทย และนำโปรแกรมมาทดลองศึกษาจริงในงานวิจัยนี้กับเด็กอายุ 8-11 ปีจำนวน 68 คน ที่ได้รับการสุ่มเข้ากลุ่มทดลองหรือกลุ่มควบคุม โดยเด็กทุกคนเข้าร่วมกิจกรรมการวิจัยที่โรงเรียนนาน 8 สัปดาห์ พร้อมกับตอบแบบวัดการมีสติสำหรับเด็กฉบับการรายงานของเด็ก แบบวัดความซึมเศร้า และแบบวัดการวิเคราะห์อารมณ์ของตนเอง จำนวน 5 ครั้ง รวมทั้งนำแบบฝึกหัดการมีสติกลับไปทำเป็นการบ้านและส่งให้ผู้วิจัยตรวจ 30 ครั้ง ตลอดการทดลอง

ผลการวิจัยจากการศึกษาที่ 1 พบว่า แบบวัดการมีสติสำหรับเด็ก เป็นแบบวัดที่มีคุณภาพ และสามารถใช้ในการประเมิน “การมีสติสำหรับเด็ก” ได้ในระดับดี ดังนี้คือ

(1) แบบวัดการมีสติสำหรับเด็กทั้ง 3 ฉบับ มีความตรงเชิงภาวะสันนิษฐาน (Construct validity) โดยพบว่า คะแนนองค์ประกอบด้าน “การตระหนักรู้” และ “การยอมรับ” ในแบบวัดการมีสติสำหรับเด็กทั้ง 3 ฉบับ มีความสัมพันธ์ทางบวกต่อกันอย่างมีนัยสำคัญทางสถิติที่ระดับ .01 (ฉบับการรายงานของเด็ก = .64 ฉบับการรายงานของพ่อแม่ = .69 และฉบับการรายงานของครู = .54)

(2) แบบวัดการมีสติสำหรับเด็กฉบับการรายงานของเด็ก มีความตรงคู่เข้า (Convergent validity) โดยพบว่า แบบวัดการมีสติสำหรับเด็กฉบับการรายงานของเด็ก มีความสัมพันธ์ทางบวกอย่างมีนัยสำคัญทางสถิติกับฉบับการรายงานของพ่อแม่ ( $r = .18, p < .05$ ) และฉบับการรายงานของคุณครู ( $r = .18, p < .05$ )

(3) แบบวัดการมีสติสำหรับเด็กฉบับการรายงานของเด็ก มีความตรงตามสภาพ (Concurrent validity) โดยพบว่า คะแนนการมีสติสำหรับเด็กฉบับการรายงานของเด็ก มีความสัมพันธ์ทางบวกอย่างมีนัยสำคัญทางสถิติกับคะแนนการใส่ใจในอารมณ์ของผู้อื่น ( $r = .14, p < .05$ ) คะแนนการวิเคราะห์อารมณ์ตนเอง ( $r = .23, p < .05$ ) และคะแนนการเปิดรับประสบการณ์ใหม่ ( $r = .20, p < .05$ ) และมีความสัมพันธ์ทางลบอย่างมีนัยสำคัญทางสถิติกับคะแนนความซึมเศร้า ( $r = -.24, p < .05$ )

(4) แบบวัดการมีสติสำหรับเด็ก ทั้ง 3 ฉบับ มีค่าความเที่ยงในระดับสูง โดยมีค่าความสอดคล้องภายในระหว่าง .83-.88 (ฉบับการรายงานของเด็กอยู่ที่ .88 ฉบับการรายงานของพ่อแม่อยู่ที่ .83 และฉบับการรายงานของครูอยู่ที่ .83)

ผลการวิจัยจากการศึกษาที่ 2 พบว่า โปรแกรมการเสริมสร้างการมีสติสำหรับเด็กมีผลดีต่อเด็กอย่างชัดเจน โดยพบว่า หลังจบการเข้าร่วมโปรแกรมฯ เด็กในกลุ่มทดลองมีคะแนนการมีสติเพิ่มขึ้น และคะแนนความซึมเศร่าลดลง กว่าในช่วงก่อนเข้าร่วมโปรแกรมฯ อย่างมีนัยสำคัญทางสถิติที่ระดับ .017 และหลังจบการเข้าร่วมโปรแกรมฯ เด็กในกลุ่มทดลองยังมีคะแนนการมีสติมากกว่า และคะแนนความซึมเศร่าน้อยกว่า เด็กในกลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติที่ระดับ .017

สาขาวิชา จิตวิทยา

ลายมือชื่อนิสิต .....

ปีการศึกษา 2556

ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์หลัก .....

ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์ร่วม .....

ลายมือชื่อ อ.ที่ปรึกษาวิทยานิพนธ์ร่วม .....

# # 4978258538 : MAJOR PSYCHOLOGY

KEYWORDS: MINDFULNESS / SCHOOL-AGED CHILDREN / ASSESSMENT / MINDFULNESS ENHANCEMENT PROGRAM

JIRAPATTARA RAVEEPATARAKUL: THE DEVELOPMENTS OF MINDFULNESS INVENTORY SCALE AND MINDFULNESS ENHANCEMENT PROGRAM FOR EIGHT-TO ELEVEN-YEAR-OLD CHILDREN. ADVISOR: ASSOC. PROF. SOMPOCH IAMSUPASIT, Ph.D., CO-ADVISOR: ASST. PROF. PANRAPEE SUTTIWAN, Ph.D., PROF. EMERITUS WILLIAM L. MIKULAS, Ph.D., 180 pp.

This dissertation consisted of two studies following the two main purposes. That is (1) developing the Mindfulness Inventory for Children (MIC) and (2) developing the Mindfulness Enhancement Program for 8- to 11-year-old children (MEP). Three groups of participants; that is, 7- to 12-year-old children, their parents, and Buddhist teachers were interviewed in the first study. Their information from interviews, literatures, and related theories were used for developing the MIC in the context of Thai-Buddhist. Results from interviews and literatures revealed that mindfulness in Thai Buddhist context consisted of the two main components; “awareness” and “acceptance”. Then, these two components were used for developing of the three versions of MIC: the Children-Report scale, the Parent-Report scale for evaluating children’s mindfulness-based behaviors at home, and the Teacher-Report scale for assessing the children’s behaviors at school. The MIC was validated by multitrait-multimethod.

The MEP was developed in the second study based on the Mindfulness-based Cognitive Therapy for Children (MBCT-C). To be appropriate for Thai children, the MEP was adjusted many times after the pilot study with the same age children. Then, final version of MEP was used in this study with 68 children, aged 8- to 11-year-old. They were randomly assigned into the experimental or control groups. All of them participated in the study for eight weeks and completed the MIC-Children Report, a short version of the Children Depressive Inventory (CDI), and the Analyses of Emotions Subscale of the Emotion Awareness Questionnaire (EAQ-30) for five times during the study. In addition to attending the MEP at school, children in the experimental group were asked to do a series of 30 homework throughout the study.

In the first study, the results indicated that the MIC is a psychometrically sound measure. It is a good scale for evaluating mindfulness skills in children in Buddhist Thai context.

(1) All three versions of the MIC had a construct validity. The results showed that the scores of “awareness” component and “acceptance” component scores within the three versions had a significantly positive correlation at a .01 level (children-reported = .64, parent-reported = .69, and teacher-reported = .54).

(2) The MIC-Children Report had a convergent validity. The results showed that the MIC-Children Report had the significantly positive correlations with the MIC-Parent Report ( $r = .18, p < .05$ ) and with the MIC-Teacher Report ( $r = .18, p < .05$ ).

(3) The MIC-Children Report had a concurrent validity. The results showed that the scores of the MIC-Children Report had significantly positive correlations with the scores of attending to other’s emotions ( $r = .14, p < .05$ ), analyses emotions ( $r = .23, p < .05$ ), opening to new experience ( $r = .20, p < .05$ ) and had a significantly negative correlation with depression score ( $r = -.24, p < .05$ ).

(4) All three versions of the MIC had high reliability. That is, Cronbach’s alpha for the MIC-Children Report was .88, the MIC-Parent Report was .83, and for the MIC-Teacher Report was .83.

In the second study, the results indicated that the MEP had the good outcomes for children, obviously. The results showed that after attending the MEP children in the experimental group had a significantly higher mindfulness score and lower depression score than before attending the program ( $p < .017$ ; using Bonferroni correction). Moreover, they also had significantly higher mindfulness scores and lower depression scores than children in the control group ( $p < .017$ ; using Bonferroni correction).

Field of Study: Psychology

Academic Year: 2013

Student’s Signature .....

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# CHAPTER 1

## INTRODUCTION

### Background of the Study

Mindfulness and other related constructs have been interested more than 2,500 years ago (Brown & Ryan, 2003; Germer, Siegel, & Fulton, 2005; S. C. Hayes & Shenk, 2004; Langer & Moldoveanu, 2000; Latzman & Masuda, 2013). Interest in them is still growing (Harnett & Dawe, 2012; Lawlor, Schonert-Reichl, Gadermann, & Zumbo, 2013). Especially for children, as teaching mindfulness skills can help children achieve positive development (Harnett & Dawe, 2012); that is, higher mindfulness relates to better physical, emotional, school, and social functioning (Bruin, Zijlstra, & Bögels, 2013). Interest in mindfulness for children rapidly increases. Unfortunately however, mindfulness has been mostly studied with adult (e.g., Germer et al., 2005) and mindfulness-based study in children and adolescents are now at the early stage (e.g., Burke, 2010; Greco, Baer, & Smith, 2011; Lawlor et al., 2013; Semple, Lee, Rosa, & Miller, 2010; Semple, Reid, & Miller, 2005; Thompson & Gauntlett-Gilbert, 2008). A main question in child research which should be considered is how to apply mindfulness into children (Harnett & Dawe, 2012)

Mindfulness has been investigated both in concept and implications (Chiesa, 2012; Keng, Smoski, & Robins, 2011) as a central part of many new cognitive and behavioral therapies (Latzman & Masuda, 2013; Wu, Shi, Xia, & Lu, 2013). However, mindfulness is not an easy construct to be defined. It is still in process of construct development (Felver, Doerner, Jones, Kaye, & Merrell, 2013). Clarifying in definition and components of mindfulness is beneficial for developing research and therapy (Bishop et al., 2004; Germer et al., 2005; S. C. Hayes & Shenk, 2004)

Concept of mindfulness has been applied into several fields; include developmental psychology, psychopathology, educational research, political theory, communication processes, and health-related intervention (Coyne, Cheron, & Ehrenreich, 2008; Langer & Moldoveanu, 2000). It can be used either individually or

altogether with clinical treatment (Prazak et al., 2012). Mindfulness-based approaches were applied into wide range of populations (Baer & Krietmeyer, 2006; Keng et al., 2011; Thompson & Gauntlett-Gilbert, 2008).

Mindfulness relating to all sensory, perceptual, emotional and other mental processes is prepared for here-and-now awareness (Buchheld, Grossman, & Walach, 2001). It can broaden field of awareness (Troy, Shallockcross, Davis, & Mauss, 2012) and encourages people to re-perceive both external and internal experiences (Felver et al., 2013). A mindful person will more notice stimulus, more understand a cause of such stimulus, perform a mindful behavior, and become aware of results from this process (Brewer, Davis, & Goldstein, 2012; Brown & Ryan, 2003; Germer et al., 2005). That is, he can receive more information from the situation (Troy et al., 2012). Therefore, increasing being mindful of external and internal states facilitate clearer observing what the suffering is or what the experience is (Brewer et al., 2012; Felver et al., 2013).

When confronting with undesirable situation, only a mindful person can be aware of and accept in such situation (Brewer et al., 2012), not everyone (Brown & Ryan, 2003). Mindfulness facilitates a person to understand his feeling (Brown & Ryan, 2003; Germer et al., 2005). Therefore, he can balance his emotions (A. M. Hayes & Feldman, 2004); that is, he does not absorbed with worry about the future or attached with the past (Buchheld et al., 2001; Germer et al., 2005; Siegel, 2010) and does not judge or deny present situation (Germer et al., 2005). He can open to all truth instead adhere to his own mistake or fixed judgment (Siegel, 2010). In clinical-setting, clients mainly focus on their past experiences or their future events, but do not concern with the current situation. They always use experiential avoidance strategy which can be decreased by mindfulness (Germer et al., 2005)

Since mindfulness can promote awareness of new experiences (Felver et al., 2013), it improves learning process, such as increasing liking in the new task and improving memory (Langer & Moldoveanu, 2000). Some thinking processes, such as creativity and analytic thinking, are also improved by mindfulness (Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008; S. C. Hayes & Greco, 2008; Kabat-Zinn, 2003;

Langer & Moldoveanu, 2000; M. A. Lau et al., 2006; Napoli, Krech, & Holley, 2005). Since a mindful person can think in multiple ways (Troy et al., 2012), he can effectively solve a problem and get the new structure of perception (Langer & Moldoveanu, 2000).

There is much theoretical and empirical research presenting the effects of mindfulness on psychological health (Keng et al., 2011). Mindfulness has both direct and indirect effects on well-being and happiness (Brown & Ryan, 2003); that is, mindfulness can enhance empathy (Siegel, 2010; Wisner, 2013) and self-compassion which can cultivate well-being (Siegel, 2010). As described that a mindful person can think in multiple way, so that he can cope with stress and emotional distress (Baer, Smith, & Allen, 2004; Bishop et al., 2004; Germer et al., 2005; Langer & Moldoveanu, 2000). Moreover, mindfulness can decrease psychological distress, psychological symptoms, maladaptive emotional regulation (Baer et al., 2004; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006), and anxiety (Coyne et al., 2008; A. M. Hayes & Feldman, 2004).

Since a mindful person can easily consider multiple views and possible options to respond (Zelazo & Lyons, 2012), he sensitively responds to environment, well responds to a new situation, and skillfully responds to emotional distress and maladaptive behaviors (Baer et al., 2004; Bishop et al., 2004; Germer et al., 2005; Langer & Moldoveanu, 2000). Mindfulness can reduce obsession and compulsive behavior, drug addiction, self-harm behaviors, suicidal behavior (Coyne et al., 2008; A. M. Hayes & Feldman, 2004). Especially the automatic behaviors, a person always use this behavior when he responds to situation without evaluating the influences of behaviors (Rieffe et al., 2007; Thompson & Gauntlett-Gilbert, 2008; Zelazo & Lyons, 2012), attending internal state, and being aware of emotions (Brown & Ryan, 2003).

Although, many studies explored about mindfulness, there are still some problems (Wu et al., 2013). One possible reason is no physical or behavioral can be precisely specified as mindfulness (Chiesa, 2012) Therefore, it is hard to conclude which behaviors can indicate mindfulness skill. Moreover, a lot of researches have studied the mindfulness-based practices; however, the practices were different in

many aspects. Therefore, many questions have been occurred, for example, what kind of training is effective? Or what are different effects between short-term program and long-term program (Wu et al., 2013)? Recently, few studies have focused on children (Coyne et al., 2008; Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008). Therefore, researcher should continuously study mindfulness, including definition, components, and programs, to develop mindfulness-based research and therapies for children (Bishop et al., 2004; Brown & Ryan, 2003; Germer et al., 2005; S. C. Hayes & Shenk, 2004)

### **Definition and Components**

Mindfulness can only live in the present or immediate moment (Buchheld et al., 2001). It includes the ability of memory, discrimination, and recognition (Kuan, 2012). From the past researches, definitions of mindfulness are different. No specific definition have been consistently used (Kuan, 2012; Rempel, 2012); however, most of definitions were are similar in two components; that is, awareness and acceptance.

The key definitions of mindfulness are awareness and acceptance. A mindful person has high awareness of both present external and internal experiences and high acceptance without judging such experience (Bishop et al., 2004; Brown & Ryan, 2003; Cardaciotto et al., 2008; Felver et al., 2013; Germer et al., 2005; Giluk, 2009; Harnett & Dawe, 2012; Kabat-Zinn, 2003; M. A. Lau et al., 2006; Lawlor et al., 2013; McCarney, Schulz, & Grey, 2012; Napoli et al., 2005; O'Brien, Larson, & Murrell, 2008; Raes, Griffith, Gucht, & Williams, 2013; Semple & Lee, 2008; Walach et al., 2006; Zelazo & Lyons, 2012). In clinical psychology, mindfulness is awareness of and acceptance present situation, also (Germer et al., 2005). Moreover, it is considered as awareness, acceptance, and observing in present time. This process connects a person with his experiences and leads to understand present sensations, thoughts, and emotions (Bishop et al., 2004; Germer et al., 2005; Walach et al., 2006). This process is applied into the Acceptance and Commitment Therapy (ACT) which define mindfulness as the relationship between people with their experiences. That is, when a mindful person confronts with unpleasant situation, he can accept thoughts and emotions without changing their content (Coyne et al., 2008). Nonjudgment can



be seen in various definitions of mindfulness. It is a broader sense of acceptance. That is, a person who has acceptance will let things go as it be while still be aware of what is happening (Felver et al., 2013; Germer et al., 2005).

However, mindfulness can be viewed as only awareness which does not involve with acceptance. Awareness has a very close meaning with mindfulness which is described in Buddhist literatures (Mikulas, 2011). It involves with observing the contents and processes of the mind, such as thoughts and emotions (Mikulas, 1983, 1987, 2011). It does not relate to thinking, judging, or categorizing. This skill can be practiced by noticing what is happening in consciousness (Mikulas, 2011)

Some researches proposed that attention process being a part of mindfulness helps individual is aware of present-moment situation (Feldman et al., 2007; A. M. Hayes & Feldman, 2004; M. A. Lau et al., 2006). In other words, mindfulness increases attention and awareness of current situation and controls a quality of consciousness (Brown & Ryan, 2003).

In conclusion, *awareness is a process that a person is aware of what is happening to a person both internal (i.e., thoughts and emotions) and external experiences. Acceptance is a process that a person accepts in what is happening as it is.*

Mindfulness can be either state or trait depending on time-frame (Walach et al., 2006). To date, most researches focus on assessing mindfulness as a trait-like construct while mindfulness can be considered as state-like. Trait-like is a tendency of a person to be naturally more mindful than others (Giluk, 2009). State-like is temporary mindful states which a person can be mindful as long as he can regulate his attention and awareness of the present experience (Giluk, 2009; Keng et al., 2011). However, these two types of mindfulness should not be mutually exclusive (Chiesa, 2012). Some researchers (e.g., Bishop et al., 2004; M. A. Lau et al., 2006) believed that mindfulness is a state-like quality. It is maintained by regulation of attention (Bishop et al., 2004). That is, mindfulness will occur when a person regulate attention to current experience (Bishop et al., 2004; Chiesa, 2012; M. A. Lau et al., 2006). State mindfulness relates more to self-regulated behavior (autonomous

action) and emotional well-being than trait mindfulness. However, trait mindfulness predicts state mindfulness, day-to-day self-regulated behavior and emotional well-being (Brown & Ryan, 2003).

Mindlessness, on the other hand, is the lack of mindfulness. A person with mindlessness always refuses to perceive his emotions, thoughts, and motives in present situation (Brown & Ryan, 2003; Germer et al., 2005). Therefore, his present situation is out of awareness. Then, he will react to the situation without perceiving one's inner environment. Mindlessness relates to daydreaming (Germer et al., 2005). Pragmatist argued that automatic or mindlessness saves time and mental activity from important task; however, other argued that automatic thoughts and behavior may create problems (Brown & Ryan, 2003).

Most recent evidences showed that mindfulness can be composed of many components including observing, acting with awareness, and accepting without judging (Chiesa, 2012; Prazak et al., 2012). Also, Baer and colleagues (2004) proposed that mindfulness should be consisted of many components more than only one component. Hence, clarifying of components may help researchers understand the nature of mindfulness and the relations of mindfulness with other constructs. As described above, the core components of mindfulness are comprised awareness and acceptance; however, the difference between the two is not clearly. Therefore, some researchers argued that mindfulness should be a general construct (Cardaciotto et al., 2008) or a single construct, which main concept is present-centered attention (Chiesa, 2012).

At the beginning of developing the mindfulness' measure, most works based on definition of Bishop and colleagues (2004); that is attention was a primary component of mindfulness (Brown & Ryan, 2003). They suggested that mindfulness should be comprised of two components, *self-regulation of attention* and *orientation to experience*. Self-regulation of attention is defined as observing and giving attention to thoughts, emotions, and sensations from moment to moment. This keeps a person to always remind oneself of what is happening. This component involves sustained attention, a person can switch or shift attention from one to

another. Orientation to experience is defined as choosing the attention to give to each thought, emotion, and sensation. It is the active process because a person tries to understand his own thought and emotion and selects attention by his own attitude. This component is incorporated with investigative process, referred to an effort to observe and to understand thoughts and emotions. In sum, mindfulness is the regulation of attention process that leads a person to be aware of the current situation (Feldman et al., 2007; A. M. Hayes & Feldman, 2004; M. A. Lau et al., 2006). However, Lau and colleagues (2006) did not agree with the first component, self-regulation of attention, since self-regulation of attention and orientation to experience may not be clearly separated. They developed two components of mindfulness; *intentional self-regulation of attention* to facilitate awareness and *quality of attention* is established by connection among objects in a person's awareness. After that, Feldman and colleagues (2007) extended the two-component concept of Bishop and colleagues (2004) to four components, *the ability to regulate attention, orientation to present or immediate experience, awareness of experience, and an attitude of acceptance or nonjudgment to experience*.

Moreover, from the development of the Kentucky Inventory of Mindfulness Skills, Baer and colleagues (2004) found that mindfulness has four components, *observing, describing, acting with awareness, and accepting without judgment*. Observing, the most common component, is defined as an observation or attention to various stimuli, including both internal and external experiences. Describing is defined as taking action without judgment. Acting with awareness, the central component of many definitions, is explained as a centering with awareness at current time. Accepting without judgment is defined as acceptance situation without labeling as good or bad. Also, the researchers suggested that defining mindfulness as four components is better than describing in a single component. Two of four components, acting with awareness and accepting without judgment, from the Kentucky Inventory of Mindfulness Skills, were similar to the Philadelphia Mindfulness Scale (Cardaciotto et al., 2008).

Cardaciotto and colleagues (2008), who developed the Philadelphia Mindfulness Scale, proposed two components of mindfulness, *awareness* and

*nonjudgment*. Awareness is defines as a part of mindfulness because it involved in continuous monitoring experience. Nonjudgment is an attitude of acceptance and openness to present experiences. The increase of awareness without acceptance refers to experiential avoidance. Since many investigators developing the mindfulness' scales suggested different components of mindfulness, they are concluded as seen in Table 1.

**Table 1** The components of mindfulness from the mindfulness' scales

Scale	Investigators	Components
The Freiburg Mindfulness Inventory (FMI)	Buchheld and colleagues (2001)	<ul style="list-style-type: none"> <li>● Attention focusing in present-moment situation</li> <li>● Nonjudging attitude to myself and other</li> <li>● Openness to negative mental state</li> <li>● Focusing on process or processing understanding</li> </ul>
The Kentucky Inventory of Mindfulness Skills (KIMS)	Baer and colleagues (2004)	<ul style="list-style-type: none"> <li>● Observing</li> <li>● Explanation</li> <li>● Awareness action</li> <li>● Nonjudging acceptance</li> </ul>
The Toronto Mindfulness Scale (TMS)	Lau and colleagues (2006)	<ul style="list-style-type: none"> <li>● Curiosity</li> <li>● Decenteredness</li> </ul>
The Cognitive and Affective Mindfulness Scale-Revised (CAMS-R)	Feldman and colleagues (2007)	<ul style="list-style-type: none"> <li>● Paying attention</li> <li>● Present-moment focusing</li> <li>● Awareness</li> <li>● Acceptance</li> </ul>
The Philadelphia Mindfulness Scale (PHLMS)	Cardaciotto and colleagues (2008)	<ul style="list-style-type: none"> <li>● Present-moment awareness</li> <li>● Acceptance</li> </ul>

Most researches in clinical psychology, psychotherapy, and Buddhist psychology proposed that mindfulness should be separated into three components, that is, *awareness*, *present-centeredness*, and *acceptance*. Sometimes they work together. However, in some situations, each component can be occurred separately, for example, a person can be aware of situation but may not accept such situation.

Therapists normally refer to these components in examining mindfulness skills on clients (Germer et al., 2005).

However, definitions of mindfulness overlap with other constructs. Some explanations of mindfulness can be intersected with situational self-awareness which refers to an awareness in internal states (i.e., thoughts and emotions) and environment. Moreover, mindfulness overlaps with absorption referring to an ability to sustain attention on current situation (M. A. Lau et al., 2006). However, mindfulness can be differentiated from various forms of self-awareness, such as private self-consciousness and public consciousness. Private self-consciousness, which is overlap with mindfulness, is the high awareness of internal states. Public self-consciousness, which is different from mindfulness, is the tendency concerning with oneself as perceived by other. This form of self-awareness reduces awareness in present situation (Brown & Ryan, 2003).

In this study, the definition of mindfulness was based on the past published writings about mindfulness and existing mindfulness scales. However, to be appropriate for use with Thai children, the definition was mainly based on the information from interviewing with Thai people.

### **Related Constructs**

Everyone can be aware of and attend situations; however, not everyone can reach to the point of mindfulness. Mindfulness skills vary among people. There are many factors that effect on mindfulness (Brown & Ryan, 2003). Researchers found that experiences of meditation practice and receiving advising from mentor can support mindfulness skills (Baer et al., 2004; Bishop et al., 2004; Germer et al., 2005; A. M. Hayes & Feldman, 2004; M. A. Lau et al., 2006; Walach et al., 2006). That is, a person's mindfulness skills will be increased when he has longer meditation experience (Baer et al., 2004; M. A. Lau et al., 2006; Walach et al., 2006) or when he is advised by a mentor who practices in mindfulness (Bishop et al., 2004; Germer et al., 2005). *Openness* which is a type of personality can predict mindfulness. The experiences of openness to whatever is happening involve receiving an input from experience and being present with other (Siegel, 2010). A person with high openness,

opening to all experiences both pleasant and unpleasant, will attend and be aware of the experience without judging (Baer et al., 2004; Chiesa, 2012). Moreover, result from study with undergraduate students suggested that there are four factors can predict mindfulness; that is attention, awareness of internal experience, acceptance of internal experience, and present-focus (A. M. Hayes & Feldman, 2004).

Other constructs were positively related to mindfulness. Correlational research suggested that mindfulness positively correlated with various indicators of psychological health, such as positive affect, life satisfaction, vitality, and emotional regulation (Keng et al., 2011). Higher mindfulness associated with higher well-being (Brown & Ryan, 2003; Feldman et al., 2007), more emotional awareness (analyzing natural, causes, and results of emotions, Rieffe, Oosterveld, Miers, Terwogt, & Ly, 2008) and cognitive flexibility (awareness of alternative thoughts and emotions in situation, Feldman et al., 2007; Zelazo & Lyons, 2012), more effective problem analysis (evaluation antecedents and meaning of stress situation), well plan rehearsal (Feldman et al., 2007), better emotional intelligence (Baer et al., 2004; Brown & Ryan, 2003), and higher self-regulation (Brown & Ryan, 2003). In addition, mindfulness also had positive correlation with constructs about mental health (Baer et al., 2004).

However, mindfulness has negative relationship with psychological distress and psychopathological symptoms (Keng et al., 2011; Prazak et al., 2012). The literatures suggested that a mindful person would have low psychological distress, maladaptive emotional regulation (Baer et al., 2004; Feldman et al., 2007; Walach et al., 2006), and emotional disturbance (Brown & Ryan, 2003). *Depression* and *Anxiety* are causes of suffering (Germer et al., 2005). The former associates with past-oriented thinking; whereas, the latter relates to future-focused thoughts. Depression moves an attention away from the present situation (Hughes, Gullone, & Watson, 2011; Segal, Williams, & Teasdale, 2002; Semple et al., 2010). When a person is in chronically emotional states, such as anxiety or depression, he will lack the ability to understand and appropriately respond to a new situation (Prazak et al., 2012). When a person has suffering from fear in future events and feeling of inability to cope, his mindfulness will be decreased (A. M. Hayes & Feldman, 2004). For children, a child who has high depressive level significantly reported low emotional control,

emotional self-awareness, and situational responsiveness (Hughes et al., 2011). Depression is also an important factor for suicidal ideation in children (Min et al., 2012; Segal et al., 2002). The ability of attending and being aware of current situation help children stop thinking of past and future causing depression and anxiety (O'Brien et al., 2008; Semple, Lee, & Miller, 2006).

Human always try to be happy although it leads to suffering, sometimes. When they cannot clearly find a way to avoid from getting stuck in suffering, an ineffective strategy may be continuously stimulated (Brewer et al., 2012). *Thought suppression* is a process used for unpleasant situations (Brown & Ryan, 2003; Wegner & Zanakos, 1994). A person always tries to stop thinking about unpleasant situations; somehow, he repeatedly returns to think about them (Feldman et al., 2007; A. M. Hayes & Feldman, 2004). Thought suppression causes obsessive thinking, depression and anxiety (Brown & Ryan, 2003; Wegner & Zanakos, 1994). High mindfulness associated with low thought suppression (Feldman et al., 2007; A. M. Hayes & Feldman, 2004).

*Psychological inflexibility* is contrary to psychological flexibility, which describes an ability of response to experiences both internal and external appropriately (Kashdan & Rottenberg, 2010; K. E. Williams, Ciarrochi, & Heaven, 2012). A behavioral example of psychological inflexibility in children is school refusal (Felver et al., 2013). A person who has psychological inflexibility tries to control the unpleasant or undesired thoughts and emotions (Biglan, Layton, Jones, Hankins, & Rusby, 2013). Frequently, psychological inflexibility causes psychopathology in people (Kashdan & Rottenberg, 2010). Experiential avoidance and cognitive fusion are components of psychological inflexibility (Greco, Lambert, & Baer, 2008). Experiential avoidance is an emotional regulation process for response to unwanted situations (Coyne et al., 2008; A. M. Hayes & Feldman, 2004). It is an effort to escape or avoid from both unpleasant external and internal stimuli, including negative emotions, thoughts, and memories (Baer et al., 2004; Feldman et al., 2007; Felver et al., 2013; A. M. Hayes & Feldman, 2004). Cognitive distortion, suppression, and regression are results from experiential avoidance (Coyne et al., 2008; A. M. Hayes & Feldman, 2004). Moreover, experiential avoidance is an important factor of various clinical

disorders including, addictive, anxiety, depression, and impulse control disorders (Riley, 2012). Acceptance, which is an opposite of experiential avoidance, is defined as a willingness to confront thoughts and emotions (Biglan et al., 2013). Another component of psychological inflexibility is cognitive fusion. This component describes responding process as a person always applies his thought from a past situation to others (Greco et al., 2008). Defusion, an opposite process of cognitive fusion, is defined as understands in thoughts and emotions that they are not a reality (Biglan et al., 2013). Since, the main features of mindfulness are awareness and acceptance, many researchers concluded that psychological inflexibility is opposite of mindfulness (e.g., Baer et al., 2004; Coyne et al., 2008; Feldman et al., 2007; A. M. Hayes & Feldman, 2004).

Other concepts also negatively related to mindfulness. For instance, rumination (a person focuses on negative thoughts or emotions), worrying, overgeneralization (a tendency to generalize from a single failure to self-worth, Feldman et al., 2007; A. M. Hayes & Feldman, 2004), stagnant deliberation (a tendency to focus on problem and think of it repeatedly), outcome fantasy (a person responds to stressful situation by daydreaming or fantasizing about desired outcomes, Feldman et al., 2007), and Alexithymia (a person cannot identify emotion and differentiate between body sensations and emotions, Baer et al., 2004).

### **Mindfulness Assessment**

Assessing in various constructs is valuable for developing models and therapies and for expanding knowledge about functions, therapy processes, and benefits from therapies. Mindfulness assessment has just been begun to study only in the last decade (Giluk, 2009). It can examine an efficiency of a developed mindfulness-based program, facilitate to study mechanism of the program (Baer, 2007; Baer et al., 2004; Brown & Ryan, 2003), make progress in definition of mindfulness, define supporting factors for mindfulness skills (Baer et al., 2004; Brown & Ryan, 2003), and advance knowledge for employing mindfulness in children (Coyne et al., 2008). It may be more difficult to study mindfulness' mechanism if the mindfulness assessing researches are not conducted. Moreover, assessing



mindfulness in various context and populations is very important for clarifying how the mindfulness-based practices affect on psychological symptoms and improve well-being (Baer, 2007).

A psychometrically-sound mindfulness measure for children is still in need to more accurately evaluate mindfulness skills in interventions and studies (Bruin et al., 2013; Felver et al., 2013; Harnett & Dawe, 2012; Lawlor et al., 2013). Because of lack of proper measures, the research studying mindfulness in children is limited (Lawlor et al., 2013). Recently, there is the Child and Adolescent Mindfulness Measure (CAMM) which is a self-reported measure for youths over the age of nine years old (Greco et al., 2011).

The mindfulness assessing for children tried to follow mindfulness's theory in adult. However, most of the mindfulness measures in adult mainly are self-report (Coyne et al., 2008). There are some limitations when evaluating mindfulness with self-reported measure. Mindfulness' construct in the self-reported measures are also limited by knowledge of Buddhist and people experiencing in mindfulness meditation. Moreover, when people who practice long-term mindfulness meditation answer the scales, there are some biases as they tend to demonstrate that they are mindful. Semantic understanding of scale items is another limitation. That is, each person interprets words or phrases in different meaning depending on their presence or absence in mindfulness. Because self-reported method aims to evaluate a person's perception about himself, it may be different between how mindful individuals believe themselves to be and how mindful they really are. When several measures are evaluated validity by examining difference between sample of meditators and nonmeditators, they are Hawthorne effect, the overconfidence effect, social desirability, and cognitive dissonance (Grossman, 2008).

A problem is that various skills in children are not completely developed, such as reading skill and expression skills (Goodman, 2005; S. C. Hayes & Greco, 2008). Therefore they cannot report themselves accurately and fluently (Goodman, 2005; S. C. Hayes & Greco, 2008; O'Brien et al., 2008). As a result, mindfulness scales

for adults are not suitable for children and could not be used with children (Goodman, 2005; S. C. Hayes & Greco, 2008).

Because of children's skills, the appropriateness and validity of self-reported measure for children are questionable (Greco et al., 2011; S. C. Hayes & Greco, 2008; O'Brien et al., 2008). In addition to self-reported questionnaire, it may be more useful to include ratings by other resources, such as parents and teachers (Black & Fernando, 2013; Flook et al., 2010). Parents are an important resource for data collecting since they can observe children's behaviors in many occasions at home (O'Brien et al., 2008). Also, as children spent most of their time at school (Rempel, 2012), teachers are another significant source of information. They can observe children's behaviors at school across different activities for several hours each day (Flook et al., 2010). As also noted by Burns and associates (2008), parents and teachers are important resources for researchers and mental health practitioners to obtain information about symptoms of attention deficit-hyperactivity disorder in children.

In sum, to understand mindfulness and outcomes from mindfulness-based program for children, developing the mindfulness assessment for children is very important. Moreover, to prevent some problems from children's limited abilities, the scale should be used other information resources; that is, parents and teachers.

Hence, in this study, *the Mindfulness Inventory Scale for Children (MIC)* was developed based on suggestion of Burns and colleagues (2008) is that parents and teachers are significant resource of information about children's behaviors. The MIC consisted of three versions; that is, the children-report scale, the parent-report scale, and the teacher-report scale.

### **Mindfulness Enhancement Program**

Mindfulness which is a trainable skill (Black & Fernando, 2013; Prazak et al., 2012) can be developed by a systematic program or practice (Buchheld et al., 2001; M. A. Lau et al., 2006; Shapiro, Bootzin, Figueredo, Lopez, & Schwartz, 2003; Siegel, 2010). A mindfulness-based training has been developed within cognitive-behavioral

tradition as important component of third-wave cognitive behavioral therapy model (McCarney et al., 2012). The interest in the training is growing fast (Crane & Kuyken, 2012; Keng et al., 2011; McCarney et al., 2012) with many evidence-based researches (McCarney et al., 2012).

The mindfulness-based training can be applied into multiple settings. The Different programs emphasize different populations and use distinctive treatment approaches (Felver et al., 2013; Harnett & Dawe, 2012). In the past researches, the effectiveness of the training was evaluated by using the program with various populations. These researches have made the training be a popular psychological service. However, researchers who were interested in mindfulness and intervention mostly studied its effects in clinical trials (Felver et al., 2013).

The mindfulness-based training is important for improving mindfulness skills (Del Re, Flückiger, Goldberg, & Hoyt, 2013; Keng et al., 2011). The initial purpose of the training is to lessen sufferings in daily lives, such as sickness or grief (Germer et al., 2005). In the last three decades, the training aimed to teach mindfulness skills for reducing physical and emotional complain (Raes et al., 2013).

Recently, there is increasing in empirical evidence proving the positive effects from the mindfulness-based program (Harnett & Dawe, 2012). The program is very effective for various psychological problems (Greco et al., 2011; Khoury et al., 2013), especially for anxiety, depression, and stress (Khoury et al., 2013). It can reduce depression and anxiety both in normal people and in patients (Finucane & Mercer, 2006). Meta-analysis concluded that mindfulness-based techniques can reduce distress from depression and anxiety (McCarney et al., 2012). Moreover, the program can improve resilience (Siegel, 2010), teach self-awareness, increase impulse-control, lessen emotional reaction to difficult situations (Thompson & Gauntlett-Gilbert, 2008), and decrease overgeneralize symptoms in relapse depression patients (J. M. G. Williams, Teasdale, Segal, & Soulsby, 2000). Because of these positive outcomes, the mindfulness-based programs have become a popular form of intervention (Khoury et al., 2013) and have increased interest in mindfulness (N. Lau & Hue, 2011).

A Mindfulness-based program has the mindfulness-based practices as a main component of the program (McCarney et al., 2012). The practices focus on being aware of moment-to moment situations without judging (Thompson & Gauntlett-Gilbert, 2008). they can decrease the influences of thoughts and emotions on behaviors (S. C. Hayes & Greco, 2008), lessen the automatic thoughts (O'Brien et al., 2008) and automatic responses (e.g., emotional response to a thought, Troy et al., 2012; Zelazo & Lyons, 2012), enhance accepting what is happening as it is (O'Brien et al., 2008), and activate a person approaches to more than avoids from the challenges (Siegel, 2010).

Some mindfulness-based programs include formal meditation practice, whilst other programs teach how to use mindfulness informally in daily lives' activities, such as walking, sitting, standing, and eating (N. Lau & Hue, 2011). An activity which has been always applied into the program for adults is formal meditation practice. Mindfulness meditation is used for practicing paying attention process in present-moment situation without any distraction by what already happen or what might happen (Ott, 2002). A person who practices mindfulness meditation tends to see himself and his thoughts as the detached elements with non-judgmental way (DelMonte, 2011). It can be learned and used in stress reduction, pain control (Ott, 2002), and awareness improving (DelMonte, 2011). Also, it can be applied in children's treatment (Ott, 2002). Another form of meditation is concentration-based meditation which practitioners have to concentrate on a specific stimulus (Baer & Krietmeyer, 2006). Continuous focusing only on one object can block labeling process (DelMonte, 2011). Many mindfulness-based programs always begin with concentration-based meditation (Baer & Krietmeyer, 2006). The difference between these two forms of meditation is how to concentrate during meditation; however, the same component of these two forms is mindfulness practices with nonjudgmental observation (DelMonte, 2011).

### **Mindfulness-Based Program in Adults**

The mindfulness-based practice has been widely applied for reducing stress and improving well-being (N. Lau & Hue, 2011). Mindfulness-based Stress Reduction

(MBSR, Kabat-Zinn, 1982) and Mindfulness-Based Cognitive Therapy (MBCT, Segal et al., 2002) are the two popular mindfulness-based program which have been always used (Raes et al., 2013). Both of them include mindfulness practices as the major component (McCarney et al., 2012). They have good outcomes for various populations and various diseases (Wu et al., 2013). Their success showed that these approaches may help preventing and reducing emotional distress (Raes et al., 2013).

### ***Mindfulness-based Stress Reduction (MBSR)***

The *Mindfulness-Based Stress Reduction* (MBSR, Kabat-Zinn, 1982) is an effective program for decreasing stress in adult (Shapiro et al., 2003). It has been mostly applied for studying mindfulness-based training (Felver et al., 2013). The important key is acceptance without judging in whatever comes to a person. However, he has to understand that nonjudgmental acceptance is not passively or helplessness (Baer & Krietmeyer, 2006). Basic assumption of the program is when a person repeatedly practices mindfulness meditation, he will be able to lower judgmentally and habitually react to his experiences and to be free from maladaptive patterns of thinking and behaviors (Keng et al., 2011). The MBSR can heighten being aware of moment-to-moment experiences. Awareness then increases correct perception, lessens negative emotions, and improves problem-focused coping (Baer & Krietmeyer, 2006; Grossman, Niemann, Schmidt, & Walach, 2004).

Practices in the program emphasize exploration in practitioners' mindfulness experiences. The mindfulness-based practices, in the MBSR, namely "raisin exercise", "body scan", "sitting meditation", "hatha yoga", and "walking meditation". All of these practices, practitioners are asked to pay attention to their present-experience, carefully observe their thoughts, emotions, and sensations without changing or judging them, and nonjudgmentally accept both pleasant and unpleasant experiences (Baer & Krietmeyer, 2006). This program applies mindfulness meditation to relieve suffering from physical, psychosomatic, and psychiatric disorders (Baer & Krietmeyer, 2006; Grossman et al., 2004; O'Brien et al., 2008). In addition to mindfulness-based practices in each session, practitioners are assigned home practices, including walking meditation and mindfulness in daily lives, for helping

them cultivate more continuous awareness of present-time. Also, to explore their experience, they are asked to discuss about their mindfulness experiences (Baer & Krietmeyer, 2006).

### ***Mindfulness-Based Cognitive Therapy (MBCT)***

Another therapy which is based on the MBSR is the *Mindfulness-Based Cognitive Therapy* (MBCT, Segal et al., 2002). It emphasizes changing in patterns of thoughts, emotions, and sensations more than content, frequency, and pattern of situations (Coyne et al., 2008; Greco et al., 2008; Semple et al., 2006; Troy et al., 2012). That is, the therapy focuses on the connection between people and their thoughts or emotions (Troy et al., 2012; Wu et al., 2013) and facilitates people to observe their own thoughts from another point of view (Wu et al., 2013). The two important keys are nonjudgmental acceptance and present-centered awareness. These components may lessen cognitive inflexibility and broaden attention. The program aims to increase paying attention to thoughts and emotions (Troy et al., 2012). The MBCT coaches a person to observe both desirable and undesirable events. Basically, this therapy was developed to prevent the depression relapse for adult (Baer & Krietmeyer, 2006; Crane & Kuyken, 2012; McCarney et al., 2012; O'Brien et al., 2008)

Many mindfulness-based practices are same as those of the MBSR, such as “raisin exercise”, “body scan”, “hatha yoga”, and “walking meditation”. Also, the MBCT has informal mindfulness practice in daily lives, such as walking, running, and driving. However, this therapy adds other practices; that is, “three-minute breathing space”, “cognitive therapy exercise”, “pleasure and mastery activities”, and “relapse preventing action plan”. The “three-minute breathing space” allows a person to step out from automatic pilot at any time. It helps practitioners understand difference between automatic pilot and mindfulness. Therefore, they can view more clearly and choose alternative ways to solve their problems. Since the MBCT has several components from cognitive therapy, the “cognitive therapy exercise” is applied. The practice tries to facilitate practitioners to understand functions of thoughts and emotions in several situations by ABC model. They should clearly understand that

different thoughts lead to different emotions. Eventually, they are aware that thoughts are not the real thing and have much power on their emotions. Other two practices, “pleasure and mastery activities” and “relapse prevention action plan”, aim to prevent depressive emotions (Baer & Krietmeyer, 2006). In western, a person who practices mindfulness must pay attention to his breath. When his mind wanders around, he has to turn his attention back to his breath (Brewer et al., 2012).

### **Mindfulness-Based Program in Children**

Mindfulness-based program study with children and adolescents is still at the early stage (Coyne et al., 2008; Felver et al., 2013; Raes et al., 2013; Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008). Interests in outcomes of the mindfulness-based training with children and adolescents are increasing in the west (N. Lau & Hue, 2011; Rempel, 2012), yet it is still at a starting point in Asian contexts (N. Lau & Hue, 2011). Interestingly, researchers have just started to scientifically explore the outcomes from the training in school-setting (Felver et al., 2013). However, evidence for the efficacy of the training with young children is limited because of weak study designs, including low sample sizes or no randomization (Raes et al., 2013).

Studying mindfulness-based training with children was conducted in two ways; that is, in school-setting and in clinical-setting. A study in school-setting focused on using mindfulness as preventive approach for children. In clinical-setting, a study was conducted with children who were referred with psychological problems or stress-related physiological problems (Harnett & Dawe, 2012). To date, it can be concluded that the training with children is acceptable and practicable (Burke, 2010; Mendelson et al., 2010). However, it is still not clear which age is appropriate for practicing mindfulness (Flook et al., 2010).

Young children can be aware of and change their behaviors, which is importance for improving mindfulness skills (Thompson & Gauntlett-Gilbert, 2008). From anecdotal reports, they showed that children can learn mindfulness meditation and the meditation can reduce stress in children (Ott, 2002; Thompson & Gauntlett-Gilbert, 2008). Especially, young children can evaluate mindfulness by themselves

and can learn mindfulness skills via teaching by their parents and teachers (Napoli et al., 2005). The past research showed that third-grade students can understand the mindfulness-based activities (Klatt, Harpster, Browne, White, & Case-Smith, 2013). Therefore a mindfulness enhancement program can be applied into them (Thompson & Gauntlett-Gilbert, 2008). Not only children reported the benefits from attending the training, but their parents and teachers also noticed that their children improved behavioral (Black & Fernando, 2013; Flook et al., 2010), metacognition, and executive function (Flook et al., 2010).

Many empirical studies supported that mindfulness-based practices are useful for children (Felver et al., 2013; Rempel, 2012; Semple & Lee, 2008; Semple et al., 2006). These studies showed that mindfulness is teachable for them (Thompson & Gauntlett-Gilbert, 2008). Children in elementary school who were attended the mindfulness-based intervention reported improved in paying attention, calm, self-control, participation in activities, and caring or respect for others (Black & Fernando, 2013). Moreover, The MBSR was combined with Tai Chi to apply with school-aged children (i.e., 11-to 13-year old). It indicated that the children can continuously keep attending the program. They reported more experiences of calmness and relaxation and improved sleep quality after participating in the program (Wall & Div, 2005). Klatt and colleagues (2013) attempted to apply the Move-Into-Learning (MIL) which is eight-week school-based mindfulness-based intervention (MBI) into third-grade children to reduce stress. The MIL included mindfulness meditation, yoga, movement with breathing exercises, and appreciative inquiry (AI) exercises, which children can express themselves through writing and visual arts. They found that children who attend the program significantly improved in hyperactivity, ADHD index, and inattentiveness. They concluded that school-based MBI can prevent stress and stress-related behaviors in children. Another study suggested that children who practiced mindfulness in classroom reported benefits. They have better focus and relax, less anxiety before taking a test, make a better decision when confronting with a problem, and can redirect attention to work when off-task (Napoli et al., 2005).

Also, the mindfulness-based practices were applied into special children. For children with anxiety, Sample and colleagues (2005) explored effects of mindfulness



on five seven- to eight-year-old anxious children. The program aimed to improve children's attention. Activities focused on physical sensation and perception, such as walking, sight, sound, smell, and touch, which are direct-experiential learning. Each session emphasized only on one sensation part. These sensation experiences facilitate more simple understanding and applying mindfulness into children's daily lives. The result showed that mindfulness can be taught to children and can be used as intervention for children who have anxiety symptoms. In the same way, another research found that a mindfulness-based program could lessen depressive symptoms significantly in children with depressive and anxiety (Liehr & Diaz, 2010). In addition, mindfulness was applied into children with Attention Deficit Hyperactivity Disorder (ADHD). The experimental group who attended to the Attention Academy Program (AAP) for 12 sessions was compare to the control group who read some books or did other quiet activities. Mindfulness was applied into the AAP to deal with attention, social skill problems, and anxiety in ADHD children. Result showed that the experimental group increased the scores of selective attention and decreased those of social skill problem and anxiety when comparing between pre- and post-program (Napoli et al., 2005).

In sum, the training can lessen psychological distress (Harnett & Dawe, 2012; Rempel, 2012), decrease anxiety (Napoli et al., 2005; Semple et al., 2005) and stress (Felver et al., 2013; Klatt et al., 2013), reduce emotional response to unpleasant experience (Hastings & Singh, 2010; Napoli et al., 2005; Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008; Wall & Div, 2005; Whitehead, 2011), enhance psychological well-being (Felver et al., 2013), improve awareness (Hastings & Singh, 2010; Langer & Moldoveanu, 2000; Semple et al., 2005; Wall & Div, 2005; Whitehead, 2011) and tolerance (Hastings & Singh, 2010; Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008; Wall & Div, 2005; Whitehead, 2011), heighten potential in decision making, increase attention (Napoli et al., 2005) and memory capacity (Langer & Moldoveanu, 2000), control impulsive behaviors (Hastings & Singh, 2010; Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008; Wall & Div, 2005; Whitehead, 2011), and provide supports (Felver et al., 2013). Moreover, the training can improve

classroom behaviors which may be obstacle to academic achievement (Black & Fernando, 2013).

The standard mindfulness-based practice with adults has been applied for use with children to guide them to be aware of the present situations without judging, to monitor and rearrange their attention, to observe their automatic responses to thoughts and emotions (Napoli et al., 2005; Zelazo & Lyons, 2012), to understand and accept their emotions more efficiently, and to improve coping skills and self-awareness (Coholic, Eys, & Loughheed, 2011). Felver and colleagues (2013) summarized the purposes of the program for children into three group; to prevent behavior problems or difficulties for all children, to support small group of children who have similar behavior problems (e.g., anxiety or attention deficit hyperactivity disorder or ADHD etc.), and to give intensive support for children who have extreme behavior difficulties (e.g., aggressive behavior). The different forms of mindfulness-based programs depend on children's needs and their situations. The adaptation can be observed from many researches which explored effectiveness of mindfulness-based program with school-aged children (Felver et al., 2013).

Since children have developmental difference in attention capability, cognitive ability, and interpersonal ability, the program for children should consider these skills (Thompson & Gauntlett-Gilbert, 2008). Using the age-appropriate activities in the practices can facilitate children to reflect their present situation (Zelazo & Lyons, 2012). Furthermore, the program for children has to explain more reason, use various activities, repeat practice, separate activities into short periods, include parents' participation, and apply group-setting (Thompson & Gauntlett-Gilbert, 2008). The group always has a leader, co-leader, and six-to-eight children members. The small size group help a leader can pay attention to every member (Semple et al., 2006). The significant variables are teachers and parents. Their willingness to participate in and use a program can support the outcomes for children (Felver et al., 2013). On average, the mindfulness-based program for children lasts eight weeks (Black & Fernando, 2013). However, Black and Fernanado (2013) found that a shorter (five weeks) mindfulness-based program can improve children's classroom behaviors which were evaluated by their teachers.

### *Mindfulness-based Cognitive Therapy for Children (MBCT-C)*

*The Mindfulness-based Cognitive Therapy for Children (MBCT-C)* is a one of the acceptable mindfulness-based programs for children (Semple & Lee, 2008; Semple et al., 2006). This therapy can be applied into school since it was acceptable by students and teachers (Felver et al., 2013). It was adapted from the MBCT (O'Brien et al., 2008; Semple & Lee, 2008) and developed for nine-to twelve-year old anxious or depressed children (Semple & Lee, 2008; Semple et al., 2006). The therapy has many purposes. First is to help children be aware of their thoughts, emotions, and sensations. Next, all activities aim to improve children's responses to moment-to moment experiences without automatic mode or judging. Last purpose is to facilitate clear identifying past, present, and future (Semple et al., 2006).

The MBCT-C consists of 12-week, in 90 minutes session per day, each week (see Table 2). Many activities teach children to differentiate between "judging" or "labeling" and "explaining" and to observe influences of these behaviors on their perception. Besides, they learn that their thoughts or emotions are not the real. This knowledge allows children to understand that thoughts and emotions just come and go. If they repeat mindfulness-based practices, they can stop their automatic mode and stay in present situations (Semple et al., 2006). The activities based on experiential learning via specific sensory mode (i.e., sight, sound, touch, taste, smell, and kinesthetic) to heighten children's mindfulness skills (Semple & Lee, 2008; Semple et al., 2006). Especially, some of the sensory exercises are congruence with children's needs in physical activity (S. C. Hayes & Greco, 2008; Semple et al., 2006).

Table 2 Purposes and activities of the 12-session MBCT-C

Session	Purposes	Practice
1	<ul style="list-style-type: none"> <li>To develop group network</li> <li>To define the group's expectation</li> </ul>	<ul style="list-style-type: none"> <li>A leader explains mindfulness' definition and homework</li> <li>"Mindful smiling while waking up"</li> <li>Group discussion</li> </ul>
2	<ul style="list-style-type: none"> <li>To solve some obstacles in the group together</li> </ul>	<ul style="list-style-type: none"> <li>"Mindfulness of the breath"</li> <li>"Eating raisin"</li> <li>Group discussion</li> </ul>
3	<ul style="list-style-type: none"> <li>To teach children differentiating thoughts, emotions, and sensations</li> </ul>	<ul style="list-style-type: none"> <li>"Mindful body movement"</li> <li>Group discussion</li> </ul>
4	<ul style="list-style-type: none"> <li>To practice identifying thoughts, emotions, and sensations through hearing and physical sensation</li> </ul>	<ul style="list-style-type: none"> <li>"Receptive listening"</li> <li>"Body scan"</li> <li>Group discussion</li> </ul>
5	<ul style="list-style-type: none"> <li>To continuously practice mindful listening</li> </ul>	<ul style="list-style-type: none"> <li>"Creative expressive sounds"</li> <li>"Three-minute breathing space"</li> <li>Group discussion</li> </ul>
6	<ul style="list-style-type: none"> <li>To practice mindful seeing</li> <li>To differentiate between "judging" and "explaining"</li> </ul>	<ul style="list-style-type: none"> <li>"Guided imagery"</li> <li>Group discussion</li> </ul>
7	<ul style="list-style-type: none"> <li>To continuously practice mindful seeing</li> </ul>	<ul style="list-style-type: none"> <li>"Seeing optical illusions"</li> <li>Group discussion</li> </ul>
8	<ul style="list-style-type: none"> <li>To teach children staying with moment-to moment event through touching</li> <li>To help children understand difference between judging and explaining</li> </ul>	<ul style="list-style-type: none"> <li>"Mindful touching"</li> <li>Group discussion</li> </ul>
9	<ul style="list-style-type: none"> <li>To practice differentiate between "judging" and "explaining" via smelling</li> </ul>	<ul style="list-style-type: none"> <li>"Mindful smelling"</li> <li>Group discussion</li> </ul>
10	<ul style="list-style-type: none"> <li>To practice mindful tasting</li> </ul>	<ul style="list-style-type: none"> <li>"Thoughts are not facts"</li> <li>Group discussion</li> </ul>
11	<ul style="list-style-type: none"> <li>To introduce being mindful in daily lives</li> <li>To review all activities</li> <li>To practice acceptance without judging</li> </ul>	<ul style="list-style-type: none"> <li>Group discussion</li> </ul>
12	<ul style="list-style-type: none"> <li>To explore and share children's mindfulness experiences</li> <li>To close the program</li> </ul>	<ul style="list-style-type: none"> <li>Group discussion</li> <li>Small party</li> </ul>

The MBCT-C is always conducted within group-setting since it can develop mindfulness skills more effective than individual training (Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008). Moreover, each child can discuss their different behaviors within the same situation, give each other feedback, and give children social's network (Semple et al., 2006).

Group discussion conducted when each session finishes is the significant part of the program (Semple & Lee, 2008; Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). It helps children understand the past experiences' influences, present cognition, and expectation of future on their perception and interpretation in present experiences (Semple et al., 2006). Children can learn from each other, teach each other, and help each other in group discussion. As a result, they can understand individual differences in response to same situation and become more aware of the different style in situation interpretation (Semple & Lee, 2008; Semple et al., 2006). Moreover, a group leader can observe children's behaviors and give them feedback (Thompson & Gauntlett-Gilbert, 2008). However, he has to carefully observe the emotion tone of the group because safe environment is important for children (Semple & Lee, 2008; Semple et al., 2006). To facilitate the most effective discussion, the group's atmosphere is an important stimulus. Children have to feel safe to freely report their thoughts and emotions. When they can be fully aware of their thoughts and emotions, the automatic thoughts will be controlled and mindful responses will be cultivated (Thompson & Gauntlett-Gilbert, 2008).

The MBCT-C emphasizes safe and confidential environment, especially the initial session. To build such environment, the program has "rules for mindful behavior" including five rules (Semple et al., 2006; Semple et al., 2005).

1. Everyone should be careful in their speech and performance.
2. Everyone should not interrupt while your friend is speaking.
3. Everyone should put your hand up when you would like to share something in the group.
4. Everyone should not talk with each other while participating in the group.

5. If whoever does not want to participate in activities, you can ask to sit at “my quiet place”, where a chair is placed at the room’s corner.

In addition to the safe and confidential environment, the environment is arranged to be different from school environment and be appropriate for conducting the program. There are two reasons that can explain why the appropriate environment can facilitate distinguishing the program from classroom. First, the appropriate environment can support children to learn from direct experience more than teaching. They can experiment on several more than be taught by a leader. Second, the arranged environment is a clue for guiding that a leader is a part of all activities. For example, a mat is used for various activities. A leader, co-leader, and children sit on the mat and put off their shoes. This shows that a leader will be in a same position as children and be ready to be a part of children’s world (Semple et al., 2006; Semple et al., 2005).

Homework is assigned to do at home everyday. It focuses on learning by direct experience (Semple et al., 2006) and aims to help children apply their learned mindful skill into daily lives. Children are asked to do three-to four short exercises taking for 15 minutes per day and six days per week as homework (Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). Every homework is introduced and practices in each session before assigning to children (Semple et al., 2006). Then, homework in the early week is repeated before starting each session (Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). This homework book is not only worksheet, but also a reward recorded book for children. They would receive reward, such as cartoon stickers, for their attendance and their homework practices. Moreover, children can summarize all activities each day, draw some pictures, and write their stories. When the program finishes, they can keep the book with them (Semple et al., 2006).

Some activities are similar to the MBSR and MBCT; however, the MBCT-C has some different structures from the practices for adults in three points (O'Brien et al., 2008). 1) Since children have a limit of memory and attention span, they cannot pay attention for a long time to only one activity (O'Brien et al., 2008; Semple et al.,

2006; Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008). The MBCT-C is employed for 12-week with repeated short-period activities. The program's activities are divided into three-to five minutes short-period; whilst the MBCT has 20-to 40-minute meditation (Semple et al., 2006; Semple et al., 2005). However, a period of meditation has been not clear what is suitable for children (S. C. Hayes & Greco, 2008; Thompson & Gauntlett-Gilbert, 2008). 2) Several activities which are applied for adults mostly depend on cognitive skills, such as language skill, abstract thinking, and causal thinking, though these skills are limited in children (O'Brien et al., 2008; Semple et al., 2006). Some activities which can interest children, such as games and storytelling, are applied as the main activities for them (Semple et al., 2006; Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008). Moreover, the sensory experience is used for practicing being mindful of both internal and external experiences through physical sensation (i.e., sight, sound, touch, taste, and smell). They can respond children's need to use their body for doing activities, also (Hayes & Greco, 2008; Semple et al., 2006). 3) When working with children, social network, such as family, school, and neighborhood, should be intervened (Hayes & Greco, 2008). The most important agent is family (O'Brien et al., 2008). They should understand benefits of mindfulness (Thompson & Gauntlett-Gilbert, 2008) and be included in the program (O'Brien et al., 2008; Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). At home, they can facilitate practicing mindfulness (Semple et al., 2006), for example, they can teach children to observe whatever is occurring in moment-to moment daily experience. Another important agent is teachers. Since school environment can influence children's social skills, emotional development and behavioral development (Rempel, 2012), teachers' behaviors are significant model for enhancing children's mindfulness skills (Zelazo & Lyons, 2012).

As described above, children's family is important when dealing with children thus the MBCT-C was designed as three forms of activities involving family. 1) The program is designed to let children's family participate throughout it (O'Brien et al., 2008). They are invited to attend several activities with their child (O'Brien et al., 2008; Semple et al., 2006). 2) Each child will receive the documents; that is activities' details for each day, mindfulness-based practices at home, and diary. These

documents help their family understand the program and facilitate participating with their child at home 3) children's families are invited to share their experiences when the program finishes. Besides, they are asked to plan some mindfulness-based activities to join with their child (Semple et al., 2006).

Group leader has an important role as facilitator in the program. His function is to encourage participants to carefully observe experiences without changing them. Also, group leader should return participants' attention to mindfulness-based exercise (Baer & Krietmeyer, 2006). Therefore, group leader has to understand the program's structure, respond to children by his personal experiences not by theory, observe children's responses without judging, and pay attention to children's behavioral and emotional changing (Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). Children's responses give a leader clue about their mindfulness skills (Thompson & Gauntlett-Gilbert, 2008). Some skills are important for group leader; that is teaching skill, nonjudging thought, patience, trust, and acceptance. Moreover, group leader should practice mindfulness skills, such as daily meditation practice, counseling, or psychotherapy training (Baer & Krietmeyer, 2006; Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008).

To conclude, applying mindfulness-based practices into children should concern about differences in cognitive ability and interpersonal functioning development (Semple et al., 2006), including memory, attention, language development, abstract reasoning, and conceptualization (O'Brien et al., 2008). There are several important points which should be considered when applying the practices into children. First, the program should be managed with variety and repeated activities. Repetitions of a same activity help children have different experiences for each time. Children cannot do the same thing for a long time, thus variety of activity is necessary. Different activities can sustain children's interest and prevent boring. Moreover, program for children should be shorter than program for adults (Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). Practice time depends on developmental level (Ott, 2002). Next, a group-setting should be used in program for children since this setting creates more potential than individual program (Thompson & Gauntlett-Gilbert, 2008). Parents are significant part in the program for



children, also. They should attend the program to understand how mindfulness is beneficial for their children (O'Brien et al., 2008; Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). Children's participation relates to parent's involvement and interest (Semple & Lee, 2008). Finally, group leader have to give children a clear explanation and rationale because they may not clearly understand the connection between mindfulness-based practices in sessions and daily live practices at home. In addition, metaphors may be applied to gives a better explanation to children (Thompson & Gauntlett-Gilbert, 2008).

An effectiveness of a mindfulness-based program in children can evaluate in many ways. Group discussion is a method to evaluate mindfulness skills' progress in practitioners (Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). Mindfulness skills can be heightened by free sharing in group. Another way is observing signs of mindfulness skills' progress during mindfulness-based practices. A group leader should carefully observe children's feedbacks. A change in style of their feedbacks, which can be observed in both practice sessions and real life situations, are the indicators of mindfulness skills (Thompson & Gauntlett-Gilbert, 2008).

In this study, *the Mindfulness Enhancement Program (MEP)* was developed with applying some activities of the MBCT-C. However, the activities were adjusted to be appropriate for use with Thai school-aged children in school.

### **Child Development**

When use a mindfulness-based program, developmental level of children should be necessarily considered. Applying a program for adult into children has to adjust to be appropriate with their development (Felver et al., 2013). According to Piaget, 7-to 11-year-old children's are in the concrete operational stage (Blake & Pope, 2008; Santrock, 2011). They develop logical reasoning; however, the reasoning can be applied only into concrete examples (Santrock, 2011). Therefore, children should be taught by concrete objects or touchable object by children's sensations.

As described above, some researchers believed that attention is a part of mindfulness (Feldman et al., 2007; A. M. Hayes & Feldman, 2004; M. A. Lau et al.,

2006). Mindfulness is maintained by regulation of attention (Bishop et al., 2004). It connects mind and external environment. Eight-year-old children understand that they can control attention process. They know if they did not pay attention to what their teacher are saying, they cannot clearly understand what he says (Flavell, Miller, & Miller, 2002). Everyone can pay attention to limit amount of stimuli. Attention has several types; that is, selective attention, divided attention, executive attention, and sustained attention. A person can focus only on specific stimulus while ignore others which is a process of selective attention. Another process is divided attention; that is, a person can pay attention to more than one activity at the same time. Executive attention involves several skills, such as action planning, error detection and compensation, and monitoring progress on tasks. Sustained attention is an ability to maintain attention to selected stimulus (Santrock, 2011) which involves mindfulness (Bishop et al., 2004). The ability to sustain attention is an important skill for learning. The duration of sustained attention significantly improve across child development. Older children can sustain their attention to physical objects longer than younger children. Exploration of novel object can get more attention because children have to more pay attention to learn the new object (Ruff & Lawson, 1990). Moreover, complexity of activities or games can draw older children more than younger children (Ruff & Lawson, 1990; Santrock, 2011).

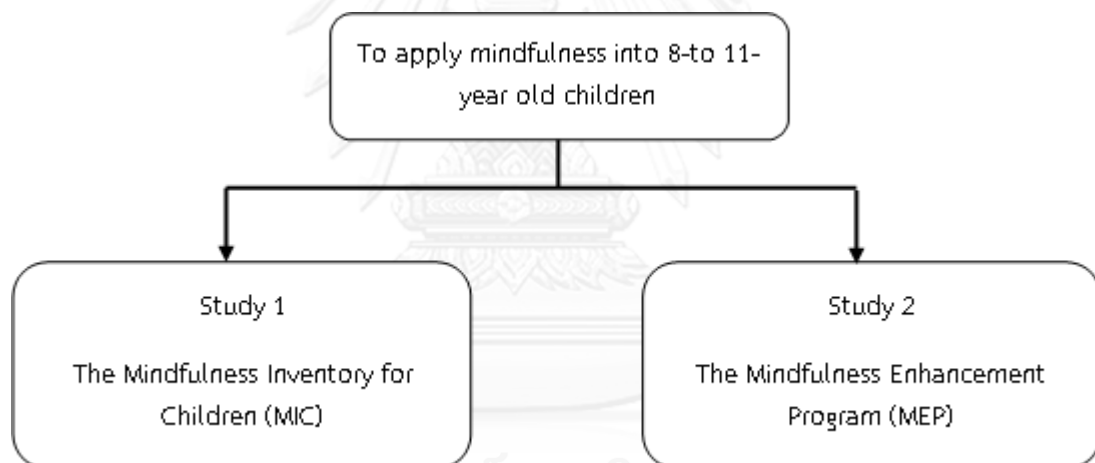
Another ability which is crucial for developing mindfulness skills is self-awareness. Children have to understand that they separate from surrounding environment. They have to be able to stay in present-moment situation. The ability develops around 15- to 24-month when they develop mental representation about themselves. Self-awareness is necessary for paying attention to anything and feeling of identification. Family's attitudes and their responses to children's behaviors help children develop their self-evaluation skill with emotions, thoughts, desires, and behaviors (Papalia, Olds, & Feldman, 2001).

### **Purposes of the Study**

This research aimed to apply mindfulness into 8-to 11-year old children appropriately. Two studies were conducted for two purposes. *The first study (Study*

1) was to develop the *Mindfulness Inventory for Children (MIC)*. The inventory consists of three different versions: the children-report scale, the parent-report scale, and the teacher-report scale. Brown and Ryan (2003) proposed that mindfulness should be studied in experimental field to ensure that quality of the program can be differentiated by measure of mindfulness. Therefore, *the second study (Study 2) was to develop the Mindfulness Enhancement Program (MEP)*. Some activities from the MBCT-C were applied; however, they were improved to be appropriate for use with Thai children. To evaluate an effectiveness of the program, the program was conducted in experimental field with control study (Klatt et al., 2013). The developed scales from the Study 1 were applied to evaluate an effectiveness of the program as well.

**Figure 1** Framework of the study



### Research Hypotheses

#### Study 1 The Mindfulness Inventory for Children (MIC)

1. To test the construct validity, there should be the positive correlations between the “awareness” and “acceptance” components’ scores within each version (i.e., the children-, the parent-, and the teacher-report scales).
2. To evaluate the convergent validity, the MIC-Children Report should have positive correlations with the MIC-Parent Report and with the MIC-Teacher Report.
3. To examine the concurrent validity:

- a. There should be the negative correlations between the MIC-Children Report and the Avoidance and Fusion Questionnaire for Youth (AFQ-Y, Greco et al., 2008), a short version of the Children Depressive Inventory (CDI, Kovacs, 2003), and the White Bear Suppression Inventory (WBSI, Wegner & Zanakos, 1994).
  - b. There should be the positive correlations between the MIC-Children Report and the Emotion Awareness Questionnaire (EAQ-30, Rieffe et al., 2007), especially emotions differentiate, emotions analyze, and body awareness, and intellect/openness subscale of the Big Five Questionnaire-Children version (BFQ-C, Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003).
4. The MIC-Children Report would be evaluated test-retest reliability. Time period between the first and the second time of measurement was one-month. The correlation between the first and the second time should be positive direction.

## **Study 2      The Mindfulness Enhancement Program (MEP)**

To assess an effectiveness of the program, a hypothesis was set as children who would be placed as experimental group should have more mindfulness scores than those of control group. The mindfulness scores were the scores from the MIC, which was develop from the Study 1.

### **Limitations of the Study**

#### **Study 1      The Mindfulness Inventory for Children (MIC)**

1. The correlations were applied to assess validity of the MIC all versions; however, the correlations may be combined between a real correlation and a bias. That is, all scales for children (i.e., all three versions of the MIC, the AFQ-Y8, the EAQ-30, openness/intellect subscale from the BFQ-C, the CDI, and the WBSI) are self-reported questionnaires; thus the correlations between the same-type questionnaires may cause a bias.

2. All scales in this study are retrospective self-reported measures that may associate with bias, such as self-report biases (Riley, 2012) because participants' responses based on their subjective experience and memories.

## **Study 2      The Mindfulness Enhancement Program (MEP)**

1. The Study 2 was conducted as experimental in small group of children, thus statistic power, reliability, and generalizability may be limited (Troy et al., 2012). As a result, the external validity may be a limitation of this study.

2. Since the investigator was only one person who is a leader of the experimental group in every age, the study might contain experimenter expectancy bias and Hawthorne effect. The former is that involvement of an investigator may unintentionally effect on participants' behaviors. As a result, the involvement may increase the possible that the hypotheses will be confirmed (Rosnow & Rosenthal, 2005). That is, the investigator was always with the experimental group all the time they complete the scales, some behaviors of the investigator might influence on the students' response. The latter is that the changes in participants' behaviors result from their expectations and desire to do what the investigator wants (Kerlinger & Lee, 2000). That is the increased mindfulness skills in the experimental group might be because they tried to impress the investigator, who is a new person for them.

### **Definition of Terms**

1. Mindfulness is defined as a skill of children to be aware of and accept the present situations both external and internal (i.e., thoughts and emotions) experiences.

2. The Mindfulness Inventory for Children (MIC) is the developed scales to evaluate mindfulness skills in children which consist of awareness and acceptance skills. The MIC comprises three versions; that is the children-report scale, the parent-report scale, and the teacher-report scale.

3. The Mindfulness Enhancement Program (MEP) is a developed program for use with 8-to 11-year old children in classroom-setting. The main activities are three-minute meditation, sensory-experience activities, group discussion, and daily homework. The program is six week consist of 45-to 60-minute in-class sessions per week and 10-to 15-minute daily homework per day.

### Benefits of the Study

1. All validated three versions of the MIC can be applied for assessing mindfulness skills in school-aged children.
2. The MEP, which was developed to be appropriate with Thai children, can be used in school-setting for improving mindfulness skills.



## CHAPTER 2 METHODOLOGY

### Study 1     The Mindfulness Inventory for Children (MIC)

The purpose of this study is to develop the Mindfulness Inventory for Children (MIC) comprising three versions: the children-report scale, the parent-report scale, and the teacher-report scale. This study was divided into three parts (see Figure 2). The first part is item generation of the MIC (Study 1a). A pool item was generated by the information from interviews with children, their parents, and Buddhist teachers. Then, the second part, all generated items of the MIC were checked for their language and responding format, their internal consistency and corrected item total correlation scores (CITC), and the collecting data process in classroom-setting in item selection of the MIC (Study 1b). Finally, to validate the MIC (Study 1c) in term of construct validity, convergent validity, concurrent validity, and reliability, the bivariate correlations among all three versions of the MIC, the bivariate correlations between the MIC-Children Report and other Thai-version theoretically-related scales and the test-retest reliability were employed with another participant group (see Figure 3).

**Figure 2     Framework of the Study 1**

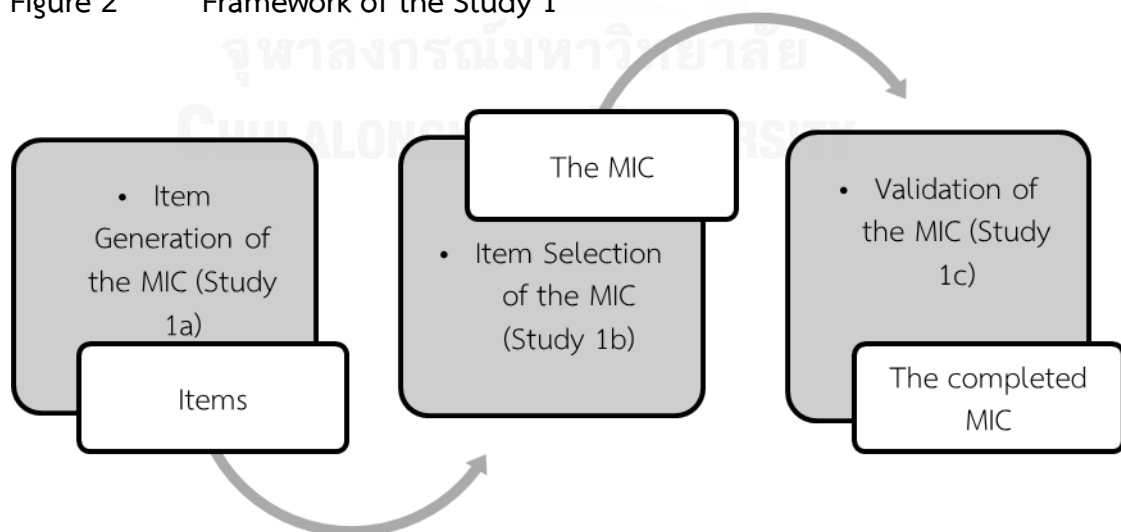
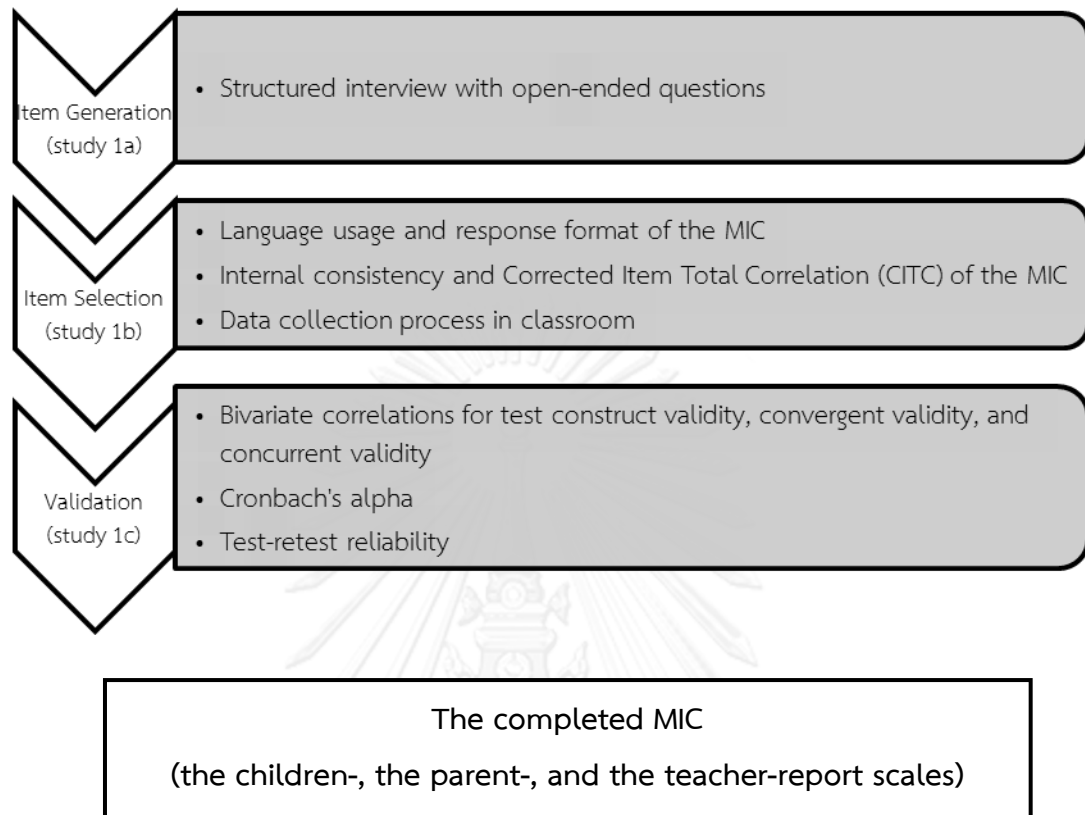


Figure 3 Diagram of the Study 1's procedure



#### Study 1a Item Generation of the MIC

A purpose of this study is to get information from interviewing children, parents, and teachers. They were interviewed about definitions of mindfulness for children, mindfulness-based activities for children, and meditation for children. Answers from the interviews were applied for generating items of all three-version MIC and structuring the Mindfulness Enhancement Program (MEP) in the Study 2.

#### *Participants*

Participants in this study consisted of twelve children (eight boys and four girls, aged 7-12;  $M = 9.4$ ,  $SD = 1.31$ ) who had taken a meditation course, nine of their parents, and five Buddhist teachers who had participated in another meditation course. They were interviewed about their opinions and experiences with mindfulness and meditation for children.



### *Instruments*

The open-ended questions were used for interviews. They can facilitate interviewees more consider their mindfulness experiences (Chiesa, 2012). The interview pattern was structured interview: however, some questions were different between those for children and those for parents and Buddhist teachers.

#### **1. Interview questions for children**

The children were asked about their understanding of “mindfulness”, their mindfulness experiences, benefits from the meditation course, activities that may facilitate them to be more mindful, and how they apply their meditation experience from the course into everyday life. The interview questions are in Appendix A.

First of all, the children were asked whether they know the word “mindfulness” or not (item 2). Then, they were asked about their understanding of mindfulness (item 3). They were also asked to explain their mindfulness experience (item 4). After that, they were asked to think of their mindlessness experience and explain the situation (item 5). When they finished explaining their experience, they would be asked to think of their thoughts, emotions, and feelings which were happening in that mindlessness situation (item 6). The next question asked children to explain their experience about refusing to accept in their thoughts, emotions, and feelings (item 7). Then, children were asked about the benefits they can receive from the meditation course (item 8). To understand the application of mindfulness in children, they were asked to explain how they apply what they had learned from such course into their everyday life (item 9). The last question asked children about activities that may help them improve their mindfulness skills (item 10).

## 2. Interview questions for children's parent and Buddhist teachers

Children's parents and Buddhist teachers were asked to propose their definition of mindfulness for children, describe behaviors that probably indicate mindfulness in children, explain the effects of meditation on mindfulness in children, and give examples of activities that likely stimulate mindfulness skills in children. The interview questions as seen in Appendix B.

Interviews were started by asking what mindfulness is for children (item 1). Then, they were asked to share their opinion about the definition of mindfulness in children (item 2). Then, they were asked to think of children's behaviors that likely indicate mindfulness in children (item 3). To gain detail of behaviors, they were asked to give some examples of children's activities or events (item 4). The effects of meditation on mindfulness in children were also discussed. They were asked to share their opinion whether meditation is good for practicing mindfulness in children or not. To make clearly understand which children's behaviors can indicate mindfulness, they were asked to give some reasons and examples of children's behaviors, also (item 5). The last question asked them to give examples of activities they think that likely cultivate mindfulness in children. They were asked to discuss these activities in details (item 6).

### *Procedure*

Prior to the interviews, all participants were informed that their participation was voluntary, their responses were anonymous and confidential, and they could withdraw from the interview at any time without any penalty. The participants were also told about the purpose of the study. The interview took approximately 15-20 minutes. Permission from the parent was granted before their children were interviewed. Moreover, their parent stayed with their child all the interview process.

After all interviews finished, the investigator summarized the answers. The scales' items were created based on the information from interviews. In

addition, past published writings about mindfulness and existing mindfulness scales (e.g., the Philadelphia Mindfulness Scale, Cardaciotto et al., 2008; the Cognitive and Affective Mindfulness Scale-Revised; Feldman et al., 2007) were considered.

### **Study 1b      Item Selection of the MIC**

To be appropriate for use with Thai children, a purpose of the study is to develop all three versions of the MIC. This study consisted of three phases:

Phase 1      To check language usage and response format of the three-version MIC

Phase 2      To test internal consistency reliability and corrected item total correlations (CITC) for all scales

Phase 3      To try out all scales for use in classroom

After this study finished, all developed scales were employed in another larger sample for statistical validation.

### ***Participants***

As described above, this study consisted of three phases, thus participants were separate into three groups as follows:

Phase 1      To verify language usage and response format of all scales, participant of this phase were seven children (six boys and a girl, aged 9-11;  $M = 10.6$ ,  $SD = 0.79$ ) with permissions from their parents, seven of their parents, and four teachers.

Phase 2      To examine internal consistency and CITC for all scales, participants of this phase were 55 elementary students (25 boys and 30 girls, aged 8-11;  $M = 9.0$ ,  $SD = 1.00$ ), 50 of their parents (11 men and 39 women, aged 25-67;  $M = 39.4$ ,  $SD = 7.51$ ), and seven of their teachers (a man and six women, aged 31-58;  $M = 50.4$ ,  $SD = 11.10$ ). They were recruited from one

elementary school in Bangkok with permission from the school headmaster and the school boards.

Phase 3 To try out all scales for use in a classroom, the last group of participant comprised 38 elementary students (12 boys and 26 girls, aged 8-11;  $M = 9.45$ ,  $SD = 1.13$ ), 38 of their parents (10 men and 27 women), and four of their teachers (a man and three women) which were recruited from another school with permission from the school headmaster and the school boards.

**Table 3** Number of students separated among phases

Phase	8 years old		9 years old		10 years old		11 years old		Total
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
1 Verify language usage	-	-	-	1	1	-	5	-	<b>7</b>
2 Examine internal consistency reliability & CITC	8	4	7	12	4	5	6	9	<b>55</b>
3 Try out process of collecting data	3	9	5	4	3	6	1	7	<b>38</b>

### *Instruments*

The **Mindfulness Inventory for Children (MIC)** was developed as three versions: the children-report scale, the parent-report scale, and the teacher-report scale. The items are separated into four classes of situations (a) situations involving parents, (b) situations involving teachers, (c) situations involving friends, and (d) perceived self-related behaviors for the children-report scale or perception of children's self-related behaviors for the parent-report and teacher-report scales. Each item comprises two sub-items; "awareness" sub-item and "acceptance" sub-item which are related to such particular event. The response format is a rating scale, ranged from 0 (never), 1 (sometimes), and 2 (always). A score of each item is combination of its responding "awareness" sub-item and "acceptance" sub-item scores. For example, if a participant answers "never" (0) for the "awareness" sub-item

and answers “sometimes” (1) for the “acceptance” sub-item, his score for such item is one point. Hence, the possible point for each item ranged from 0 to 4.

### *Procedure*

This study was designed to develop the MIC. To develop the suitable scales, the study consisted of three phases:

- Phase 1        To check language for each version of the MIC (i.e., children-, parent-, and teacher-report scales)
- Phase 2        To examine internal consistency and CITC of the MIC
- Phase 3        To try out all scales for use in class

The items of the three-version MIC were generated mainly based on the information from interviews. However, the information from past published writings about mindfulness and existing mindfulness’ scales were also considered. Two university professors with expertise in developmental psychology were invited to critique all questionnaires regarding to their language used and responding formats.

To check language and response formats of all scales, the participants were requested to complete the scales. For children, with permission from their parent, children’s parent could stay with their child throughout the process. After they finished the scales, they were questioned whether they understand the contents and language of each item for checking language usage. If they do not understand the items’ content, they were asked to further comment what is confusing. The process took approximately 20-30 minutes. For both parents and teachers, they could write down their opinions about the questionnaire items for the investigator to improve the wording of the items. If they were appropriate, such item would be changed its wording according to the comment.

After the scales were checked for language usage, they were tested internal consistency and corrected item total correlations (CITC). Children were asked to complete the MIC-Children Report. For the MIC-Parent Report, children were asked to bring the scale to their parent and turned it back to the investigator on the next day. The teachers were requested to fill out the MIC-Teacher Report for each child in his/her class. That is, if ten students from class A participated in the study, their teacher had to answer ten sets of the scale, each for one child. All participants (i.e., children, their parents, and teachers) were informed that their participation was voluntary, their responses were anonymous and confidential, and they could stop participating at any time without penalties. For children, the investigator was always with them to answer their queries.

Because children have a limit in several skills, especially an ability of attention-span, the collecting data process has to be well planned to be appropriate with their development. The collecting data process for children was planned to conduct in classroom with 20- to 30 students. To try out the planned process, all students were brought in one classroom and instructed to complete all scales (i.e., the MIC-Children Report and other five theoretically-related scales which would be used in Study 1c) without discussion with each other. The investigator was always in classroom all the time to give advice and answer their queries. The collecting data process was conducted for two consecutive days. They were asked to complete the MIC-Children Report on the first day and other five scales on the following day. The process took about 20-30 minutes for each day.

### **Study 1c      Validation of the MIC**

This study aims to validate all three-version MIC in term of psychometric properties, including construct validity, convergent validity, concurrent validity, and reliability. All three versions of the MIC from Study 1b were used in this study. Moreover, other five Thai-version theoretically-related scales were applied for test concurrent validity.

### *Participants*

With permissions from the school headmasters and the school board, 385 elementary students (200 boys and 185 girls, age 8-11;  $M = 9.6$ ,  $SD = 0.96$ ), 194 of their parents (54 men, 137 women, and 3 not reporting their sex, age 26-71;  $M = 40.3$ ,  $SD = 7.61$ ), and 27 of their class teachers (2 men and 25 women, age 26-58;  $M = 42.0$ ,  $SD = 10.92$ ) recruited from five schools in Bangkok; three of them were in the central of Bangkok. Therefore, they were from various areas of the city. However, most participants were in low-to middle socio-economics status. Moreover, 55 elementary students (i.e., the participants from the phase of examining internal consistency and CITC of Study 1b) were asked to complete the MIC-Children Report again to evaluate test-retest reliability.

### *Instruments*

1. **The Mindfulness Inventory for Children (MIC)**, including the children-, the parent-, and the teacher-report scales, developed in Study 1b were used.
2. **Other Thai-version, theoretically-related questionnaires** were translated into Thai and modified to be suitable with 8- to 11-year-old children. Then, they were translated back into English by a different translator who did not involve with the study. Two university professors with expertise in developmental psychology were invited to critique all questionnaires regarding to their language used and responding formats.
  - a. **The Avoidance and Fusion Questionnaire for Youth (AFQ-Y8**, Greco et al., 2008) is an eight-item self-report for assess psychological inflexibility in 8-to 14-year old children. Psychological inflexibility results from experiential avoidance and cognitive fusion. Children are asked to evaluate themselves and rate each item by 5-point rating scale from 0 (not must true with me) to 4 (most true with me). For example, “*The bad things I think about myself must be true*”. High scores reflect greater

psychological inflexibility. The AFQ-Y8 was validated with 8- to 14-year old children. It has good construct validity (Cronbach's alpha = .90, Greco et al., 2008) and internal consistency reliability for use with school-aged children and young people (Greco et al., 2008; K. E. Williams et al., 2012).

- b. **The Emotion Awareness Questionnaire** (EAQ-30, Rieffe et al., 2008) is a 30-item self-reported measure for children aged over nine years old. The scale aims to evaluate their ability to understand and be aware of their emotions. It consists of six subscales.
- (a) **Differentiating emotions** is the ability to differentiate between emotions and their stimuli. It is seven negative items, for example, *"I often don't know why I am angry."*
- (b) **Verbal sharing of emotional functioning** is the ability to communicate their emotions. It is a positive item and two negative items, for example, *"I find it difficult to explain to a friend how I feel."*
- (c) **Not hiding emotions** is the ability to reveal their emotions without repression. It is five negative items, for example, *"when I am upset about something, I often keep in it to myself."*
- (d) **Bodily awareness** is the ability to pay attention to changes in each part of body for responding to arising emotions. It is a positive item and four negative items, for example, *"my body feels different when I am upset about something."*
- (e) **Attending to others' emotions** is the ability to notice and accept emotions of other. It is three positive items and two negative items, for example, *"it is important to know how my friends are feeling."*
- (f) **Analyses of emotions** is the ability to be aware of and understand their own emotions. It is five positive items, for example, *"when I am angry or upset, I try to understand why."*



Each item is rated on three possible responses, which is 1 (not true), 2 (sometimes), and 3 (true). High score in each subscale indicate children's characteristics. Cronbach's alpha ranged from .60 to .68. Construct validity was supported by high correlations with body symptoms, social anxiety, emotional intelligence, and depression (Rieffe et al., 2008).

- c. **The openness/intellect subscale of the Big Five Questionnaire-Children Version** (BFQ-C, Barbaranelli et al., 2003) is used for assess children's understanding in school domains, interests in other people and environment, creativity, and fantasy. For example, "*I easily learn what I study at school.*" It is 13-item self-reported scale with five-point rating scale from 1 (almost never) to 5 (almost always). High score indicates high intellect/openness skills. The scale positively correlated with extraversion and negatively correlated with neuroticism and psychoticism which supported scale's validity (Barbaranelli et al., 2003).
- d. **The Children Depressive Inventory** (CDI, Kovacs, 2003) is a 10-item self-reported scale for 7-to 17-year old children. A purpose is to assess depressive level. For each item, children have to pick a statement from three statements which had been the most congruent with themselves for the last two weeks. For example, "*I feel like crying everyday*", "*I feel like crying many days*", and "*I feel like crying once in a while*". Each item has three possible points. High score means a child has high depressive symptoms. Cronbach's alpha was .80. The validity had been evaluated by several techniques. They showed the criterion validity and construct validity (Saylor, Fince, & Spirito, 1984). Also, the scale can strongly predict depressive symptoms (Kovacs, 2003).
- e. **The White Bear Suppression Inventory** (WBSI, Wegner & Zanakos, 1994) is a 15-item self-report measure. It evaluates a tendency to suppress unpleasant thoughts. Response format is five-point rating

scale which is rated from 1 (mostly disagree) to 5 (mostly agree). High score means that a child tends to suppress his unpleasant thoughts. Cronbach's alpha was .89 (Wegner & Zanakos, 1994). Greco and colleagues (2008) found that Cronbach's alpha of the WBSI was .88. Rosenthal, Cheavens, Lejuez, and Lynch (2005) found that 12-week test-retest reliability was .80. They also found that the WBSI correlated with depression, obsessive-compulsive behavior, and anxiety.

To be appropriate for use with elementary students, the response format should be changed to be three-point rating scale (Barbaranelli et al., 2003). Thus, the response format of the AFQ-Y8, the BFQ-C, and the WBSI were changed to be a three-point rating scale.

### ***Procedure***

The psychometric properties of all three versions of the MIC were tested by various methods, as seen in Table 4.

The questionnaire packet was distributed to the schools with permissions from the schools' headmasters and school boards. They approved the questionnaire packet and the study protocol. The questionnaire packet contained the MIC-Children Report and other five Thai-version theoretically-related scales, the MIC-Parent Report for their parents, and the MIC-Teacher Report for teachers. The data collecting process for the students was same as utilized in the third phase of the item selection of the MIC study (Study 1b) described above. For their parents, the students were asked to bring the MIC-Parent Report to their parent at home and turn it back to the investigator on the next day. The MIC-Teacher Report was given to their teachers according to amount of the students in his/her class. He was asked to complete the scale for each child. The scales were backed to the investigator on the appointed day.

For evaluating in test-retest reliability, after the group of participants in the second phase of the item selection of the MIC study (Study 1b) answered the scales for one month, they were asked to complete the scales again. However, the students were asked to complete only the MIC-Children Report.

**Table 4**      **Methods for validation of the MIC**

Psychometric properties	Method	Hypotheses
Construct validity	Bivariate correlations between “awareness” sub-item scores and “acceptance” sub-item scores within each version of the MIC (i.e., the children-, the parent-, and the teacher-report scales)	Positive correlations between “awareness” and “acceptance” components’ scores within each version
Convergent validity	Bivariate correlations among children-, parent-, and teacher-report of the MIC	Positive correlations between mindfulness scores of children- and parent-, children- and teacher-version
Concurrent validity	Bivariate correlations between the MIC-Children Report and other five Thai-version theoretically-related scales (i.e., emotional awareness, openness psychological inflexibility, depression and thought suppression)	<ul style="list-style-type: none"> <li>● Positive correlations between the scores of the MIC-Children Report and emotional awareness and openness</li> <li>● Negative correlations between the MIC-Children Report and psychological inflexibility, depression, and thought suppression</li> </ul>
Reliability	Cronbach’s alpha and test-retest reliability	

Since the Study 1 consisted of many participants and instruments, all participants and instruments are summarized in Table 5 to more clearly understand.

**Table 5 All participants and instrument in Study 1**

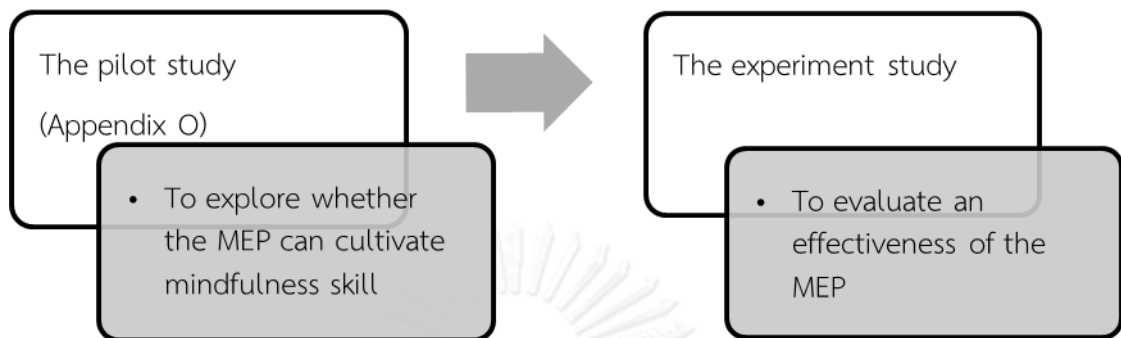
	Item generation (Study 1a)	Item selection (Study 1b)			Validation (Study 1c)		
		Language & response format	Internal consistency & CITC	Collecting data process	Test-retest correlation	Bivariate correlation	
Participants	Children (7-12 yrs.)	12	7 (9-11 yrs.)	55* (8-11 yrs.)	38 (8-11 yrs.)	55* (8-11 yrs.)	385 (8-11 yrs.)
	Parents	9	7	50	38	-	194
	Teachers	5 (Buddhist)	4	7	4	-	27
Instruments	Interview questions ● Children ● Parents & teachers	Three-version MIC			The MIC-Children Report from Study 1b	All three-version MIC from Study 1b & Other five scales	

*\*the same group of participants*

## Study 2 The Mindfulness Enhancement Program (MEP)

This study aimed to develop a practical program, the Mindfulness Enhancement Program (MEP), which can be applied in classroom with the broad goal of practicing mindfulness skills for 8- to 11-year-old children. Some activities from the MBCT-C were adjusted to be appropriate for use with Thai children. This study was divided into two parts: a pilot study and an experiment study. The pilot study would be conducted to check for its process and its effect on mindfulness skills in children (all details of the pilot study, including participants, procedure, and result, are described in Appendix O). The experiment study would evaluate an effectiveness of the MEP with mindfulness and other theoretically-related constructs. The developed MIC-Children Report and some Thai-version theoretically-related scales from the Study 1 were applied for evaluating its effectiveness.

Figure 4 Framework of the Study 2



### The Experiment Study

The Mindfulness Enhancement Program (MEP) for 8- to 11-year-old children, which was developed based on the Mindfulness-based Cognitive Therapy for Children (MBCT-C), was improved from the pilot study (see Appendix O) to be appropriate with Thai school-aged children. To test effectiveness of the MEP, all participants were asked to complete the scales (i.e., the MIC-Children Report and other Thai-version theoretically-related scales) for five times)

### Participants

Ninety-three students from four classes of three schools in Bangkok were willing to attend the study. However, aged-criterion of this study is eight- to eleven-year old, three students who were under-aged and eight students who were over-aged could not participate in the program. As a result, 82 students (50 boys and 32 girls aged 8-11,  $M = 9.6$ ,  $SD = 1.26$ ) could be participants for this study. One of the three schools locates in the central of Bangkok. Hence, participants were drawn from various areas of Bangkok. However, most participants were in low-to middle socio-economic status.

To divide them into the experimental and control groups and equal their mindfulness skills between both groups, they were randomized into the experimental and control groups with a matching method. That is, their

mindfulness scores which were evaluated before starting the program were ordered from the highest to the lowest. Then, each pair was randomized into the experimental and control groups.

### *Instruments*

**1. The Mindfulness Enhancement Program (MEP)** was designed for elementary-aged children. A purpose of the program is to cultivate mindfulness skills (i.e., awareness and acceptance skills) in children by applying developmentally appropriate mindfulness-based activities. As described above, some activities were adapted from the MBCT-C, which also used meditation and sensory-experience activities.

The program consisted of six weekly 45-to 60 minute in-class sessions which were conducted once per week during the school day in the same time on the same day at the same room. The main activities of in-class session were *three-minute meditation, sensory experiences games, group discussion, and daily homework*. Because children's abstract thinking and causal thinking are incompletely developed, most activities should be games, storytelling (Thompson & Gauntlett-Gilbert, 2008), or activities requiring children's participation (Semple et al., 2006; Semple et al., 2005). Furthermore, each in-class session consisted of repeatedly several short activities emphasizing only one sensation because children's memory and attention span are limited (O'Brien et al., 2008; Semple et al., 2006; Semple et al., 2005; Thompson & Gauntlett-Gilbert, 2008).

Each sessions were focused on specific sensory theme which were different and directed the activities' process, including a) moving, b) touching, c) hearing and smelling, d) seeing and tasting, e) internal states (i.e., thoughts and emotions), and f) closing the program, respectively. The sessions were ordered according to children's involvement. That is, the activities in the early session were designed as individual activity which did not require their much connection with each other. Group activities

were applied for the followed session which gradually required their more relations with each other.

Games were used to establish relationships among group members (i.e., the students and a group leader). They were asked to introduce themselves. Then, the program's purpose and its rules were introduced. The program's rules including a) we will speak politely and not tease our friends, b) we will not interrupt other while they are speaking, c) we will show our hand up when we want to share our opinion, d) we will not talk with each other while attending an activity, e) if we would not like to join in any activities, we will tell the group leader. Then, we will sit at the room corner. When we are ready, we will come back to join the activity.

The *three-minute meditation* aims to calm the students down from previous activity, to prepare them for the followed activities, and to practice them notice their environment mindfully (Selhub, 2007). As described in Chapter 1, a period of meditation has been not clear what is suitable for children (S. C. Hayes & Greco, 2008; Thompson & Gauntlett-Gilbert, 2008). Since the MBCT-C, the mindfulness-based program for children, has three-minute breathing space for children (Semple et al., 2006), the activity was applied into the MEP as the three-minute meditation for children. The students were asked to gently close their eyes and keep paying attention to their breath, for a while. Then, they were asked to shift their attention to what is occurring with their sensation according to such specified sensory on that week. For example, on hearing week, they were asked to notice the sound they heard. Furthermore, they were asked to notice their occurrence and disappearance, for instance, a sense is happening and then it is disappearing. However, they were asked to gently turn their attention back to their breath after they observe such process. In the early phase of meditation, an aim is to keep attention on the breath or another object, such as different sensations or memories. When the mind wanders,

meditator has to bring the mind back to the object of meditation (Chiesa, 2012).

Children enjoy using their body to participate the activity (S. C. Hayes & Greco, 2008). More active mindfulness-based practices are very helpful for youth (Wisner, 2013). Thus, the *sensory-experience games* (i.e., touching, hearing, smelling, seeing, and tasting) were applied into the mindfulness-based practices for children (S. C. Hayes & Greco, 2008). In the MEP, the activities with gross-motor movement (e.g., running) were added as well. The movement activities based on mindfulness can release stress in students (Klatt et al., 2013). In addition to the sensory-experience games as described, the activities regarding internal states (i.e., thoughts and emotions) were included because mindfulness was defined as being aware of and accept in what is happening both internal and external states. The activities practiced children to notice their sensations and to practice awareness of and acceptance in the sensations and their changes.

To encourage the students share and summarize their experiences and opinions, *group discussion* would be facilitated after each activity finished by the investigator. The program's environment was arranged to be safe, relax, and warm for group discussion. The group members were received only positive feedback.

In addition to in-class sessions at school, to help students apply their learned skill from in-class sessions into their everyday lives, the students were asked to do *daily homework* six days per week, 5-10 minutes per day. Each week, the homework activities emphasized specified sensory as same to in-class session. Moreover, they received a workbook for recording their experiences, including their thoughts, emotions, and impressions, from participating in the program and doing the homework each day (see Appendix T). These notes were then used in group discussion during the next session. To motivate the students to do



the homework, they could get a reward from complete homework every day. When the MEP finished, they could get a bigger reward from continuing doing homework every week until the program closed. Details of all activities were shown in Appendix R

However, some details of the program were changed from the pilot study (see Appendix O). First of all, to be able to divide the students into the experimental and control groups with their equal mindfulness skills, the MIC-Children Report should be completed before conducting the program. Therefore, the activities for building relationship were moved to the first session of the MEP. In the pilot study (see Appendix O), such activities were conducted at the first week of the study with the experimental group, before the program was started. Moreover, to precisely guide the experimental group that the session would be starting, the activity's order was changed. The sessions, except the first session, were always started with three-minute meditation to calm the students down and introduce weekly theme. Then, the two followed activities were always group discussion about meditation, and home discussion. The time schedule of each session was shown in Appendix Q.

2. **The Mindfulness Inventory for Children (MIC)-Children Report** was developed and validated from the Study 1. The questionnaire consisted of four classes of situation (i.e., situations involving parents, situations involving teachers, situations involving friends, and perceived self-related behaviors). Total number of items was 20 which comprised five-item for each class of situations. Each item specified the events related to such class of situations. Moreover, they consisted of two sub-item; "awareness" sub-item and "acceptance" sub-item which were regarding such particular event. The response format was rated from 0 (never), 1 (sometimes), and 2 (always). A combination of its responding "awareness" sub-item and "acceptance" sub-item scores was a score of each item.
3. **Some Thai-version theoretically-related scales** which were found that correlated with the MIC-Children Report from the Study 1 were used for

assessing the effectiveness of the program. According to Hemphill (2003), when ordering magnitudes of correlation coefficients from assessment review (Meyer et al., 2001), they could be grouped into lower third (.02-.21), middle third (.21-.33), and upper third (.35-.78). The Thai-version theoretically-related scales which their magnitudes of correlation coefficients were in middle third and upper third (i.e., analyses of emotions subscales of the EAQ-30 and the CDI) were used.

- a. **Analyses of Emotions Subscale of the Emotion Awareness Questionnaire** (EAQ-30, Rieffe et al., 2008) is a self-reported measure for over nine-year-old children. The subscale aims to evaluate children's ability to be aware of and understand their own emotions. However, some items were excluded since their correlated item total correlations (CITC) were negative. Therefore, the scale consisted of four items.
- b. **A short version of the Children Depressive Inventory** (CDI, Kovacs, 2003) is a 10-item self-reported scale for 7- to 17-year old children. High score means a child has high depressive symptoms.

### ***Procedure***

The study protocol was approved by the school headmaster, the school boards, teachers, and students' parent. The study was nine weeks including assessing mindfulness skills of all participants to divide them into the experimental and control groups, conducting the MEP for six weeks, and follow-up evaluation after closing the program for two weeks. On the first week of the study, all students were asked to complete the questionnaire packet (i.e., the MIC-Children Report, analyses of emotions subscale of the EAQ-30, and a short version of the CDI) in classroom. The investigator was always in the classroom for answering queries. To equal their mindfulness skills between the experimental and control groups, their mindfulness scores were used to divide them. Then, on the second week to the seventh week of the study, the experimental group attended the program for six weeks during school hours on the same day at the same time in every week. At the same

time, the control group followed their regular school schedule. However, some of them did the activities (e.g., drawing), which did not relate to cultivating mindfulness skills, with a research assistance. After the program closed for two weeks, all participants were asked to complete the scales to evaluate the stable pattern of change.

Since the program was integrated into their naturalistic field, the program effectiveness could be evaluated (Black & Fernando, 2013). To test effectiveness of the program, all participants were asked to complete the scales for five times of measurement. In addition to before starting the program (Time 1) and after the program closed for two weeks (Time 5), as described above, other three times of measurement (Time 2, 3, and 4) were the third week, the fifth week, and the seventh week of the study which were during conducting the program (see Table 6). A unique code for each child was created to enable matching their data across times of measurement and ensure confidentiality.

**Table 6** The experiment study's schedule

Week of the study	1	2	3	4	5	6	7	8	9
The MEP (Sessions)	-	1	2	3	4	5	6		-
Completing the scale (Times of measurement)	1	-	2	-	3	-	4	No activities	5

Control group were asked to complete the scales at the same time as the experimental group, each class. The experimental group answered the scales after the sessions finished on such week of the study, while the control group completed the scales after their classroom activities finished at the same time as the experimental group. All the time the students finished the scales, the investigator was always with the experimental group and a research assistant was with the control group for answering their queries. The time schedule was shown in Appendix Q.

### *Statistical Analysis*

Since all three dependent variables (i.e., mindfulness, analyses of emotions, and depression level) had small magnitude of correlation ( $r = .23, .24$ ), analysis of variance (ANOVA) was applied rather than multivariate analysis of variance (MANOVA). A three-way mixed ANOVAs was applied with repeated measure. That is, the first time of measurement was treated as base-line phase, the second time to the fourth time of measurement was treated as treatment phase, and the fifth time of measurement was treated as follow-up phase. Between group variables were conditioned groups (i.e., experimental group and control group) and age (i.e., 8, 9, 10, and 11 years old). Dependent variables were the scores from the MIC-Children Report, analyses of emotions subscales of the EAQ-30, and a short version of the CDI. To prevent the inflation of false rejection rates, A Bonferroni correction was used for testing all three outcomes. Thus only  $p$  at .017 was acceptable for significant level.

## CHAPTER 3

### RESULTS

The purpose of this dissertation is to develop the Mindfulness Inventory for Children (MIC) and the Mindfulness Enhancement Program (MEP) for 8- to 11-year-old children. The study was divided into two studies; developing the MIC (Study 1) and developing the MEP (Study 2).

#### **Study 1      The Mindfulness Inventory for Children (MIC)**

The purpose of this study is to develop the Mindfulness Inventory for Children (MIC). The scale consisted of three version; the children-, the parent-, and the teacher-report scales. The items came from interviewing children, their parents, and Buddhist teachers about mindfulness in children (Study 1a). Then all three-version of the MIC were tested for language usage and responding format, internal consistency, corrected item total correlation (CITC), and the data collecting process in classroom (Study 1b). Finally, the bivariate correlation among all three versions of the MIC, the bivariate correlation among the MIC-Children Report and other five Thai-version theoretically-related scales, and test-retest reliability were applied to validate the MIC (Study 1c).

#### **Study 1a      Item Generation of the MIC**

Results from the interviews showed that mindfulness consisted of three components; awareness, observing, and acceptance. However, awareness cannot be logically separable from observing since a person has to observe something before being aware of it. Therefore, the “awareness” and “observing” components should be combined into one. Moreover, since some existing mindfulness literatures (e.g., Baer et al., 2004; Buchheld et al., 2001) suggested that acceptance with non-judgment is another component of mindfulness, children’s parents and Buddhist teachers were further asked to give more opinions whether this component should be included in mindfulness’ concept. The adult did not completely understand the concept;

however, they suggested that a mindful person should accept everything as it is.

As a result, the definition of mindfulness comprised two components: awareness and acceptance. *“Awareness” describes a skill of children for being aware of what is happening to them both outside and inside (i.e., thoughts and emotions).* For instance, when a child is getting scolded by their teacher, he is aware of what is occurring, including his environment, thought, and emotion. *“Acceptance” component refers to a skill of children for accepting what is happening as it is.* For example, from the getting scolded situation, he accepts such situation, his own thought, and emotion, without suppressing, rejecting, or changing their content.

To generate items, the items came from various sources including information from interviews, published writings about mindfulness, and existing mindfulness scales. Since children’s several skills are in limit (Goodman, 2005; S. C. Hayes & Greco, 2008), use only self-reported measure in children may not be appropriate (Greco et al., 2011; S. C. Hayes & Greco, 2008; O'Brien et al., 2008). To make more comprehensively evaluate mindfulness skills in children, the MIC consisted of three-version: the children-, the parent-, and the teacher-report scales. The MIC-Children Report consisted of four classes of situations: *a) situations involving parents, b) situations involving teachers, c) situations involving friends, and d) perceived self-related behaviors.* The MIC-Parent and -Teacher Report contained three classes of situations: *a) situations involving parents in the parent-report scale or situations involving teacher in the teacher-report scale, b) situations involving friends, and d) perception of children’s self-related behaviors for the parent- and the teacher-report scales* which was same as perceived self-related behaviors in the children-report scale. The number of item in each situation for each version is showed in Table 7.

**Table 7** Number of items for each version

	Children-report scale	Parent-report scale	Teacher-report scale
Situations involving parents	6	6	-
Situations involving teachers	6	-	6
Situations involving friends	5	5	5
Perceived self-related behaviors / perception of children's self- related behaviors	10	10	10

Each item of all three versions describes a specific event related to each class of situation. As described above, the definition of mindfulness consisted of two main components; thus each item comprises two sub-items asking about “awareness” and “acceptance” components. Both of the sub-items relate to such particular event. The responding format is three possible answers, which is appropriate for use with elementary students (Barbaranelli et al., 2003). The three answer are valued as 0 (“never”), 1 (“sometimes”), and 2 (“always”).

Since the definition of mindfulness was consisted of awareness and acceptance, a score for each item is an additive combination of its corresponding “awareness” sub-item and “acceptance” sub-item. For example, if a child answers “never” (0) for “awareness” sub-item and sometimes (1) for “acceptance” sub-item. A score for the item is one point. Therefore, a possible score for each item ranged from 0 to 4.

- a. **The children-report scale** is 27-item self-reported measure.
  - i. An item representing a situation involving parents describes an event as *“please think of situations where your parents were unhappy at something you did.”* Its two corresponding sub-items are *“were you aware that your parents were unhappy at something you did?”* (awareness)

- and “*what did you do when your parents were unhappy at something you did?*” (acceptance).
- ii. An example of items denoting a situation involving teachers is “*please think of situations where your teacher punished you.*” Its corresponding “awareness” sub-item is “*were you aware that your teacher was punishing you?*” Its corresponding “acceptance” sub-item is “*what did you do when you were being punished?*”
  - iii. An example of items illustrating a situation involving friends is “*please think of situations where your friend was scolding you.*” Its corresponding sub-items are “*were you aware that your friend was scolding you?*” (awareness) and “*what did you do once you were that your friend was scolding you?*” (acceptance).
  - iv. An example of items displaying perceived self-related behaviors is “*please think of situations where you bump into something while you were walking, such as a pole, table or chair.*” Its corresponding “awareness” sub-item is “*were you aware that you bump into something while you were walking?*” Its corresponding “acceptance” sub-item is “*what did you do when you bumped into something?*”

Since children could not understand the responding format which was used with the parent- and teacher-report scales, the format for the children-report scale (see Appendix C and D) had to be different from other versions (see Appendix E, F, G, and H). That is, the responding format of the children-report scale described each level of frequency (“never”, “sometimes”, and “always”) as sentences in separated choices (A, B, or C). For example, “I was *never aware / sometimes aware and sometimes not aware / always aware* that ...” for the “awareness” sub-item, “I *never accepted that ... /*



*sometimes accepted that ... At other times, I did not accept / always accepted that ....* The answer statements were placed behind the letters (A, B, or C). Children were asked to choose which one is congruent with them. An instruction is provided as follows:

*“Please read the following situations and to the best of your ability, reflect on your behavior in those situations. Then, please put an X on one of the letters (A, B, or C) in front of the statement that best describes your behavior. There is no right or wrong answer as all answers are merely a report of your behavior.”*

- b. **The parent-report and the teacher-report scales** were created to make more comprehensively evaluate mindfulness skills in children. Each version is 21-item asking the parents and teachers evaluate their child’s behavior. The characteristic of the items are as same as those of the children-report scale.
- i. An example of items denoting a situation involving parents and a situation involving teachers is *“please reflect on when the child was getting scolded.”* Its two corresponding sub-items are *“the child was aware that he/she was being scolded”* (awareness) and *“the child accepted that he/she was being scolded”* (acceptance).
  - ii. An example of situation involving friends is *“please reflect on when the child’s friend was unhappy with the child.”* Its corresponding “awareness” sub-item is *“the child was aware that his/her friend was unhappy with him/her.”* Its corresponding “acceptance” sub-item is *“the child accepted that his/her friend was unhappy with him/her.”*

- iii. An example of perception of children's self-related behaviors is "*please reflect on when the child unintentionally dropped an object.*" Its corresponding two sub-items are "*the child was aware that the object was about to fall from his/her hand*" (awareness) and "*the child accepted that he/she was to blame for dropping it*" (acceptance).

An instruction is provided as follows:

*"Please read the following situations and to best of your ability, reflect on the behavior of the child in those situations. Then, please put an X on the number (0 = never, 1 = sometimes, or 2 = always) that best describe the child's behavior. Please choose only one number. There is no right or wrong answer as all answer are merely a report of the child's behavior."*

### **Study 1b      Item Selection of the MIC**

This study aimed to test appropriateness of the three-version MIC for use with children. It consisted of three phases: checking language and responding format, testing internal consistency and CITC of all scales, and trying out all scales (i.e., the MIC and other five theoretically-related scales) for use in a classroom.

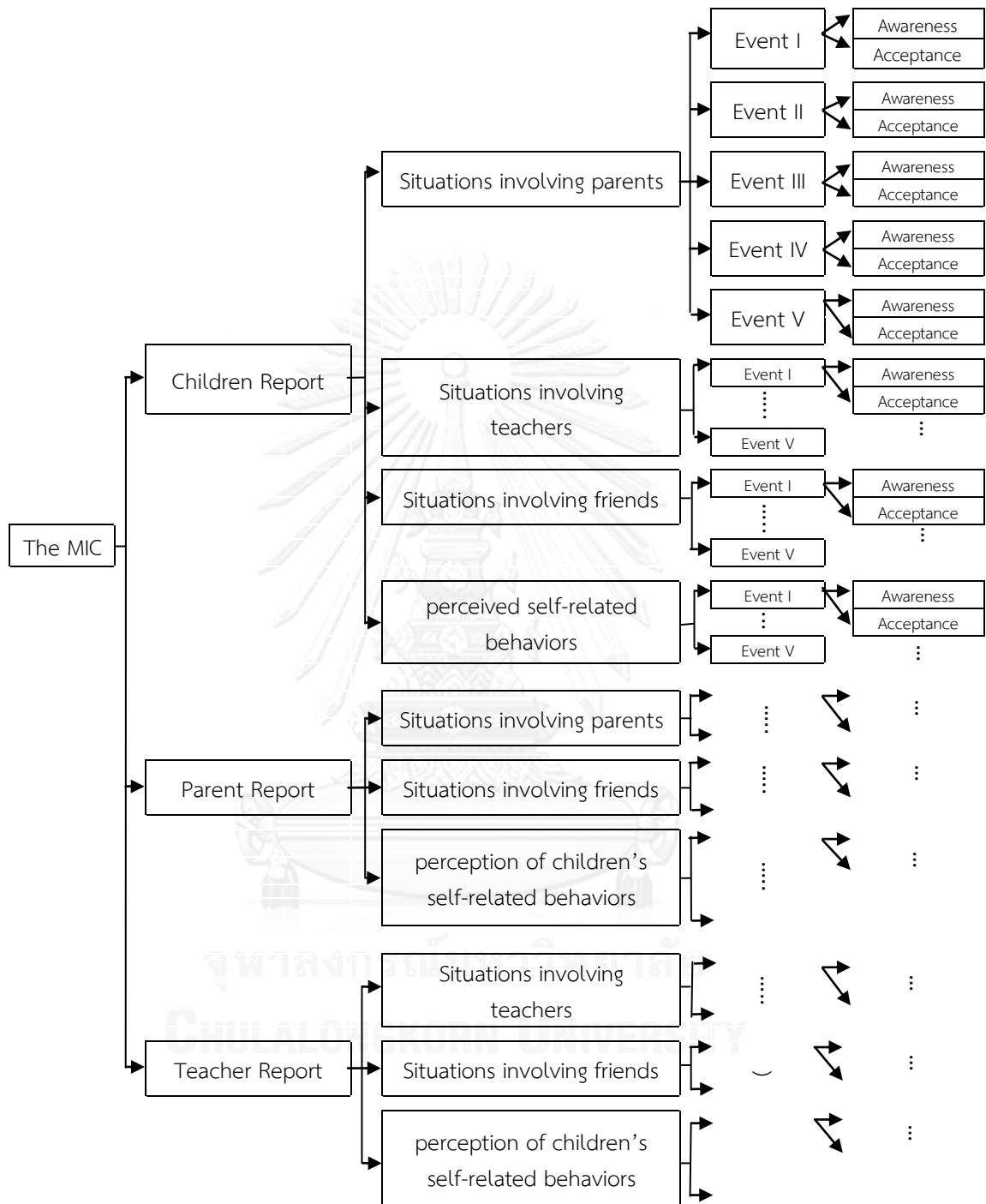
The scales' language and responding format were approved by the participants. The example of items and their responding format of the children-, the parent-, and the teacher-report scales of the MIC were shown in Appendix C, D, E, F, G, and H respectively.

After that, all scales were tested for CITC. For the MIC-Children Report (see Appendix I), CITC ranged from .25 to .52 for situations involving parents,

from .34 to .59 for situations involving teachers, from .24 to .53 for situations involving friends, and for .26 to .68 for perceived self-related behaviors. For the MIC-Parent Report (see Appendix J), the CITC ranged from .28 to .53 for situations involving parents, from .26 to .57 for situations involving friends, and from .38 to .61 for perception of children's self-related behaviors. For the MIC-Teacher Report (see Appendix K), the CITC ranged from .05 to .52 for situations involving teachers, from .26 to .58 for situations involving friends, and from .25 to .69 for perception of children's self-related behaviors. Most of them were higher than critical  $r$  at  $p < .05$  [ $r(60) = .210$ ], yet only one item denoting situations involving teachers from the teacher-report scale was lower than critical  $r$  and.

Only five items with the highest CITC in each class of situation were chosen to create a short version. For the situation involving friends in all versions had only five items; thus, all of them were included. However, their CITC were higher than critical  $r$  value. As a result, the MIC-Children Report consisted of four classes of situations, while the parent- and the teacher-report scales comprised three classes of situations. All classes of situations contained five items (five "awareness" sub-items and five "acceptance" sub-items). The structure of the MIC is shown as Figure 5.

Figure 5 The Structure of the Mindfulness Inventory for Children (MIC)



### Study 1c Validation of the MIC

A purpose of this study is to validate all three-version of the MIC in term of construct validity, convergent validity, concurrent validity, and reliability. The construct validity was tested by bivariate correlations between “awareness” component scores and “acceptance” component scores within each version. In order to test convergent validity among the children-, the parent-, and the teacher-report scales, bivariate correlation was applied. Moreover, bivariate correlation among the MIC-Children Report and other Thai-version theoretically-related scales (i.e., EAQ-30, openness / intellect subscale of BFQ-C, AFQ-Y, CDI, and WBSI) were tested to evaluate concurrent validity of the MIC. In addition to Cronbach’s alpha reliability, only for the MIC-Children Report, test-retest reliability which is another approach for assessing reliability was used.

The correlation matrix among all three versions of the MIC was applied to evaluate psychometric properties. To test construct validity, “awareness” and “acceptance” components scores were included into the analysis. The correlations of total scores among three versions of the MIC were also observed to indicate the convergent validity.

The correlation matrix was generated by summed scores of 20 items for the children-report scale and 15 items for the parent- and the teacher-report scales representing total scores, summed scores of 20 sub-items for the children-report scale and 15 sub-items for the parent- and the teacher-report scales in the each component representing “awareness” and “acceptance” components scores.

To evaluate the construct validity, from the correlation matrix which is shown in Table 8, the correlations between “awareness” and “acceptance” components were assessed. Within each version, its correlation coefficient between awareness and acceptance components scores were significantly positive and their magnitudes were moderate ( $r = .64, p < .01$  for the

children-report scale;  $r = .69$ ,  $p < .01$  for the parent-report scale; and  $r = .54$ ,  $p < .01$  for the teacher-report scale).

Moreover, the total score of the children-report scale significantly positively correlated with those of the parent- and the teacher-report scales ( $r = .18$ ,  $p < .01$  for between children- and the parent-report scale; and  $r = .18$ ,  $p < .05$  for between the children- and the teacher-report scales). For awareness component, the scores of the children-report scale had significantly positive correlation with those of the parent- ( $r = .21$ ,  $p < .01$ ) and the teacher-report scales ( $r = .12$ ,  $p < .05$ ). There was a quite different in acceptance component, the score of the children-report scale significantly positively correlated only with those of the teacher-report scale ( $r = .35$ ,  $p < .01$ ).

Table 8 Correlations among total score and two traits (“awareness” and “acceptance”) in all three versions of the Mindfulness Inventory for Children (MIC)

	Total score			Awareness			Acceptance		
	Children- reported (Cr)	Parent- reported (Pr)	Teacher- reported (Tr)	Children- reported	Parent- reported	Teacher- reported	Children- reported	Parent- reported	Teacher- reported
	Cr								
		Pr							
			Tr						
Total score	.18*	.07	.17**	.21**	.04	.18*	.13	.05	.05
				(.79)	(.78)		(.84)		
Awareness	.90**	.91**	.90**	.64**	.69**	.54**	.35**	.35**	.35**
				(.79)	(.79)		(.80)		
				.12*	.04	.04	.02	.02	.02
Acceptance	.91**	.93**	.73**	.28**	.28**	.54**	.35**	.35**	.35**
				.64**	.69**	.54**	.35**	.35**	.35**
				(.84)	(.80)				
				.11	.02	.02	.02	.02	.02

Note \* $p < .05$ , \*\* $p < .01$ ; The Cronbach's alpha are in parentheses.

Correlations among the MIC-Children Report with other theoretically-related variables (i.e., AFQ-Y8, EAQ-30, openness/intellect subscale of BFQ-C, CDI, and WBSI) were analyzed to validate the concurrent validity of the MIC-Children Report (see Table 9). As hypothesized, results showed positive correlations among total mindfulness scores with those of two subscales of the EAQ-30; that is, attending to others' emotions ( $r = .14, p < .05$ ) and analyses of emotions ( $r = .23, p < .01$ ) and the intellect/openness subscale ( $r = .20, p < .05$ ). In the opposite direction, total mindfulness score related to those of CDI ( $r = -.24, p < .01$ ).

Most of the correlations between situation-scores of mindfulness, which were classified by four classes of situations, and the theoretically-related variables were consistent with the results from total mindfulness score. That is, the situation-score representing situations involving parents correlated with the scores of analyses of emotions ( $r = .13, p < .05$ ) and CDI ( $r = -.19, p < .01$ ). The situation-score denoting situations involving teachers related to the scores of attending to others' emotions ( $r = .13, p < .05$ ), those of analyses of emotions ( $r = .13, p < .05$ ), those of openness/intellect subscale ( $r = .19, p < .05$ ), and those of CDI ( $r = -.24, p < .01$ ). The situation-score denoting situations involving friends correlated with the scores of analyses of emotions ( $r = .20, p < .01$ ), those of openness/intellect subscale ( $r = .21, p < .05$ ), and those of CDI ( $r = -.16, p < .01$ ). The situation-score representing perceived self-related behaviors related to the scores of analyses of emotions ( $r = .17, p < .01$ ), those of openness/intellect subscale ( $r = .21, p < .05$ ), those of AFQ-Y8 ( $r = -.11, p < .05$ ), and those of CDI ( $r = -.22, p < .01$ ).



**Table 9** Correlations of the Mindfulness Inventory for Children-Children Report in each situation with other measures ( $N = 385$ )

		Total scores	The MIC			
			Scores of Situations involving parents	Scores of situations involving teachers	Scores of situations involving friends	Scores of Perceived self-related behaviors
EAQ	Differentiation emotions	.03	.04	.02	-.03	.06
	Verbal sharing	-.05	-.02	-.01	-.07	-.04
	Not hiding emotions	-.05	.00	-.03	-.08	-.04
	Bodily awareness	-.04	-.03	-.05	-.03	.02
	Attending to others' emotions	.14*	.09	.13*	.10	.09
	Analyses of emotions	.23**	.13*	.13*	.20**	.17**
BFQ-C	Openness/intellect	.20*	.07	.19*	.21*	.21*
AFQ-Y8		-.06	-.06	.00	-.03	-.11*
CDI		-.24**	-.19**	-.24**	-.16**	-.22**
WBSI		.06	.02	.02	.05	.04

Note \* $p < .05$ , \*\* $p < .01$

The Cronbach's alpha for the MIC-Children Report is .88 (.67 for situations involving parents, .76 for situations involving teachers, .69 for situations involving friends, and .74 for perceived self-related behaviors). The CITC ranged from .40 to .49 for situations involving parents, from .50 to .62 for situations involving teachers, from .39 to .55 for situations involving friends, and from .45 to .51 for perceived self-related behaviors. All CITC of the scale is shown in Appendix L.

The Cronbach's alpha for the MIC-Parent Report is .83 (.54 for situations involving parents, .71 for situations involving friends, and .80 for perception of children's self-related behaviors). The CITC ranged from .23 to .47 for situations involving parents, from .42 to .56 for situations involving

friends, and from .46 to .54 for perception of children's self-related behaviors. All CITC of the scale is shown in Appendix M.

The Cronbach's alpha for the MIC-Teacher Report is .83 (.69 for situations involving teachers, .61 for situations involving friends, and .85 for perception of children's self-related behaviors). The CITC ranged from .35 to .50 for situations involving teachers, from .41 to .45 for situations involving friends, from .45 to .53 for perception of children's self-related behaviors. All CITC of the scale is shown in Appendix N.

For other Thai-version theoretically-related scales, the Cronbach's alpha are .64 for the AFQ-Y8, .80 for openness/intellect subscale of the BFQ-C, .73 for the CDI, and .75 for the WBSI. After some items were excluded the Cronbach's alpha for each subscale of the EAQ-30 are .70 for the differentiating emotions, .50 for the verbal sharing of emotional functioning, .58 for the not hiding emotions, .59 for the bodily awareness, .17 for the attending to others' emotions, and .50 for the analyses of emotions.

In addition to Cronbach's alpha, test-retest reliability is another approach was applied to test reliability, only for the MIC-Children Report. The scores of the MIC-Children Report in the first time related to those of the second time which was collected after the first time for one month ( $r = .60, p < .01$  for total score,  $r = .65, p < .01$  for awareness component, and  $r = .49, p < .01$  for acceptance component)

## **Study 2      The Mindfulness Enhancement Program (MEP)**

This study aimed to develop the Mindfulness Enhancement Program (MEP) for children. A purpose of the program is to cultivate mindfulness skills (i.e., awareness and acceptance) in 8- to 11-year-old children. The program was applied with second- and fourth-grade students in the pilot study (see Appendix O) to assure whether the developed program could improve mindfulness skills in children. Then, another group of students participated in the experiment study. A purpose of this study was to test the improved program's effectiveness.

### The Experiment Study

To test the effectiveness of the program, in addition to the MIC-Children Report, the scales which correlated in middle third ( $r = .21-.33$ ) and upper third ( $r = .34-.78$ , Hemphill, 2003) with the MIC-Children Report (i.e., analyses of emotions subscales of the EAQ-30:  $r = .23$ , and a short-version of the CDI:  $r = -.24$ ) from the Study 1 were applied. A three-way mixed ANOVAs was conducted for repeated measure (i.e., times of measurement) with conditioned groups (i.e., the experimental and control groups) and age groups (8, 9, 10, and 11 years old) were treated as between-group variables and the dependent variables were mindfulness, analyses of emotions, and depression scores.

Data from some participants of the experimental group were excluded from the analysis since they did not participate every session. Absence from the program can affect consistency of the practice. When the students come back to the practice, they cannot make up the missing part. It influences overall effects from the program (Wu et al., 2013). However, they continuously participated in the program until the last session if they were voluntary to do so. As a result, data of 68 students (40 boys and 28 girls, aged 8-11,  $M = 9.6$ ,  $SD = 1.3$ ) were included into the analysis (see Table 10).

**Table 10** Number of students of the experimental and control groups

	8 years old		9 years old		10 years old		11 years old		Total
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
Experimental group	4	2	2	4	3	1	9	4	<b>29</b>
Control group	5	8	3	5	4	1	10	3	<b>39</b>

Results revealed no significant three-way interactions between times of measurement by the conditioned groups among age groups on all dependent variables. However, results showed two-way significant interactions between times of measurement and conditioned groups on two

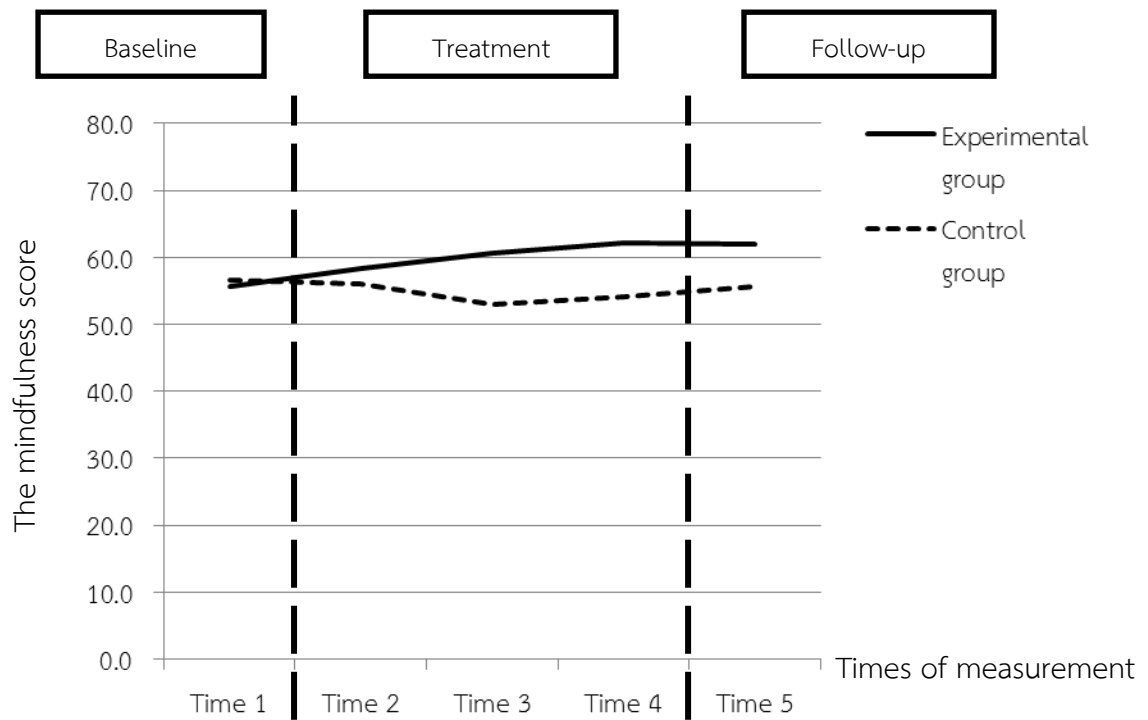
dependent variables; that is, mindfulness and depression scores. For the mindfulness scores, Mauchly's test indicated that the assumption of sphericity had been violated,  $\chi^2(9) = 31.9, p < .05$ ; thus degree of freedom were corrected using Greenhouse-Geisser estimates of sphericity ( $\epsilon = 0.81$ ). Result showed significant two-way interaction on mindfulness scores,  $F(3.22, 193.12) = 3.46, p < .017$ , partial eta square = .06. Their means and SDs were shown in Table 11. The mindfulness scores graph was shown in Figure 6.

**Table 11** Means and SDs of the mindfulness scores of the experimental ( $n = 29$ ) and control groups ( $n = 39$ ) in the experiment study for each time of measurement

	Times of measurement				
	Time 1	Time 2	Time 3	Time 4	Time 5
Experimental group	55.6 (10.1)	58.4 (13.3)	60.7 (13.9)	62.2 (15.1)	62.0 (15.8)
Control group	56.6 (11.6)	56.1 (13.6)	53.0 (13.9)	54.2 (15.7)	55.7 (13.7)

*Note* The SDs are in parentheses.

Figure 6 Mean mindfulness scores of the experimental and control groups in the experiment study across times of measurement



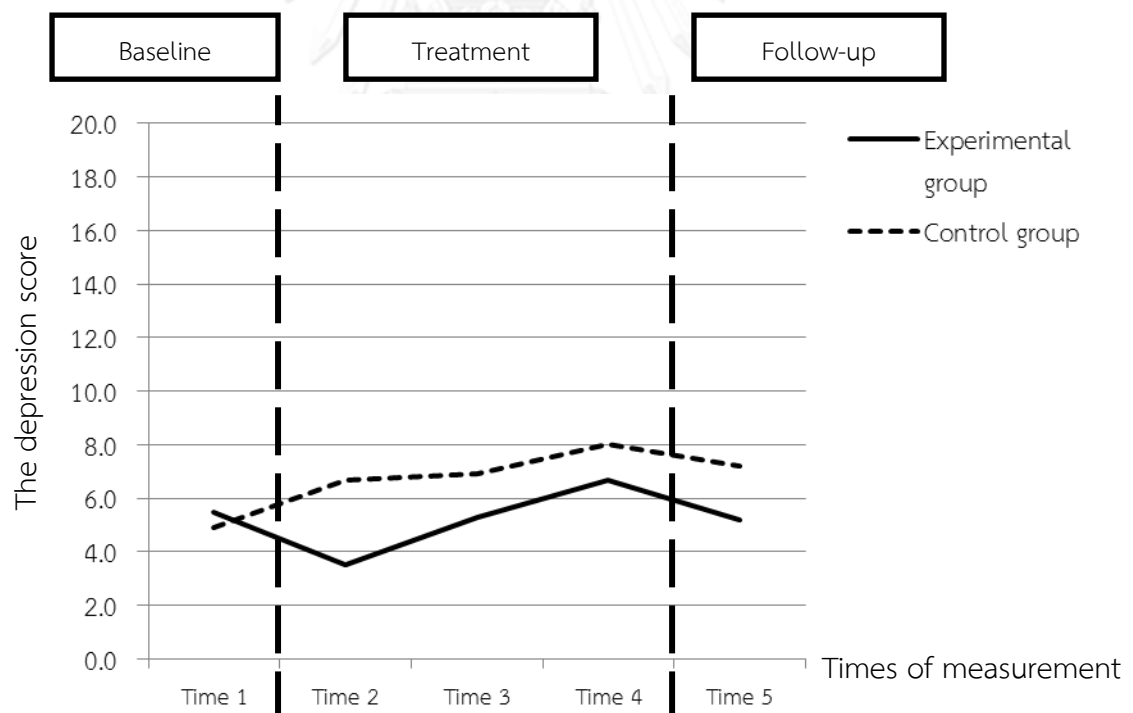
For depression score, result revealed significant two-way interaction between times of measurement and conditioned groups,  $F(4, 240) = 4.96, p < .017$ , partial eta square = .08. Their means and SDs were shown in Table 12. The depression score graph was shown in Figure 7.

Table 12 Means and SDs of the depression scores of the experimental ( $n = 29$ ) and control groups ( $n = 39$ ) in the experiment study for each time of measurement

	Times of measurement				
	Time 1	Time 2	Time 3	Time 4	Time 5
Experimental group	5.5 (3.5)	3.5 (2.8)	5.3 (3.4)	6.7 (3.8)	5.2 (3.8)
Control group	4.9 (2.5)	6.7 (3.7)	6.9 (3.6)	8.0 (4.2)	7.2 (4.1)

Note The SDs are in parentheses.

Figure 7 Mean depression scores of the experimental and control groups in the experiment study across times of measurement



To break down the interactions between times of measurement and conditioned groups on mindfulness and depression scores, contrasts were explored by the Helmert contrast method (Field, 2009). For the mindfulness scores, the analysis showed a significant interaction when comparing the score between the experimental and control groups in Time 1 and the scores average across Time 2 to 5,  $F(1, 65) = 6.40, p < .017$ , partial eta square = .09. For depression score, the analysis also revealed a significant interaction when comparing the score between the experimental and control groups in Time 1 and the scores average across Time 2 to 5,  $F(1, 60) = 16.44, p < .017$ , partial eta square = .22.

Moreover, both mindfulness and depression scores in Time 2, 3, and 4 were computed as mean for phase of treatment to compare the scores among phases of baseline, treatment, and follow-up. Both scores across phases were not continuous; that is, the mean scores for phase of treatment came from computing the scores of Time 2, 3, and 4. Therefore, a bar chart was applied to show the results.

The results showed that the mindfulness scores in phase of baseline for the experimental group were very similar to those of the control group. The mindfulness scores of the experimental group gradually increased throughout the study, while those of the control group hardly changed across the study. Their means and SDs were shown in Table 13 and the bar chart was shown in Figure 8.

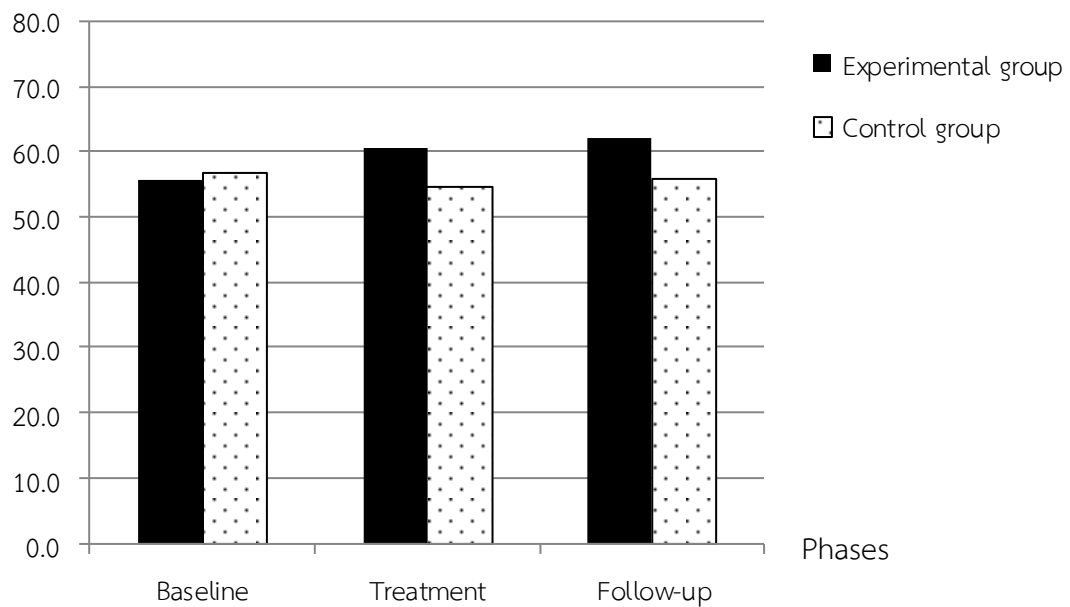
**Table 13** Means and SDs of the mindfulness scores of the experimental ( $n = 29$ ) and control groups ( $n = 39$ ) in the experiment study for each phase

	Phases		
	Baseline	Treatment	Follow-up
Experimental group	55.6 (10.1)	60.4 (12.0)	62.0 (15.8)
Control group	56.6 (11.6)	54.5 (12.5)	55.7 (13.7)

*Note* The SDs are in parentheses.

**Figure 8** Mean mindfulness scores of the experimental and control groups in the experiment study across phases

The mindfulness scores



For depression scores, the results showed that the scores of the experimental group were slightly decreased in phase of treatment and was still at the same point in phase of follow-up. However, the scores in phase of follow-up were not higher than those in phase of baseline. For control group, their scores dramatically increased somehow in phase of treatment and were still at the same point in phase of follow-up. Their means and SDs were shown in Table 14 and the bar chart was shown in Figure 9.



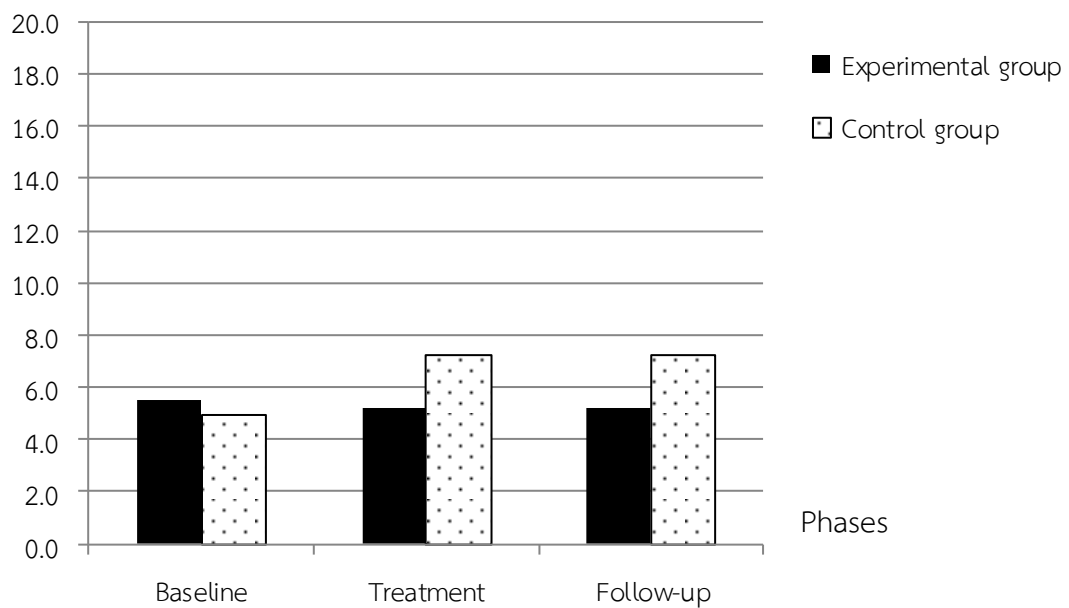
**Table 14** Means and SDs of the depression scores of the experimental ( $n = 29$ ) and control groups ( $n = 39$ ) in the experiment study for each phase

	Phases		
	Baseline	Treatment	Follow-up
Experimental group	5.5 (3.5)	5.2 (2.7)	5.2 (3.8)
Control group	4.9 (2.5)	7.2 (3.4)	7.2 (4.1)

*Note* The SDs are in parentheses.

**Figure 9** Mean depression scores of the experimental and control groups in the experiment study across phases

The depression scores



## CHAPTER 4

### DISCUSSION

#### Study 1 The Mindfulness Inventory for Children (MIC)

This study aimed to develop the Mindfulness Inventory for Children (MIC) which comprised three versions; the children-, the parent-, and the teacher-report scales. The items were generated from the interviews with children, their parents, and Buddhist teachers (Study 1a). Then, all three versions of the MIC were tested for language usage and responding format, internal consistency and corrected item total correlation (CITC), and the data collecting process in classroom (Study 1b). Finally, psychometric properties (i.e., construct validity, convergent validity, concurrent validity, and reliability) were tested by bivariate correlations, Cronbach'alpha, and test-retest reliability (Study 1c).

The definition of mindfulness in children concluded from interviews consisted of two components: *“awareness”* and *“acceptance”*. Past researches suggested that awareness and acceptance are the two primarily main components of mindfulness (Bruin et al., 2013; Keng et al., 2011). These components can be measured in children and adolescents (Bruin et al., 2013). Awareness and acceptance work together; that is, a mindful person learns to open-mindedly focus on and be gradually aware of external and internal experiences rather than trying to avoid or suppress those experiences. Eventually, he will clearly understand that trying to avoid or not accept in those experiences as it causes more suffering (McCarney et al., 2012). Moreover, these two components can be considered as the significant protective constructs for mental health, not only in adults but also in children and adolescents (Bruin et al., 2013).

From the interview, *“awareness”* described a skill of children for being aware of what is happening to them both outside and inside. This definition is similar to the definition proposed by Cardaciotto and colleagues (2008) as *“continuously watching current experiences”* which is not thinking of the past experiences or

imagination of the future. Also, the definition from interview is consistent with most of definitions of mindfulness from various researchers (e.g., Brown & Ryan, 2003; Germer et al., 2005; Giluk, 2009; Kabat-Zinn, 2003).

For the “acceptance” component, from the interview, it referred to a skill of children for accepting what is happening as it is. This meaning is consistent with mindfulness concept of Mikulas (2011) defined as not-doing anything with what is observed. “Not-doing” means that a person allows everything to go naturally; however, it does not mean being passive or helpless (Felver et al., 2013; Mikulas, 2004). Moreover, Felver and colleagues (2013) proposed that acceptance was defined as a perception of the present experience as it is no matter what is happening is pleasant or unpleasant. In other word, if a person faces situation with acceptance, he will let it to be as it is. “Acceptance” concept relates to attitude toward immediate experience. A person with acceptance attitude will be friendly, open, and curious. In other word, he will not bias by suppression or avoidance the experience (McCarney et al., 2012). Whenever, a person is open to and accept in any emotional experiences and be ready to engage in difficult activities, he will find the rich and meaningful life (Kashdan & Rottenberg, 2010). Acceptance can be both facilitator and result of mindfulness (Chiesa, 2012). It is also a main basic for the health benefits; that is, it can help a person improve physical and emotional health (Prazak et al., 2012).

Since it is questionable how well self-reported measure can reflect actual experiences in daily life, using behavioral frequency as an index of mindfulness skills may be able to correspond with experience (Van Dam, Earleywine, & Borders, 2010; Van Dam, Earleywine, & Danoff-Burg, 2009). Therefore, each scale items of the three-version MIC describes a specific event. Moreover, each item comprises two sub-items asking about “awareness” and “acceptance” components because the definition of mindfulness consists of these two main components. The responding format asks participant to rate their frequency of behaviors for each sub-item.

The correlation matrix showed significantly positive correlations between “awareness” and “acceptance” components scores. The results supported the

construct validity of the MIC; that is, these two components vary in the same direction in some degrees. This result is consistent with the information from interviews which showed that mindfulness has two main components, awareness and acceptance.

For convergent validity, the results from the correlation matrix can be concluded that the correlations supported convergent validity between the children-report scale and the parent-report scale and between the children-report scale and the teacher-report scale. The results showed the significant positive correlations between the total mindfulness scores of the children-report scale and those of the parent-report scale and between those of the children-report scale and those of the teacher-report scale. Also, the results showed the significant positive correlations between the awareness component scores of the children-report scale and those of the parent-report scale and between those of the children-report scale and those of the teacher-report scale. However, there was quite different in acceptance component, the scores of the children-report scale had significantly positive correlation only with those of the teacher-report scale. That is, children's parents and teachers view children's awareness-based behaviors in the same way as children notice themselves. For acceptance component, it may be more obvious for teachers to observed acceptance-based behaviors at school than for parents to witness the behaviors at home. Moreover, their teachers gave information that most of children's parents cannot spend much time with their children because of their work. Therefore, this may explain why children's parents could not observe in some behaviors (i.e., acceptance-based behaviors).

To evaluate concurrent validity of the MIC-Children Report, the correlations among the MIC-Children Report with other Thai-version theoretically-related scales were tested. Results showed that the higher score of the MIC-Children Report correlated with more attending to others' emotions, analyzing emotions, opening to new experiences, and with less depression. It can be concluded that the MIC-Children Report has the concurrent validity.

When focusing on classes of situations in the children-report scale of MIC, all classes of situations were correlated with analyzing emotions and depression. Analyzing emotions, which is an ability to be aware of and understand their own emotions, is important in emotional awareness (Rieffe et al., 2008). This is consistent with Rieffe and colleagues (2008) proposed that more mindfulness positively correlated with more emotional awareness. Moreover, all classes of situations were also negatively related to depression which is consistent with the literatures suggesting that a mindful person will have low psychological distress (Baer et al., 2004; Feldman et al., 2007; Walach et al., 2006) such as depression (Germer et al., 2005; Prazak et al., 2012). Biglan and colleagues (2013) also found that mindfulness associated with low level of depression. Especially for children, a child who has high depressive level reported low emotional self-awareness (Hughes et al., 2011).

Moreover, most of classes of situations, except the scores of situations involving parents, were associated with opening to new experiences. According to Siegel (2010), several studies revealed that mindfulness practices support a person approach to more than avoid from the challenges or new experiences. Moreover, theoretical work showed the correlation between mindfulness and openness (Latzman & Masuda, 2013). This result also is consistent with past research which found that openness to experience positively related to mindfulness (Giluk, 2009). The experiences of openness to what is happening involve receiving an input from experience and being present with others (Siegel, 2010). Therefore, a person with high openness, opening to all experience both pleasant and unpleasant, will attend to and be aware of the experience with acceptance (Baer et al., 2004; Chiesa, 2012).

Interestingly, only higher scores of situations involving teachers related to higher scores of attending to others' emotions and only higher scores of perceived self-related behaviors were associated with less scores of psychological inflexibility. Attending to others' emotions is necessary in observing other's emotions (Rieffe et al., 2008). Although, only situations involving teachers were associated with attending to others' emotions, this result showing children who have mindfulness skills will more observe other's emotions. Perceiving self-related behaviors related to psychological inflexibility which results from experiential avoidance and cognitive

fusion (Greco et al., 2008). This concept is the internal processes; thus, only the situations evaluating the experiences happening with self correlated with this concept. This result was consistent with Latzman and Masuda (2013) who found that mindfulness negatively correlated with psychological inflexibility. The past research also suggested that experiential avoidance is a mechanism of unhelpful psychological processes, such as mindlessness and thought suppression (Riley, 2012). Moreover, mindful observation and accepting in emotional responses may reduce anxiety and behavioral avoidance among highly anxiety sensitive individuals and patients with panic disorder (Keng et al., 2011).

The other constructs (i.e., differentiating emotions, verbal sharing, not hiding emotions, bodily awareness, and thought suppression), were not correlated with the children-report scale of MIC. The aforementioned constructs indicate actions that a person applied to whatever happens, which are a step after being aware of the present situations. For example, when a person is aware of the present situation but cannot accept such situation, he may try to hide or suppress their unpleasant thoughts or emotions to cope with them (Rieffe et al., 2008; Wegner & Zanakos, 1994). In addition, a person always figure out what causes of emotions are, communicates with other to share their emotions, or attend to his body changes for responding to arising emotions (Rieffe et al., 2008). However, mindfulness in this study was defined as the ability to be aware of and accept what is happening in the present time. Mindfulness does not include an action further after a person is aware of and accepts the present situations.

Also, the Cronbach's alpha scores and test-retest reliability showed the high reliability of the MIC. That is, The Cronbach's alpha scores of all three versions of the MIC were in high magnitude (.83-.88). All corrected item total correlation scores of all three versions were higher than critical  $r$  at  $p < .05$  [ $r(302) = .095$ ]. In addition to Cronbach's alpha reliability, the correlation coefficients of test-retest reliability were moderate to high. These results suggested that the scale can be evaluated the mindfulness skill across time. Since, mindfulness skill in this study was state-like, their magnitudes were not high.

## Study 2      The Mindfulness Enhancement Program (MEP)

A purpose of this study is to develop the Mindfulness Enhancement Program (MEP) for 8- to 11-year-old children. Some activities from the MBCT-C were adjusted to be appropriate for use with Thai children. The pilot study (see Appendix O) aimed to check for its process and effect on mindfulness skills in children. A purpose of the experiment study was to evaluate the effectiveness of the program. The MIC-Children Report, analyses of emotions subscale of the EAQ-30, and CDI from the Study 1 were applied for evaluating the effectiveness.

A three-way mixed ANOVAs was conducted for repeated measure (i.e., times of measurement) with conditioned groups (i.e., the experimental and control groups) and age groups (8, 9, 10, and 11 year old) were treated as between-group variables. Result showed two-way significant interactions between times of measurement and conditioned groups on mindfulness and depression. These indicated that both scores were different between the experimental and control groups across times of measurement.

The MEP can cultivate mindfulness skills in children because all activities in the MEP focused on practicing being aware of the present-moment situation both external and internal experiences and accepting what is happening which are components of mindfulness in this study. The main activities are *three-minute meditation, sensory-experience activities, group discussion, and daily homework*.

A purpose of meditation is to increase awareness (DelMonte, 2011). Meditation is always used with adult for practicing paying attention process in present-moment situation. Also, it can be applied into children with the same purpose (Ott, 2002). Acceptance can be practiced by meditation. When a person repeats refocusing on the object of meditation, such as breath, (Chiesa, 2012) he can easily be more aware of and understand the ever-changing nature of mental processes. That is, when a person observe arising in, maintaining in, and disappearing of his thoughts and emotions from consciousness, he may be less attach with and more accept his internal states. Acceptance can prevent negative thoughts, relax attention, and allow more discrete sensation to be more easily noticed (Chiesa,

2012). However, mindfulness practice does not need to be referred to meditation practice (Felver et al., 2013).

Since, mindfulness relates to all sensory (Buchheld et al., 2001), sensory-experience activities were included into the program. This group of activities has been broadly applied within clinical psychology (McCarney et al., 2012). Since children enjoy to use their body for doing activity, the activities can respond their need (S. C. Hayes & Greco, 2008; Semple et al., 2006). The purpose of these activities is to cultivate children to be aware of and accept their sensations, thoughts, and emotions. The activities based on experiential learning through various physical sensation modes can more easily increase children mindfulness's skills (S. C. Hayes & Greco, 2008; Semple & Lee, 2008; Semple et al., 2006). Each week would focus on only one sensory; thus children can repeatedly practice. As a result, they were not confused and easily notice and understand the learned skill. Moreover, children in the experimental group reported enjoying the program and getting the new experience with sensory-experience and self-awareness.

Group discussion which was conducted after each activity is the important part of the program (Semple & Lee, 2008; Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008). Children were facilitated to understand their experiences and to learn from each other in group discussion. As a result, they can understand their own experiences, become more aware of and understand individual differences (Semple & Lee, 2008; Semple et al., 2006). As described above, all of these in-class activities facilitate children to learn mindfulness skill.

In addition to in-class activities, children were assigned to do homework everyday. The activities were same as in-class activities on such week. Homework is a good way for helping and cultivating awareness skill (Wu et al., 2013). When a person participates the mindfulness-based program, he needs more time and paying attention for practicing mindfulness skills and for applying the learned skills into their daily lives (Shapiro et al., 2003). Therefore, doing homework everyday facilitates children to keep practicing mindfulness skills (Semple et al., 2006; Thompson & Gauntlett-Gilbert, 2008) and learn from their direct experiences outside classroom



(Semple et al., 2006). As a result, homework can heighten an effectiveness of the program and is another important factor influencing on program results (Wu et al., 2013).

In the experiment study, the contrast analysis revealed that the mindfulness scores in the first time of measurement were significantly different from the average scores of the second to fifth times of measurement. As described in chapter 2, the first time of measurement was conducted before opening the program. Then, the second time of measurement was evaluated after the experimental group attended to the program for two weeks. As seen in Figure 6, the graph showed that the mindfulness scores of the experimental and control groups before opening the program were very close. When the experimental group participated in the program for two weeks, their mindfulness scores increased and gradually rose throughout the program until the fourth time of measurement, which was evaluated at the last session of the program. Moreover, their score was higher than those of the control group. After closing the program for two weeks, the experimental group's mindfulness scores still was stable. This score pattern is consistent with result from the pilot study (see Appendix O). It indicated that the early period of the program helped children cultivate their mindfulness skills and the later period of the program supported them steady their skills.

Another contrast analysis also revealed that the depression scores in the later times of measurement significantly changed from the first time of measurement. Figure 7 showed that the depression scores of the experimental group were similar to those of the control group in the first time of measurement. Then the experimental group's scores reduced after they attended the program for two weeks while the control group's score gradually increased. Although, the depression scores of the experimental group did not steadily decrease over the program, their scores were lower than those of the control group.

By the developed MEP, children were practiced awareness and acceptance skills which are components of mindfulness skills. Past researches suggested that the program focusing on two key components helps reducing emotional reactivity to

negative stimuli and increasing willingness to remain facing with them (Keng et al., 2011). With the practiced awareness skill, one can be aware of dysfunctional thought patterns (i.e., negative or critical thought patterns), which a depressed person tends to use such patterns to describe himself. A mindful person can precisely get what those thoughts really are. Acceptance skill allows a person to accept his circumstances, including sensations, thoughts, and emotions, rather than to oppose or get stuck in them (Alleva, Roelofs, Voncken, Meevissen, & Alberts, 2012). Also, an individual who has high acceptance without judgment in what is happening less likely experiences negative emotion (Prazak et al., 2012). Then, he will be able to stay in the present situations (Alleva et al., 2012). Depression connects with rumination which repeats negative thoughts about stressful situations or depressed mood (Alleva et al., 2012; Bruin et al., 2013). It moves an attention away from the present situations (Alleva et al., 2012; Hughes et al., 2011; Segal et al., 2002; Semple et al., 2010). In contrast, with the practiced mindfulness skills, a person becomes skilled in being aware of the present situations without judging which can put attention away from repeating a past thought (Alleva et al., 2012). As a result, the practiced skills help children stop thinking of past causing depression (O'Brien et al., 2008; Semple et al., 2006). That is, being mindfulness can lessen depression in children (Bruin et al., 2013). Thus, the program focusing on being aware of and accepting in the present-moment situation can influent on depression in children.

As described above, various activities in the MEP focused on cultivating the ability of being aware of and accepting in the present experiences. Three-minute meditation facilitates cultivating self-awareness and clarifying thoughts and feelings (Wisner, 2013) which can help one clearly understand negative thought pattern (Alleva et al., 2012). Various sensory-experience activities teach children to observe, aware of, and accept in their thoughts and emotions from their sensations. Group discussion allowed them to reconsider about their experiences. Especially for depression, group discussion can improve rigid and fixed thinking process to be more flexible and broad (Wu et al., 2013). Homework helps children apply their learned skill into their daily lives. The duration of practice is another point which should be considered as an important factor for the effectiveness of the program. However,

according to Wu and colleagues (2013), the short-time practice may be able to reduce depressive level in college students; its effect is not obvious, yet. They found that both four-week and eight-week mindfulness-based practices could lessen depressive level.

The result is consistent with the study of Wu and colleagues (2013) who found that the mindfulness-based training can decrease depression. Harnett and Dawe (2012) reviewed the studies about mindfulness-based approaches in school-setting and found that the approach can reduce mood symptoms especially depression. Also, past reviews found that this approach may be useful for reducing depression, anxiety, and stress (Hofmann, Sawyer, Witt, & Oh, 2010). For children, a child who has high depressive level significantly reported low emotional control, emotional self-awareness, and situational responsiveness (Hughes et al., 2011).

Interestingly, the depression scores in both groups increased in some periods of the program. This may be explained that students faced with some stressors in their life, such as examination throughout semester, causing negative emotion. However, the program practiced the ability of being aware of and accepting what is happening, which are the mindfulness skills. Therefore, the learned skills can help children cope with emotional disturbance. As a result, the depression scores of the experimental group were lower than those of the control group throughout the study.

However, there was no two-way significant interaction on the analyses of emotions scores. Internal states, such as emotions and thoughts, are less concrete than sensation for children. Therefore, being aware of and accepting emotions may be harder for them. Moreover, the MEP has only one session which focused on internal states. It may be not enough to cultivate analyzing emotions.

Also, the finding suggested that the MEP can be applied in a classroom-setting and positively effect on children. The classroom is an useful setting for practicing various skills, such as self-esteem building, stress prevention, focusing (Klatt et al., 2013), and mindfulness skills. Using program in school-setting can lessen students' disruptive behavior which can be a problem for learning (Black & Fernando, 2013).

In sum, the findings indicated that children in the experimental group who participated in the full course of the program showing better outcomes than the control group. That is, the mindfulness scores of children in the experimental group increased and their depression scores decreased after attending the MEP. Moreover, children in the experimental group presented higher mindfulness scores and lower depression scores than children in the control group across attending the program. The reducing of depression can verify the effectiveness of the program (Wu et al., 2013).

It can be concluded that all activities in the MEP were designed to be appropriately used with children. The result supported that the program can improve mindfulness skills, which is consisted of awareness and acceptance skills, in children. Also, the program positively influenced on depressive level in children. A mindfulness-based program which consisted of practicing awareness and acceptance helps children consider causes and results of their behaviors. Therefore, they will be ready for alternative appropriate behaviors (Felver et al., 2013).

## CHAPTER 5

### Conclusions and Suggestions

#### Purposes of the Study

The objective of the research was to apply mindfulness into 8- to 11-year-old children. Two studies were conducted for two purposes. The first study (Study 1) aimed to develop the effective measure, the Mindfulness Inventory for Children (MIC), for evaluating mindfulness skill in children. The scale consisted of three versions: the children-report scale, the parent-report scale, and the teacher-report scale. The purpose of the second study (Study 2) was to develop the appropriate program, the Mindfulness Enhancement Program (MEP), in cultivating mindfulness skills (i.e., awareness and acceptance skills) for use with school-aged children.

The first study was three parts. A first part (Study 1a) was to generate item for all three versions of the MIC. A pool item came from interviews with children, their parents, and Buddhist teachers. Then (Study 1b), all generated items of the MIC were checked for their language usage and responding format, their internal consistency and corrected item total correlation (CITC), and the collecting data process in classroom. Finally (Study 1c), all three versions of the MIC were validated in term of psychometric properties by the bivariate correlations among all three versions of the MIC, the bivariate correlations among the MIC-Children Report and other Thai-version theoretically-related scales, and test-retest reliability.

The second study was divided into two parts. The pilot study (see Appendix O) aimed to evaluate whether the developed program can cultivate mindfulness skills in children. Then, the improved program was applied into another group of children in the experiment study (Study 2b) to test the effectiveness of the program. The MIC-Children Report, analyses of emotions subscale of the EAQ-30, and the CDI from the Study 1 were used in Study 2 for evaluating the program's effectiveness.

## Research Hypotheses

### Study 1 The Mindfulness Inventory for Children (MIC)

1. The “awareness” component scores should positively correlate with “acceptance” component scores within each version (i.e., the children-, the parent-, and the teacher-report scales) for testing the construct validity.
2. The MIC-Children Report should have positive correlations with the MIC-Parent Report and with the MIC-Teacher Report for testing the convergent validity.
3. For the concurrent validity
  - a. The MIC-Children Report should have negative correlations with the Avoidance and Fusion Questionnaire for Youth (AFQ-Y, Greco et al., 2008), a short version of the Children Depressive Inventory (CDI, Kovacs, 2003) and the White Bear Suppression Inventory (WBSI, Wegner & Zanakos, 1994).
  - b. The MIC-Children Report should positively correlate with the Emotion Awareness Questionnaire (EAQ-30, Rieffe et al., 2008), especially emotions differentiate, emotions analyze, and body awareness, and intellect/openness subscale of the Big Five Questionnaire-Children version (BFQ-C, Barbaranelli et al., 2003)
4. In test-retest, the correlation between the mindfulness score of the MIC-Children Report in the first time should positively correlate with those of the second time for testing reliability of the MIC-Children Report.

### Study 2 The Mindfulness Enhancement Program (MEP)

Children in the experimental group should show better outcome; that is the mindfulness scores and the analyses of emotions scores of the experiment group should be higher and the depression scores should be lower than those of the control group when engaging in the program.

## Participants

### Study 1 The Mindfulness Inventory for Children (MIC)

#### *Study 1a Item Generation of the MIC*

Participants were 12 children (eight boys and four girls, aged 7-12) who had taken a meditation course, nine of their parents, and five Buddhist teachers who participated in another meditation course.

#### *Study 1b Item Selection of the MIC*

Participants were divided into three groups of participants.

Phase 1 seven children (six boys and a girl, aged 9-11) with permission from their parent, their parents, and four teachers verified language usage.

Phase 2 To examine internal consistency for all three-version of the MIC, 55 elementary students (25 boys and 30 girls, aged 8-11), 50 of their parent (11 men and 39 women, aged 25-67), and seven of their teacher (a man and six women, aged 31-58) were the second group of participants. They were recruited from one elementary school in Bangkok with permission from the school headmaster and school boards.

Phase 3 To try out all scales for use in a classroom, the last group of participants consisted of 38 elementary students (12 boys and 26 girls, aged 8-11), 38 of their parents (10 men and 27 women), and four of their teachers (a man and three women) which were recruited from another school in Bangkok with permission from the school headmaster and school boards.

#### *Study 1c Validation of the MIC*

Participants were divided into two groups. 385 elementary students (200 boys and 185 girls, aged 8-11), 194 of their parents (54 men, 137 women, and 3 not reporting their sex, aged 26-71), and 27 of their class teachers (2 men and 25 women, aged 26-58) were recruited from five schools in Bangkok

with permissions from the school headmasters and the school boards. Another group of participants was 55 elementary students from Study 1b were asked to complete the MIC again to evaluate test-retest reliability.

## **Study 2      The Mindfulness Enhancement Program (MEP)**

Participants were 28 second- and fourth-grade students were recruited from one school (19 boys and 9 girls, aged 7-10) participating in the pilot study (see Appendix O). They were recruited and placed into the experimental and control groups by their class teachers.

In the experiment study, another 82 elementary students (50 boys and 32 girls, aged 8-11) from three schools in Bangkok participated in the experiment study. They were divided into the experimental and control groups by their mindfulness scores which they completed the MIC-Children Report before starting the program. Since some of children in the experimental group did not attend every session, their data were excluded. As a result, data of 68 students (40 boys and 28 girls, aged 8-11) were included into the analysis.

## **Procedures**

### **Study 1      The Mindfulness Inventory for Children (MIC)**

#### ***Study 1a      Item Generation of the MIC***

The scales items (i.e., items of all three-version MIC) were generated from interviews. The interviews took approximately 15-20 minutes. Open-ended questions were applied into the structure interview. The main concept of the interviews was about understanding about mindfulness in children, mindfulness-based practice for children, and mindfulness for children in daily lives. After all interviews finished, their answers were summarized. Then, the information were used to generate the items for all three versions of the MIC.



### ***Study 1b      Item Selection of the MIC***

The items which were generated from interviews were established as a pool item for all three versions of the MIC. Then, the scales were critiqued by two university professors with expertise in developmental psychology regarding to their language usage and responding format. To check their language usage and responding format whether they are proper, participants were asked to complete the scales and questioned about their understanding. The confusing point or various comments were applied to change some contents or formats if they were appropriate.

Then, the MIC was tested for internal consistency and corrected item total correlations (CITC). Children were asked to complete the MIC-Children Report. The MIC was applied into another group of participants to test the collecting data process. The process for children was planned to conduct in classroom with 20-30 students. All students were brought in one classroom and instructed to complete all scales without discussion with each other. The investigator was always in classroom to answer their queries. The data collecting was divided into two consecutive days. Children were asked to complete the MIC-Children Report on the first day and other five Thai-version theoretically-related scales on the following day. For the MIC-Parent Report, children brought the scale to their parent and turned it back to the investigator on the next day. Children's teachers were asked to complete the MIC-Teacher Report for each child in his class.

### ***Study 1c      Validation of the MIC***

The questionnaire package consisted of the MIC-Children Report and other five Thai-version theoretically-related scales for children, the MIC-Parent Report for children's parents, and the MIC-Teacher Report for children's teachers. For other Thai-version theoretically-related scales were translated into Thai and adjusted to be appropriate with 8- to 11-year-old children. The collecting data program was same as utilized in the Study 1b.

## **Study 2      The Mindfulness Enhancement Program (MEP)**

Before conducting the experiment study, the pilot study (see Appendix O) which was seven weeks was employed. The experiment study was nine weeks including assessing mindfulness skills to divide participants into the experimental and control groups, conducting the program for the experimental group for six weeks, and follow-up evaluation after closing the program for two weeks. Every week, the experimental group attended the program on the day and the same time, while the control group attended their regular school activities. All participants (i.e., both the experimental and control groups) were asked to complete the scales (i.e., the MIC-Children Report, analyses of emotions subscale of the EAQ-30, and a short version of the CDI) for five times of measurement throughout the study to evaluate the program's effectiveness.

### **Data Analysis**

#### **Study 1      The Mindfulness Inventory for Children (MIC)**

The MIC was validated by bivariate correlation, internal consistency analysis, and corrected item total correlation. However, only the MIC-Children Report was additionally analyzed by test-retest reliability.

#### **Study 2      The Mindfulness Enhancement Program (MEP)**

A three-way mixed ANOVA with repeated measure (i.e., times of measurement), which was applied in the pilot study (see Appendix O), was also used in the experiment study. Between-group variables were conditioned groups (i.e., experimental and control group) and age (i.e., 8, 9, 10, and 11 years old). Dependent variables were mindfulness scores, analyses of emotions scores, and depression scores. Using Bonferroni correction for testing all three outcomes,  $p$  at .017 was acceptable for significant level.

## Results

### Study 1 The Mindfulness Inventory for Children (MIC)

From the interview, it can be concluded that the definition of mindfulness consists of two components; that is, awareness and acceptance. Awareness was defined as a skill of children for being aware of what is happening to them both outside and inside (i.e., thoughts and emotions). Acceptance was referred to a skill of children for accepting what is happening as it is.

The MIC consists of three versions; that is, the children-report scale, the parent-report scale, and the teacher-report scale. The MIC-Children Report contains four classes of situations: a) situations involving parents, b) situations involving teachers, c) situations involving friends, and d) perceived self-related behaviors. The MIC-Parent and Teacher Report contain three classes of situations a) situations involving parents for the parent-report scale and situations involving teachers for the teacher-report scale, b) situations involving friends, and d) perception of children's self-related behaviors, which is same as perceived self-related behaviors for the children-report scale, for both the parent- and teacher-report scales.

All classes of situations contain five items. Therefore, the MIC-Children Report contains 20 items, the MIC-Parent and Teacher Report contained 15 items. Each item describes a specific event related to such class of situation. Since the definition of mindfulness consists of awareness and acceptance, each item contains two sub-items asking about "awareness" and "acceptance" components (i.e., five "awareness" sub-items and five "acceptance" sub-items). Both of sub-items relate to such particular event. The responding format is three possible answers which are "never" / "sometimes" / "always". The three answers are valued as 0 ("never"), 1 ("sometimes"), and 2 ("always"). A score for each item is an additive combination of its corresponding "awareness" sub-item and "acceptance" sub-item. A possible score for each item ranges from 0 to 4.

Then, all three completed versions of the MIC were validated by various approaches. The results supported that construct validity; that is, all correlations

between awareness and acceptance components scores within the same version were significantly positive in moderate magnitudes. Most of correlation coefficients between the MIC-Children Report with Parent Report and Teacher Report showed the small correlation but they were in expected direction as hypothesized. Therefore, it could be concluded that between children's parents and teachers view children's mindfulness-based behaviors same as children observe themselves. In other word, the MIC had the convergent validity among the children-, the parent-, and the teacher-report scales. Moreover, the higher MIC-Children Report correlated with more attending to others' emotions, analyzing emotions, opening to new experiences, and with less depression, psychological inflexibility. The results supported the concurrent validity of the MIC-Children Report.

The Cronbach's alpha scores of all three versions of the MIC were in high magnitude. All the corrected item total correlation scores of all three versions were higher than critical  $r$ . Moreover, the correlation coefficients of test-retest reliability for the MIC-Children Report were moderate to high. These results showed that the MIC has high reliability.

## **Study 2      The Mindfulness Enhancement Program (MEP)**

There were two-way significant interactions between times of measurement and conditioned groups on mindfulness and depression scores. The results suggested that both scores were different between the experimental and control groups across times of measurement. The contrast analysis showed that both the mindfulness and depression scores in the first time of measurement were significantly different from the average scores of the second to fifth times of measurement.

For mindfulness scores, the scores of the experimental group were very close with those of the control group before the program was started. After conducting the program for two weeks, the mindfulness scores of the experimental group increased and gradually rose throughout the program until the last session of the program. Their scores were also higher than those of the control group. Moreover, the scores of the experimental group were still stable after closing the program for two weeks. These scores pattern showed that the early period of the program cultivate

children's mindfulness skills. Then, the later period of the program supported them steady their skills.

For depression scores, the scores of the experimental group were similar to those of the control group before starting the program. Then, those of the experimental group decreased after they participated in the program, while those of the control group gradually increased. Although, the experimental group's scores did not steadily reduce, their scores were lower than the control groups' scores over the program.

These results suggested that the program has positive effects for children. Children in the experimental group, who attended the program every session, showed better outcomes than children in the control group.

### **Suggestions**

1. Although, participants were asked to complete the scales by themselves without guiding by the investigator which can limit the experimenter expectancy bias in some degrees, future research should apply other objective measurements (e.g., physiological assessment). These measurements are another appropriate method for defining mindfulness skills (Coyne et al., 2008) to increase accuracy in assessing mindfulness skill in children.

2. Future research should include parent's and teachers' measuring on mindfulness behavior to observe children' changing pattern of mindfulness skill when they attend the mindfulness-based program.

3. Future research should explore other outcomes (e.g., social development, Liehr & Diaz, 2010), other variable which can influence outcomes of the mindfulness-based program in children (Harnett & Dawe, 2012), other settings, or other populations to support the application of the program and evaluate its efficacy (Crane & Kuyken, 2012).

4. To limit the Hawthorne effect and precisely interpret, in addition to control group attending the regular school activities, future research should add another control group attending some activities which are not involved with cultivating mindfulness skills with research assistant who is a new person for children.

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APPENDICES

จุฬาลงกรณ์มหาวิทยาลัย  
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**Appendix A**  
**Interview Questions for Children**

1. How old are you?
2. Do you know the word “mindfulness”?
3. “For me, mindfulness is “accepting what is happening including thoughts and situations. For example, when a person fell down, he is aware of such situation and accepts in his pain or his embarrassment; however, he does not judge whether such situation is good or bad for him.” What is mindfulness for you? (If a child could not answer this question, it can be skipped to the next question.)
4. “When were you most mindful and how you feel in that time?”
5. “Have you ever done something with intended to do another? Could you please share your experience? For example, I intended to pick soap, yet I pick shampoo. I just realized that I pick a wrong one when I was going to pour the shampoo out. Then, I thought that I do such thing with mindlessness.” (The example in this question was treated as a cue. It would be given to children only when they could not think of their experience.)
6. “In such situation, what were you thinking or feeling?”
7. “Have you ever felt guilty because of your thought or your feeling? Or Have you ever thought that I did not want to think or feel like this? Why did you think or feel like that?”
8. “From your meditation experience, what are the benefits from the meditation?”
9. “Have you ever applied your experience from meditation into your daily lives? How?”
10. “Which activities can help you practice mindfulness besides meditation?”

## Appendix B

### Interview Questions for Children's Parent and Buddhist Teachers

1. What is “mindfulness” for children?
2. If mindfulness is defined as “accepting what is happening both internal experience, such as thoughts, emotions, and sensations, and external experience both pleasant and unpleasant situation. However, a person does not judge or value them as good or bad for him.” What do you think about it? And how is your opinion about mindfulness’ definition for children different from this definition?
3. What are your children’s behaviors you could notice that they were mindful?
4. When or which activities did you think that your children were most mindful?
5. Do you think that meditation can help children be mindful? Please give some reasons or children’s behaviors to support your opinion.
6. If it is not meditation, what are activities that can practice children being mindful?

## Appendix C

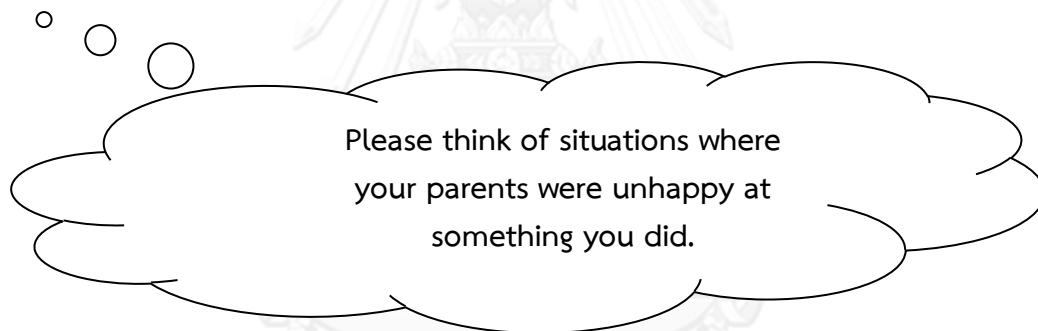
### The Examples of Items from the Mindfulness Inventory for Children-Children Report in English

#### Behavior Questionnaire

Please read the following situations and to the best of your ability, reflect on your behavior in those situations. Then, please put an X on one of the letter A, B, and C in front of the statement that best describes your behavior. There is no right or wrong answer as all answers are merely a report of your behavior.

#### *Situations involving your parents*

(This may be a single parent or a legal guardian as well)



Were you aware that your parents were unhappy at something you did?

- A. I was never aware that my parents were unhappy.
- B. I was sometimes aware and sometimes not aware that my parents were unhappy.
- C. I was always aware that my parents were unhappy.

What did you do when your parents were unhappy at something you did?

- A. I never accepted that my parents were unhappy with something I did
- B. Sometimes I accepted that my parents were unhappy at something I did. At other times I did not accept that my parents were unhappy at something I did.
- C. I always accepted that my parents were unhappy at something I did.

Please think of situations where  
your parents punished you.

Were you aware that your parents were punishing you?

- A. I was never aware that I was being punished.
- B. I was sometimes aware and sometimes not aware that I was being punished.
- C. I was always aware that I was being punished.

What did you do when you were being punished?

- A. I never accepted that I was being punished.
- B. I sometimes accepted that I was being punished. At other times I did not accept that I was being punished.
- C. I always accepted that I was being punished.

### *Situations with one of your teachers*

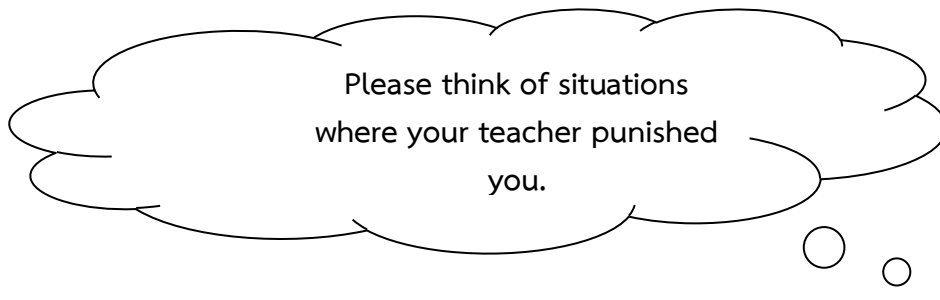
Please think of situations where your  
teacher was unhappy at something  
you did.

Were you aware that your teacher was unhappy at something you did?

- A. I was never aware that my teacher was unhappy.
- B. I was sometimes aware and sometimes not aware that my teacher was unhappy.
- C. I was always aware that my teacher was unhappy.

What did you do when your teacher was unhappy at something you did?

- A. I never accepted that my teacher was unhappy with something I did.
- B. Sometimes I accepted that my teacher was unhappy at something I did. At other times I did not accept that my teacher was unhappy at something I did.
- C. I always accepted that my teacher was unhappy at something I did.



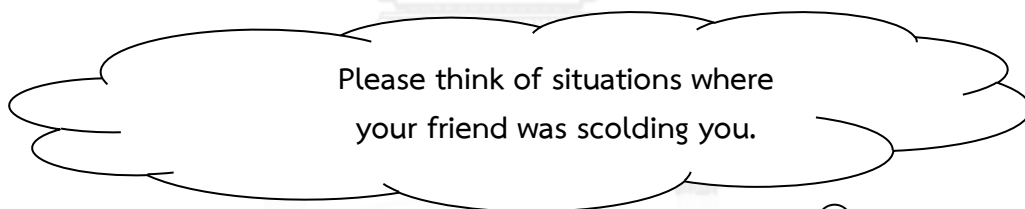
Were you aware that your teacher was punishing you?

- A. I was never aware that I was being punished.
- B. I was sometimes aware and sometimes not aware that I was being punished.
- C. I was always aware that I was being punished.

What did you do when you were being punished?

- A. I never accepted that I was being punished.
- B. I sometimes accepted that I was being punished. At other times I did not accept that I was being punished.
- C. I always accepted that I was being punished.

***Situations with a friend or a group of friends***

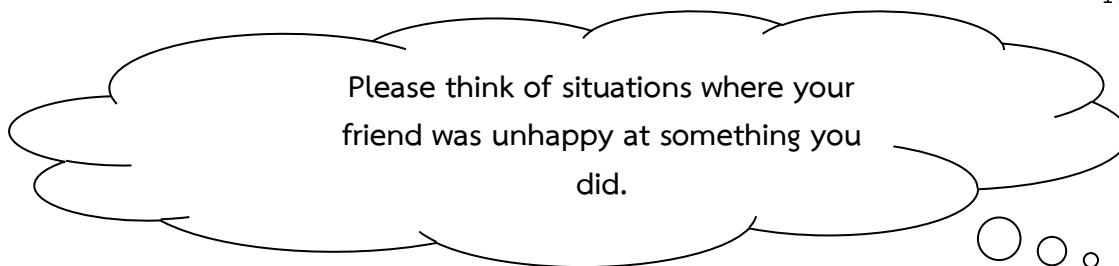


Were you aware that your friend was scolding you?

- A. I was never aware that my friend was scolding me.
- B. I was sometimes aware and sometimes not aware that my friend was scolding me.
- C. I was always aware that my friend was scolding me.

What did you do once you were aware that your friend was scolding you?

- A. I never accepted that my friend was scolding me.
- B. I sometimes accepted that my friend was scolding me. At other times I did not accept that my friend was scolding me.
- C. I always accepted that my friend was scolding me.



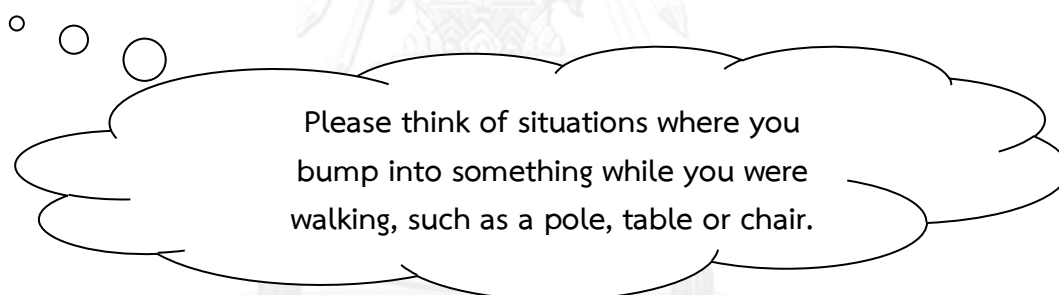
Were you aware that your friend was unhappy at something you did?

- A. I was never aware that my friend was unhappy.
- B. I was sometimes aware and sometimes not aware that my friend was unhappy.
- C. I was always aware that my friend was unhappy.

What did you do when your friend was unhappy at something you did?

- A. I never accepted that my friend was unhappy with something I did
- B. Sometimes I accepted that my friend was unhappy at something I did. At other times I did not accept that my friend was unhappy at something I did.
- C. I always accepted that my friend was unhappy at something I did.

### *Situations involving just yourself*



Were you aware that you bumped into something while you were walking?

- A. I was never aware that I bumped into something while I was walking.
- B. I was sometimes aware and sometimes not aware that I bumped into something while I was walking.
- C. I was always aware that I bumped into something.

What did you do when you bumped into something?

- A. I never accepted that I bumped into something.
- B. I sometimes accepted that I bumped into something. At other times, I did not accept that I bumped into something.
- C. I always accepted that I bumped into something.

Please think of situations where you  
bump into someone else.

Were you aware that you were about to bump into someone else?

- A. I was never aware that I was about to bump into someone else.
- B. I was sometimes aware and sometimes not aware that I was about to bump into someone else.
- C. I was always aware that I was about to bump into someone else.

What did you do once you bumped into someone else?

- A. I never accepted that I bumped into someone else.
- B. I sometimes accepted that I bumped into someone else. At other times, I did not accept that I bumped into someone else.
- C. I always accepted that I bumped into someone else.



## Appendix D

The Examples of Items from the Mindfulness Inventory for Children-Children  
Report in Thai

## แบบสอบถาม

ขอให้เด็กๆ อ่านสถานการณ์ต่อไปนี้และย้อนคิดถึงตัวเองขณะกำลังอยู่ในสถานการณ์นั้นๆ จากนั้นขอให้เด็กๆ X ทับตัวอักษรหน้าข้อความที่ตรงกับตัวของเด็กๆ มากที่สุดเพียงข้อเดียว คำตอบที่เด็กๆ ตอบนั้นไม่มีข้อใดผิดหรือถูก เนื่องจากเป็นเพียงการตอบให้ตรงกับสิ่งที่เด็กๆ ทำเท่านั้น

**เหตุการณ์ที่เกิดขึ้นกับผู้ปกครองที่บ้าน**

(ผู้ปกครองคือ คุณพ่อ คุณแม่ หรือผู้ใหญ่ในบ้านของหนู)

ขอให้หนูคิดถึงตอนที่ผู้ปกครองกำลังไม่พอใจใน  
สิ่งที่หนูทำ

หนูเคยรู้หรือไม่ว่าผู้ปกครองกำลังไม่พอใจในสิ่งที่หนูทำ?

- ก. ไม่รู้เลยว่าผู้ปกครองกำลังไม่พอใจอยู่
- ข. บางครั้งก็รู้บางครั้งก็ไม่รู้ว่าผู้ปกครองกำลังไม่พอใจอยู่
- ค. รู้ทุกครั้งว่าผู้ปกครองกำลังไม่พอใจอยู่

หนูทำอย่างไร เวลาที่ผู้ปกครองกำลังไม่พอใจในสิ่งที่หนูทำ?

- ก. ยอมรับไม่ได้ที่ผู้ปกครองกำลังไม่พอใจในสิ่งที่หนูทำ
- ข. บางครั้งก็ยอมรับได้ แต่บางครั้งก็ยอมรับไม่ได้ที่ผู้ปกครองกำลังไม่พอใจ
- ค. ยอมรับได้ที่ผู้ปกครองกำลังไม่พอใจในสิ่งที่หนูทำ

ขอให้หนูคิดถึงตอนที่กำลังถูกผู้ปกครองทำโทษ

หนูรู้หรือไม่ว่ากำลังถูกทำโทษอยู่?

- ก. ไม่รู้เลยว่าตัวเองกำลังถูกทำโทษอยู่
- ข. บางครั้งก็รู้บางครั้งก็ไม่รู้ว่าตัวเองกำลังถูกทำโทษอยู่
- ค. รู้เสมอว่าตัวเองกำลังถูกทำโทษอยู่

หนูทำอะไร ในขณะที่หนูกำลังถูกผู้ปกครองทำโทษ?

- ก. ยอมรับไม่ได้ที่ตัวเองถูกผู้ปกครองทำโทษ
- ข. บางครั้งก็ยอมรับได้ แต่บางครั้งก็ยอมรับไม่ได้ที่ตัวเองถูกผู้ปกครองทำโทษ
- ค. ยอมรับได้ที่ตัวเองถูกผู้ปกครองทำโทษ

เหตุการณ์ที่เกิดขึ้นกับคุณครู

ขอให้หนูคิดถึงตอนที่คุณครูกำลังไม่พอใจในสิ่งที่  
หนูทำ

หนูรู้หรือไม่ว่าคุณครูกำลังไม่พอใจในสิ่งที่หนูทำ?

- ก. ไม่รู้เลยว่าคุณครูกำลังไม่พอใจอยู่
- ข. บางครั้งก็รู้บางครั้งก็ไม่รู้ว่าคุณครูกำลังไม่พอใจ
- ค. รู้ทุกครั้งที่กำลังคุณครูกำลังไม่พอใจ

หนูทำอะไร เวลาที่คุณครูกำลังไม่พอใจในสิ่งที่หนูทำ?

- ก. ยอมรับไม่ได้ที่คุณครูกำลังไม่พอใจในสิ่งที่หนูทำ
- ข. บางครั้งก็ยอมรับได้ แต่บางครั้งก็ยอมรับไม่ได้ที่คุณครูกำลังไม่พอใจ
- ค. ยอมรับได้ว่าคุณครูกำลังไม่พอใจในสิ่งที่หนูทำ

### ขอให้หนูคิดถึงตอนที่กำลังถูกคุณครูทำโทษ

หนูรู้หรือไม่ว่ากำลังถูกทำโทษอยู่?

- ก. ไม่รู้เลยว่าตัวเองกำลังถูกทำโทษอยู่
- ข. บางครั้งก็รู้บางครั้งก็ไม่รู้ว่าตัวเองกำลังถูกทำโทษอยู่
- ค. รู้เสมอว่าตัวเองกำลังถูกทำโทษอยู่

หนูทำอย่างไร ในขณะที่หนูกำลังถูกคุณครูทำโทษ?

- ก. ยอมรับไม่ได้ที่ตัวเองถูกคุณครูทำโทษ
- ข. บางครั้งก็ยอมรับได้ แต่บางครั้งก็ยอมรับไม่ได้ที่ตัวเองถูกคุณครูทำโทษ
- ค. ยอมรับได้ที่ตัวเองถูกคุณครูทำโทษ

### เหตุการณ์ที่เกิดขึ้นกับเพื่อน

### ขอให้หนูคิดถึงตอนที่กำลังโดนเพื่อนว่า

หนูรู้หรือไม่ว่ากำลังถูกเพื่อนว่า?

- ก. ไม่รู้เลยว่ากำลังถูกเพื่อนว่า
- ข. บางครั้งก็รู้บางครั้งก็ไม่รู้ว่ากำลังถูกเพื่อนว่า
- ค. รู้ทุกครั้งว่ากำลังถูกเพื่อนว่า

หนูทำอย่างไร เวลาถูกเพื่อนว่า?

- ก. ยอมรับไม่ได้ที่ตัวเองกำลังถูกเพื่อนว่า
- ข. บางครั้งก็ยอมรับได้ แต่บางครั้งก็ยอมรับไม่ได้ที่ตัวเองกำลังถูกเพื่อนว่า
- ค. ยอมรับได้ว่าตัวเองกำลังถูกเพื่อนว่า

ขอให้หนูคิดถึงตอนที่เพื่อนกำลังไม่พอใจในสิ่งที่  
หนูทำ

หนูรู้หรือไม่ว่าเพื่อนกำลังไม่พอใจในสิ่งที่หนูทำ?

- ก. ไม่รู้เลยว่าเพื่อนกำลังไม่พอใจอยู่
- ข. บางครั้งก็รู้บางครั้งก็ไม่รู้ว่าเพื่อนกำลังไม่พอใจ
- ค. รู้ทุกครั้งที่กำลังเพื่อนกำลังไม่พอใจ

หนูทำอย่างไร เวลาที่เพื่อนกำลังไม่พอใจในสิ่งที่หนูทำ?

- ก. ยอมรับไม่ได้ที่เพื่อนกำลังไม่พอใจในสิ่งที่หนูทำ
- ข. บางครั้งก็ยอมรับได้ แต่บางครั้งก็ยอมรับไม่ได้ที่เพื่อนกำลังไม่พอใจ
- ค. ยอมรับได้ว่าเพื่อนกำลังไม่พอใจในสิ่งที่หนูทำ

เหตุการณ์ที่เกิดขึ้นกับตัวเอง

ขอให้หนูคิดถึงตอนที่กำลังจะเดินชนของ เช่น เส้า  
โต๊ะ เก้าอี้ เป็นต้น

หนูเคยรู้หรือไม่ว่ากำลังจะเดินชนของ?

- ก. ไม่เคยรู้เลยว่ากำลังเดินชนของ
- ข. บางครั้งก็รู้บางครั้งก็ไม่รู้ว่าตัวเองกำลังจะเดินชนของ
- ค. รู้ทุกครั้งที่กำลังจะเดินชนของ

หนูทำอย่างไร เมื่อชนเดินชนของ?

- ก. ไม่ยอมรับว่าตัวเองเป็นคนเดินชนของ
- ข. บางครั้งก็ยอมรับ แต่บางครั้งก็ไม่ยอมรับว่าตัวเองเป็นคนเดินชนของ
- ค. ยอมรับว่าตัวเองเป็นคนเดินชนของ

ขอให้หนูกิดถึงตอนที่กำลังจะเดินชนคนอื่น

หนูเคยรู้หรือไม่ว่ากำลังจะเดินชนคนอื่น?

- ก. ไม่เคยรู้เลยว่ากำลังจะเดินชนคนอื่น
- ข. บางครั้งก็รู้บางครั้งก็ไม่รู้ว่าตัวเองกำลังจะเดินชนคนอื่น
- ค. รู้ทุกครั้งที่กำลังจะเดินชนคนอื่น

หนูทำอะไร เมื่อหนูเดินชนคนอื่น?

- ก. ไม่ยอมรับว่าตัวเองเป็นคนเดินชนคนอื่น
- ข. บางครั้งก็ยอมรับ แต่บางครั้งก็ไม่ยอมรับว่าตัวเองเป็นคนเดินชนคนอื่น
- ค. ยอมรับว่าตัวเองเป็นคนเดินชนคนอื่น

Appendix E  
The Examples of Items from the Mindfulness Inventory for Children-Parent  
Report in English

Behavior Questionnaire for Parent

Explanation

The researcher requests honesty in filling out this survey. Please read the instructions on each page and answer every question in the questionnaire. There is no right or wrong answer. The data obtained from this questionnaire will be kept confidential and will be used only for the specified dissertation. You may choose to withdraw from this study at any time.

Please read the following situations and to the best of your ability, reflect on the behavior of the child in those situations. Then, please put an X on the number that best describes the child's behavior. Please choose only one number. There is no right or wrong answer as all answers are merely a report of the child's behavior.

To be **aware** means that the child understands what is going on in each situation. Examples of behaviors indicating awareness include, but are not limited to; not being distracted but listening intently, following instructions correctly, not being startled or overly excited when called being called, being able to clearly state their emotions at that moment without confusion.

To **accept as it is** means the child acknowledges the different things that happen to himself / herself. Examples of acceptance include, but are not limited to the following; not arguing against or denying that they are to blame for events that are irrefutably caused by their actions, and not feeling morally wrong towards themselves.

Questions	Never 0	Sometimes 1	Always 2
Please reflect on when the child was getting scolded.			
1. The child was aware that he/she was being scolded.	0	1	2
2. The child accepted that he/she was being scolded.	0	1	2
Please reflect on when you displayed unhappiness at something the child did.			
1. The child was aware that you were unhappy with him/her.	0	1	2
2. The child accepted that you were unhappy with him/her.	0	1	2
Please reflect on when the child was being told off by a friend.			
1. The child was aware that he/she was being told off by a friend.	0	1	2
2. The child accepted that he/she was being told off by a friend.	0	1	2
Please reflect on when the child's friend was unhappy with the child.			
1. The child was aware that his/her friend was unhappy with him/her.	0	1	2
2. The child accepted that his/her friend was unhappy with him/her.	0	1	2
Please reflect on when the child bumped into something.			
1. The child was aware that he/she bumped into something.	0	1	2
2. The child accepted that he/she bumped into something.	0	1	2
Please reflect on when the child tripped over something.			
1. The child was aware there was an object in the way.	0	1	2
2. The child accepted that he/she tripped over that object.	0	1	2

## Appendix F

The Examples of Items from the Mindfulness Inventory for Children-Parent  
Report in Thai

## แบบสอบถามเกี่ยวกับพฤติกรรมสำหรับผู้ปกครอง

ผู้วิจัยขอความร่วมมือผู้ปกครองในการตอบแบบสอบถามนี้ตามความจริง โปรดอ่าน คำชี้แจงในแต่ละหน้า และตอบคำถามให้ครบถ้วนทุกข้อ ข้อคำถามแต่ละข้อไม่มีคำตอบที่ถูกหรือผิด เนื่องจากว่าเป็นการตอบตามความรู้สึกของคุณเอง ข้อมูลที่ได้จากการตอบแบบสอบถามนี้ ผู้วิจัยจะเก็บเป็นความลับ และนำไปใช้เพื่อการวิจัยเท่านั้น

ขอให้คุณอ่านสถานการณ์ต่อไปนี้และย้อนคิดถึงพฤติกรรมของเด็กขณะที่กำลังอยู่ในสถานการณ์นั้นๆ ว่าเป็นอย่างไร โดยในแต่ละเหตุการณ์ขอให้คุณตอบคำถามให้ครบทั้ง 2 ข้อ โดยขอให้คุณ X ทับตัวเลขที่ตรงกับพฤติกรรมของเด็กมากที่สุดในแต่ละข้อ คำตอบไม่มีข้อใดผิดหรือถูก เนื่องจากเป็นเพียงการตอบให้ตรงกับพฤติกรรมของเด็กเท่านั้น

**รู้ตัว** คือ เด็กรู้ว่าในแต่ละเหตุการณ์นั้นมีสิ่งใดกำลังเกิดขึ้นกับตัวเอง ตัวอย่างพฤติกรรมที่สามารถสังเกตได้ เช่น ไม่เหม่อลอย ตั้งใจฟัง ทำตามคำสั่งได้ถูกต้อง ไม่ตกใจหรือสะดุ้งเมื่อถูกเรียก บอกได้ โดยไม่สับสนว่าตัวเองกำลังรู้สึกอะไร เป็นต้น

**ยอมรับ** คือ เด็กสามารถยอมรับสิ่งต่างๆ ที่เกิดขึ้นกับตัวเองได้ ไม่ว่าจะสิ่งนั้นจะดีหรือไม่ดีก็ตาม ตัวอย่างพฤติกรรมที่สามารถสังเกตได้ เช่น ไม่เถียง ไม่ปฏิเสธว่าตัวเองเป็นคนทำให้เกิดสิ่งต่างๆ ขึ้น ไม่รู้สึกผิดต่อความรู้สึกของตัวเองที่เกิดขึ้น เป็นต้น



ข้อคำถาม	ไม่เคยเลย	เป็น บางครั้ง	ทุกครั้ง
	0	1	2
ขอให้คุณคิดถึงตอนที่เด็กกำลังถูกคุณดู			
1. เด็กรู้ตัวว่ากำลังถูกคุณดู	0	1	2
2. เด็กยอมรับได้ที่ถูกคุณดู	0	1	2
ขอให้คุณคิดถึงตอนที่คุณแสดงให้เด็กเห็นว่ากำลัง ไม่พอใจในสิ่งที่เขาทำ			
1. เด็กรู้ตัวว่าคุณกำลังไม่พอใจในสิ่งที่เขาทำ	0	1	2
2. เด็กยอมรับได้ที่คุณไม่พอใจในสิ่งที่เขาทำ	0	1	2
ขอให้คุณคิดถึงตอนที่เด็กกำลังถูกเพื่อนว่า			
1. เด็กรู้ตัวว่ากำลังถูกเพื่อนว่า	0	1	2
2. เด็กยอมรับได้ที่ถูกเพื่อนว่า	0	1	2
ขอให้คุณคิดถึงตอนที่เพื่อนของเด็กไม่พอใจในสิ่งที่ เด็กทำ			
1. เด็กรู้ตัวว่าเพื่อนของเขา กำลังไม่พอใจในสิ่งที่เขาทำ	0	1	2
2. เด็กยอมรับได้ที่เพื่อนของเขา กำลังไม่พอใจในสิ่งที่เขา ทำ	0	1	2
ขอให้คุณคิดถึงตอนที่เด็กกำลังจะเดินชนของ			
1. เด็กรู้ตัวว่ากำลังจะเดินชนของ	0	1	2
2. เด็กยอมรับว่าตัวเองเป็นคนเดินชนของ	0	1	2
ขอให้คุณคิดถึงตอนที่เด็กกำลังเดินแล้วเหยียบของ ที่อยู่บนพื้น			
1. เด็กรู้ตัวว่ากำลังเหยียบของบนพื้นอยู่	0	1	2
2. เด็กยอมรับว่าตัวเองเป็นคนเหยียบของขึ้นนั้น	0	1	2

Appendix G  
The Examples of Item from the Mindfulness Inventory for Children-Teacher  
Report in English

Behavior Questionnaire for Teachers

Explanation

The researcher requests honesty in filling out this survey. Please read the instructions on each page and answer every question in the questionnaire. There is no right or wrong answer. The data obtained from this questionnaire will be kept confidential and will be used only for the specified dissertation. You may choose to withdraw from this study at any time.

Please read the following situations and to the best of your ability, reflect on the behavior of the child in those situations. Then, please put an X on the number that best describes the child's behavior. Please choose only one number. There is no right or wrong answer as all answers are merely a report of the child's behavior.

To be **aware** means that the child understands what is going on in each situation. Examples of behaviors indicating awareness include, but are not limited to; not being distracted but listening intently, following instructions correctly, not being startled or overly excited when called being called, being able to clearly state their emotions at that moment without confusion.

To **accept as it is** means the child acknowledges the different things that happen to himself / herself. Examples of acceptance include, but are not limited to the following; not arguing against or denying that they are to blame for events that are irrefutably caused by their actions, and not feeling morally wrong towards themselves.

Questions	Never 0	Sometimes 1	Always 2
Please reflect on when the child was getting scolded.			
1. The child was aware that he/she was being scolded.	0	1	2
2. The child accepted that he/she was being scolded.	0	1	2
Please reflect on when you displayed unhappiness at something the child did.			
1. The child was aware that you were unhappy with him/her.	0	1	2
2. The child accepted that you were unhappy with him/her.	0	1	2
Please reflect on when the child was being told off by a friend.			
1. The child was aware that he/she was being told off by a friend.	0	1	2
2. The child accepted that he/she was being told off by a friend.	0	1	2
Please reflect on when the child's friend was unhappy with the child.			
1. The child was aware that his/her friend was unhappy with him/her.	0	1	2
2. The child accepted that his/her friend was unhappy with him/her.	0	1	2
Please reflect on when the child bumped into something.			
1. The child was aware that he/she bumped into something.	0	1	2
2. The child accepted that he/she bumped into something.	0	1	2
Please reflect on when the child walked into someone.			
1. The child was aware he/she walked into someone.	0	1	2
2. The child accepted that he/she walked into someone.	0	1	2

## Appendix H

The Examples of Item from the Mindfulness Inventory for Children-Teacher  
Report in Thai

## แบบสอบถามเกี่ยวกับพฤติกรรมสำหรับคุณครู

ผู้วิจัยขอความร่วมมือคุณครูในการตอบแบบสอบถามนี้ตามความจริง โปรดอ่าน คำชี้แจงในแต่ละหน้า และตอบคำถามให้ครบถ้วนทุกข้อ ข้อคำถามแต่ละข้อไม่มีคำตอบที่ถูกหรือผิด เนื่องจากว่าเป็นการตอบตามความรู้สึกของตนเอง ข้อมูลที่ได้จากการตอบแบบสอบถามนี้ ผู้วิจัยจะเก็บเป็นความลับ และนำไปใช้เพื่อการวิจัยเท่านั้น

ขอให้คุณอ่านสถานการณ์ต่อไปนี้และย้อนคิดถึงพฤติกรรมของเด็กขณะที่กำลังอยู่ในสถานการณ์นั้นๆ ว่าเป็นอย่างไร โดยในแต่ละเหตุการณ์ขอให้คุณตอบคำถามให้ครบทั้ง 2 ข้อ โดยขอให้คุณ X ทับตัวเลขที่ตรงกับพฤติกรรมของเด็กมากที่สุดในแต่ละข้อ คำตอบไม่มีข้อใดผิดหรือถูก เนื่องจากเป็นเพียงการตอบให้ตรงกับพฤติกรรมของเด็กเท่านั้น

**รู้ตัว** คือ เด็กรู้ว่าในแต่ละเหตุการณ์นั้นมีสิ่งใดกำลังเกิดขึ้นกับตัวเอง ตัวอย่างพฤติกรรมที่สามารถสังเกตได้ เช่น ไม่เหม่อลอย ตั้งใจฟัง ทำตามคำสั่งได้ถูกต้อง ไม่ตกใจหรือสะดุ้งเมื่อถูกเรียก บอกได้ โดยไม่สับสนว่าตัวเองกำลังรู้สึกอะไร เป็นต้น

**ยอมรับ** คือ เด็กสามารถยอมรับสิ่งต่างๆ ที่เกิดขึ้นกับตัวเองได้ ไม่ว่าจะสิ่งนั้นจะดีหรือไม่ดีก็ตาม ตัวอย่างพฤติกรรมที่สามารถสังเกตได้ เช่น ไม่เถียง ไม่ปฏิเสธว่าตัวเองเป็นคนทำให้เกิดสิ่งต่างๆ ขึ้น ไม่รู้สึกผิดต่อความรู้สึกของตัวเองที่เกิดขึ้น เป็นต้น

ข้อคำถาม	ไม่เคยเลย	เป็น บางครั้ง	ทุกครั้ง
	0	1	2
ขอให้คุณคิดถึงตอนที่เด็กกำลังถูกคุณดุ			
1. เด็กรู้ตัวว่ากำลังถูกคุณดุ	0	1	2
2. เด็กยอมรับผิดที่ถูกคุณดุ	0	1	2
ขอให้คุณคิดถึงตอนที่คุณแสดงให้เด็กเห็นว่ากำลังไม่พอใจในสิ่งที่เขาทำ			
1. เด็กรู้ตัวว่าคุณกำลังไม่พอใจในสิ่งที่เขาทำ	0	1	2
2. เด็กยอมรับผิดที่คุณไม่พอใจในสิ่งที่เขาทำ	0	1	2
ขอให้คุณคิดถึงตอนที่เด็กกำลังถูกเพื่อนว่า			
1. เด็กรู้ตัวว่ากำลังถูกเพื่อนว่า	0	1	2
2. เด็กยอมรับผิดที่ถูกเพื่อนว่า	0	1	2
ขอให้คุณคิดถึงตอนที่เพื่อนของเด็กไม่พอใจในสิ่งที่เด็กทำ			
1. เด็กรู้ตัวว่าเพื่อนของเขากำลังไม่พอใจในสิ่งที่เขาทำ	0	1	2
2. เด็กยอมรับผิดที่เพื่อนของเขากำลังไม่พอใจในสิ่งที่เขาทำ	0	1	2
ขอให้คุณคิดถึงตอนที่เด็กกำลังจะเดินชนของ			
1. เด็กรู้ตัวว่ากำลังจะเดินชนของ	0	1	2
2. เด็กยอมรับว่าตัวเองเป็นคนเดินชนของ	0	1	2
ขอให้คุณคิดถึงตอนที่เด็กกำลังจะเดินชนคนอื่น			
1. เด็กรู้ตัวว่ากำลังจะเดินชนคนอื่น	0	1	2
2. เด็กยอมรับว่าตัวเองเป็นคนเดินชนคนอื่น	0	1	2

## Appendix I

Means, SDs, and Corrected Item Total Correlation Scores of All Items of the  
Mindfulness Inventory for Children-Children Report (N = 55)

Please think of situations where ...	M	SD	CITC
<i>Situations involving parents</i>			
your parent was scolding you	3.1	1.1	.25
your parent were unhappy at something you did*	1.9	1.5	.41
your parent punished you*	3.0	1.5	.52
you were absentminded and did not hear instructions given to you by your parents*	2.1	1.4	.36
you were absentminded and did not hear your parent calling out to you*	2.0	1.6	.48
you were absentminded while talking to your parent*	2.3	1.6	.38
<i>Situations involving teachers</i>			
your teacher was scolding you	3.4	1.0	.34
your teacher was unhappy at something you did*	2.3	1.7	.49
your teacher punished you*	3.2	1.2	.40
you were absentminded and did not hear instructions given to you by your teacher*	2.1	1.6	.59
you were absentminded and did not hear your teacher calling out to you*	2.5	1.4	.37
you were absentminded while talking to your teacher*	2.2	1.5	.43
<i>Situations involving friends</i>			
your friend was scolding you*	1.9	1.7	.47
your friend was unhappy at something you did*	2.2	1.6	.24
you was angry at a friend*	2.7	1.6	.44
you were absentminded and did not hear your friend calling out to you*	2.2	1.5	.31
you were absentminded while talking to your friend*	2.0	1.6	.53
<i>perceived self-related behaviors</i>			
you did not get the examination score as you expected, such as sad, angry, or disappointed	3.0	1.4	.54
you walked from the place to another place	2.8	1.5	.26
you bump into something while you were walking, such as pole, table or chair*	2.5	1.6	.63
you bump into someone else*	2.6	1.6	.62
you tripped and fell over something*	2.3	1.7	.65
you stepped on something	2.8	1.3	.42
you unintentionally picked up the wrong object	2.5	1.6	.54
you unintentionally put an object on the wrong place and you could not remember	2.4	1.6	.37
something falls from your hand*	2.6	1.6	.72
you are feeling strong emotions such as anger or fear*	3.0	1.4	.68

\* These items were selected into the final version of the MIC-Children Report.

## Appendix J

Means, SDs, and Corrected Item Total Correlation Scores of All Items of the  
Mindfulness Inventory for Children-Parent Report (N = 50)

Please reflect on when...	M	SD	CITC
<i>Situations involving parents</i>			
the child was getting scolded*	3.3	0.9	.40
you displayed unhappiness at something the child did*	2.8	1.2	.36
you punished the child*	3.4	1.0	.33
the child was daydreaming and was unaware of the instructions given to him / her by you	2.2	1.1	.28
the child was daydreaming and did not hear you calling out to him / her*	2.0	1.4	.38
the child was daydreaming while talking to you*	1.6	1.5	.53
<i>Situations involving friends</i>			
the child was being told off by friend*	2.5	1.2	.26
the child's friend was unhappy with the child*	2.4	0.9	.44
the child was angry at his / her friend*	3.2	1.0	.41
the child was daydreaming and did not hear a friend calling out to him / her*	1.8	1.3	.57
the child was daydreaming while talking to a friend*	1.6	1.4	.50
<i>perception of children's self-related behaviors</i>			
the child knew that he / she did not get the examination score as he / she expected	2.3	1.4	.38
the child was walking	2.3	1.7	.49
the child bumped into something*	2.7	1.3	.61
the child bumped into someone else	2.7	1.5	.46
the child tripped over something*	2.5	1.6	.52
the child stepped on something*	2.8	1.5	.61
the child unintentionally picked up the wrong object*	2.5	1.4	.54
the child unintentionally put an object the wrong place	2.3	1.4	.46
the child unintentionally dropped an object*	2.9	1.3	.56
the child were feeling strong emotions such as anger or fear	2.9	1.3	.43

\* These items were selected into the final version of the MIC-Parent Report.

## Appendix K

Means, SDs, and Corrected Item Total Correlation Scores of All Items of the  
Mindfulness Inventory for Children-Teacher Report ( $N = 58^*$ )

\*The data came from seven teachers.

Please reflect on when...	<i>M</i>	<i>SD</i>	<i>CITC</i>
<i>Situations involving teacher</i>			
the child was getting scolded*	3.5	0.7	.26
you displayed unhappiness at something the child did*	3.4	0.7	.28
you punished the child	3.6	0.7	.05
the child was daydreaming and was unaware of the instructions given to him / her by you*	2.4	1.0	.44
the child was daydreaming and did not hear you calling out to him / her*	2.4	0.9	.34
the child was daydreaming while talking to you*	2.0	1.4	.52
<i>Situations involving friends</i>			
the child was being told off by friend*	2.9	0.9	.26
the child's friend was unhappy with the child*	2.8	0.8	.26
the child was angry at his / her friend*	3.1	0.9	.49
the child was daydreaming and did not hear a friend calling out to him / her*	2.1	1.0	.56
the child was daydreaming while talking to a friend*	2.0	1.2	.58
<i>perception of children's self-related behaviors</i>			
the child knew that he / she did not get the examination score as he / she expected	3.2	0.9	.33
the child was walking	3.4	1.0	.39
the child bumped into something*	3.0	1.0	.69
the child bumped into someone else*	3.0	1.0	.63
the child tripped over something*	2.8	1.1	.64
the child stepped on something	3.1	1.0	.59
the child unintentionally picked up the wrong object*	3.2	0.9	.64
the child unintentionally put an object the wrong place	3.0	1.0	.44
the child unintentionally dropped an object*	2.9	1.3	.71
the child were feeling strong emotions such as anger or fear	3.4	0.8	.25

\* These items were selected into the completed MIC-Teacher Report.



## Appendix L

Means, SDs, and Corrected Item Total Correlation Scores of the Completed Mindfulness Inventory for Children-Children Report ( $N = 385$ )

Please think of situations where ...	<i>M</i>	<i>SD</i>	CITC
<i>Situations involving parents</i>			
your parent were unhappy at something you did	2.8	1.0	.42
your parent punished you	3.2	0.9	.40
you were absentminded and did not hear instructions given to you by your parents	2.5	1.1	.45
you were absentminded and did not hear your parent calling out to you	2.5	1.0	.43
you were absentminded while talking to your parent	2.6	1.2	.49
<i>Situations involving teachers</i>			
your teacher was unhappy at something you did	2.9	1.1	.51
your teacher punished you	3.3	1.0	.54
you were absentminded and did not hear instructions given to you by your teacher	2.7	1.1	.52
you were absentminded and did not hear your teacher calling out to you	2.6	1.2	.62
you were absentminded while talking to your teacher	2.7	1.1	.50
<i>Situations involving friends</i>			
your friend was scolding you	2.7	1.1	.39
your friend was unhappy at something you did	2.6	1.1	.49
you was angry at a friend	3.1	1.1	.48
you were absentminded and did not hear your friend calling out to you	2.5	1.1	.49
you were absentminded while talking to your friend	2.5	1.2	.55
<i>perceived self-related behaviors</i>			
you bump into something while you were walking, such as pole, table or chair	2.9	1.1	.46
you bump into someone else	2.9	1.1	.51
you tripped and fell over something	2.8	1.1	.45
something falls from your hand	2.8	1.1	.48
you are feeling strong emotions such as anger or fear	3.1	1.1	.49

## Appendix M

Means, SDs, and Corrected Item Total Correlation Scores of the Completed  
Mindfulness Inventory for Children-Parent Report ( $N = 194$ )

Please reflect on when...	<i>M</i>	<i>SD</i>	<i>CITC</i>
<i>Situations involving parents</i>			
the child was getting scolded	3.1	0.8	.23
you displayed unhappiness at something the child did	2.9	0.9	.26
you punished the child	3.3	0.8	.38
the child was daydreaming and did not hear you calling out to him / her	2.0	1.1	.33
the child was daydreaming while talking to you	1.6	1.3	.47
<i>Situations involving friends</i>			
the child was being told off by friend	2.7	1.0	.42
the child's friend was unhappy with the child	2.5	1.0	.51
the child was angry at his / her friend	3.1	1.1	.49
the child was daydreaming and did not hear a friend calling out to him / her	1.7	1.2	.47
the child was daydreaming while talking to a friend	1.7	1.3	.56
<i>perception of children's self-related behaviors</i>			
the child bumped into something	2.6	1.1	.51
the child tripped over something	2.7	1.1	.49
the child stepped on something	2.8	1.1	.51
the child unintentionally picked up the wrong object	2.6	1.1	.46
the child unintentionally dropped an object	2.8	1.1	.54

## Appendix N

Means, SDs, and Corrected Item Total Correlation Scores of the Completed  
Mindfulness Inventory for Children-Teacher Report ( $N = 267^*$ )

\*The data came from 27 teachers.

Please reflect on when...	<i>M</i>	<i>SD</i>	CITC
<i>Situations involving teacher</i>			
the child was getting scolded	3.2	0.9	.48
you displayed unhappiness at something the child did	3.1	1.0	.50
the child was daydreaming and was unaware of the instructions given to him / her by you	2.2	1.2	.38
the child was daydreaming and did not hear you calling out to him / her	2.1	1.3	.40
the child was daydreaming while talking to you	1.9	1.4	.35
<i>Situations involving friends</i>			
the child was being told off by friend	2.9	1.0	.42
the child's friend was unhappy with the child	2.7	1.1	.45
the child was angry at his / her friend	3.2	1.0	.41
the child was daydreaming and did not hear a friend calling out to him / her	2.1	1.2	.43
the child was daydreaming while talking to a friend	2.0	1.3	.44
<i>perception of children's self-related behaviors</i>			
the child bumped into something	2.8	1.1	.52
the child bumped into someone else	2.8	1.1	.49
the child tripped over something	2.9	1.1	.45
the child unintentionally picked up the wrong object	2.9	1.1	.53
the child unintentionally dropped an object	2.9	1.1	.48

## Appendix O

### Details of a Pilot Study

To assure that the MEP can cultivate mindfulness skill in Thai children and to evaluate the acceptability and feasibility of the program, a six-session trial of the program was conducted with two- and four-graded students. The students were divided into experiment group and control group. Some activities from the MBCT-C were improved to be suitable for use in school. Each was designed to give children opportunities for practicing being aware of and accepting in what was occurring. The improved MEP was used in the experiment study with other group of school-aged children.

#### Participant

Participants were 28 elementary students from one school, 14 students was studying in a second-grade class (six boys and eight girls, age 7-8;  $M = 7.2$ ,  $SD = 0.44$ ) and other 14 students was studying in a fourth-grade class (13 boys and a girls, age 9-10;  $M = 9.4$ ,  $SD = 0.51$ ). Their class teachers selected and ordered the students into two groups, one experiment group and one control group (no program), containing equally of seven students, each grade.

#### Instruments

1. **The Mindfulness Enhancement Program (MEP)** was slightly different from the program in the experiment study. That is, the sessions were started by sensory-experience games or homework discussion, not always started by three-minute meditation. Then, followed by a three-minute meditation, a group discussion about the meditation, another sensory-experience games, a group discussion about the previous activity, and introducing daily homework. Moreover, the activities for building relationship were conducted before the first session of the program.
2. **The Mindfulness Inventory for Children (MIC)-Children Report**, which was developed from the Study 1, were used to evaluate mindfulness skill.

## Procedure

The study included seven weeks for conducting the program. With permissions from their school headmaster, school boards, their teachers, and their parent, the students were recruited by their class teacher to participate in the study. Seven students from each class were assigned into the experiment and control groups. Children in the experiment group attended the program for six week during school hours on the same day and same time, while children in the control group followed their regular school activities. Both groups were conducted at the same time.

To assure that the program can cultivate mindfulness skill (i.e., awareness and acceptance skills) in children, the students were asked to complete the MIC-Children Report for five times of measurement (see Table 15). The scale were completed on the first week (Time 1), the third week (Time 2), the fifth week (Time 3), the seventh week (Time 4), and after the program finished for one month (Time 5). To enable matching their data across times of measurement and ensure confidentiality, a unique code was created for each participant.

**Table 15** The pilot study's schedule

Week of the study	1	2	3	4	5	6	7	-
The MEP (Sessions)	Building relationship	1	2	3	4	5	6	No activity for one month
Completing the scale (Times of measurement)	1	-	2	-	3	-	4	5

Both groups were asked to answer the scale at the same time, each class. For the experiment group, they were asked to answer the scale after each session on such week finished in classroom. The investigator was always with them all the time to answer their queries. For the control group, the scale was completed after they finished their class activities which are the same time as the sessions finished. A research assistant also was with them all the time to answer their questions. The

study protocol was approved by the school headmaster, the school boards, their teachers, and the students' parent.

### Statistical Analysis

A three-way mixed ANOVA was applied for repeated measure (i.e., times of measurement) with conditioned groups (i.e., experiment and control groups) and grades (i.e., second-grade and fourth-grade) treated as between-group variables. Dependent variable was mindfulness score.

The mindfulness score from the first time of measurement was treated as base-line phase since the experiment group completed the scale before attending the mindfulness' activities. In other word, although the group was conducted since the first week of the study, the content of such week was building relationship and the activities were not related to increasing their mindfulness skill. The second time to fourth time of measurement was treated as treatment phase. The Follow-up phase is the fifth time of measurement.

### Result

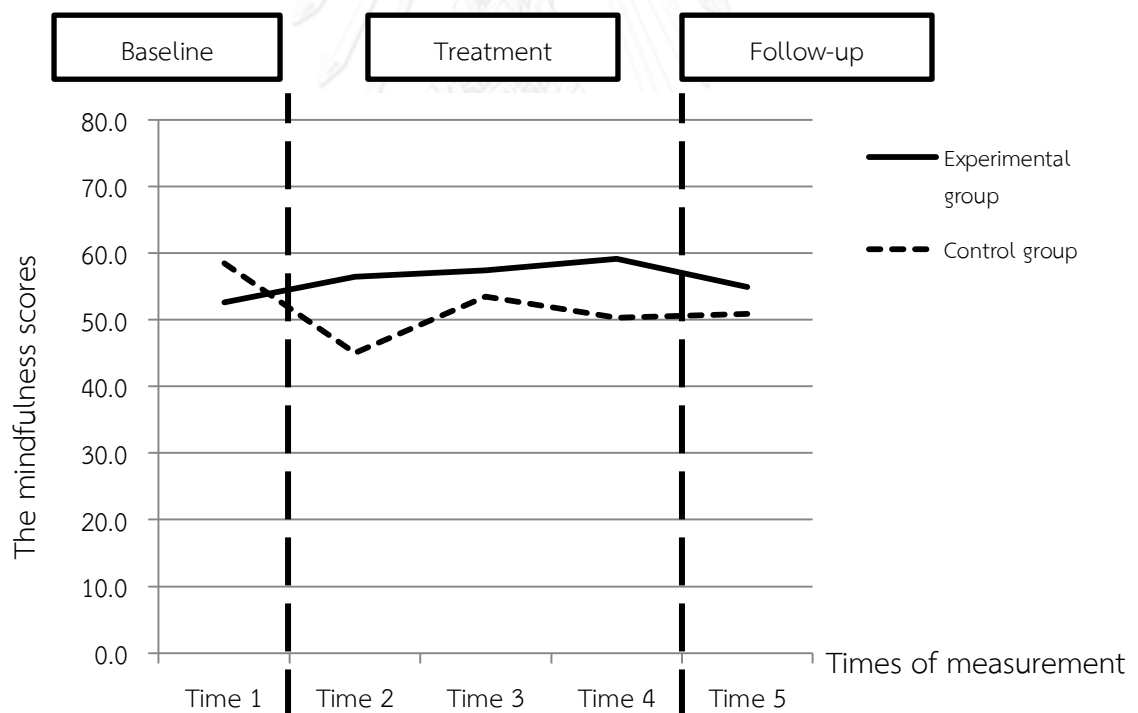
Result revealed no significant three-way interaction between times of measurement by the conditioned groups between second- and fourth- grade students. However, the analysis showed two-way significant interactions between times of measurement and conditioned groups,  $F(4, 96) = 3.74, p < .01$ , partial eta square = .14. Their means and SDs were shown in Table 16. The mindfulness score graph was shown in Figure 10. Also, the analysis showed two-way significant interactions between times of measurement and grades,  $F(4, 96) = 2.96, p < .05$ , partial eta square = .11. However, this interaction is not a focus of the present study since it is combination of data from the experiment and control groups.

**Table 16** Means and SDs of the mindfulness scores of the experimental group ( $n = 14$ ) and the control group ( $n = 14$ ) in the pilot study for each time of measurement

	Times of measurement				
	Time 1	Time 2	Time 3	Time 4	Time 5
Experiment group	52.6 (8.5)	56.5 (12.0)	57.4 (12.5)	59.2 (6.1)	54.9 (10.9)
Control group	58.5 (12.2)	45.0 (15.7)	53.5 (11.5)	50.3 (17.5)	50.9 (12.4)

*Note* The SDs are in parentheses.

**Figure 10** Mean mindfulness scores of the experimental and control groups in the pilot study across times of measurement



To break down the interaction between times of measurement and conditioned groups, contrasts were explored by the Helmert contrast method (Field, 2009). The contrast compares each time of measurement with later times (i.e., Time 1 VS Time 2 & 3 & 4 & 5, Time 2 VS Time 3 & 4 & 5, Time 3 VS Time 4 & 5, and Time

4 VS Time 5), across the experiment and control groups. The analysis revealed a significant interaction when comparing the mindfulness scores between the experiment and control groups in Time 1 and the scores average across Time 2 to 5,  $F(1, 24) = 7.92, p < .05$ , partial eta square = .25.

To precisely compare the mindfulness scores among phases of baseline, treatment, and follow-up, the mindfulness scores in Time 2, 3, and 4 were computed as mean of the baseline phase. Their means and SDs were shown in Table 17. A bar chart, which was shown in Figure 11, was used since the scores of each phase were not continuous. That is, the mindfulness scores of baseline came from Time 1 and those of follow-up came from Time 5, yet those of treatment were mean of Time 2 to Time 4. The results showed that the mindfulness scores in phase of treatment for the experimental group increased and slightly decreased in phase of follow-up. For the control group, their mindfulness scores somehow decreased when comparing between phase of baseline and treatment. Moreover, their scores did not changed very in phase of follow-up.

**Table 17** Means and SDs of the mindfulness score of the experimental group ( $n = 14$ ) and the control group ( $n = 14$ ) in the pilot study for each phase

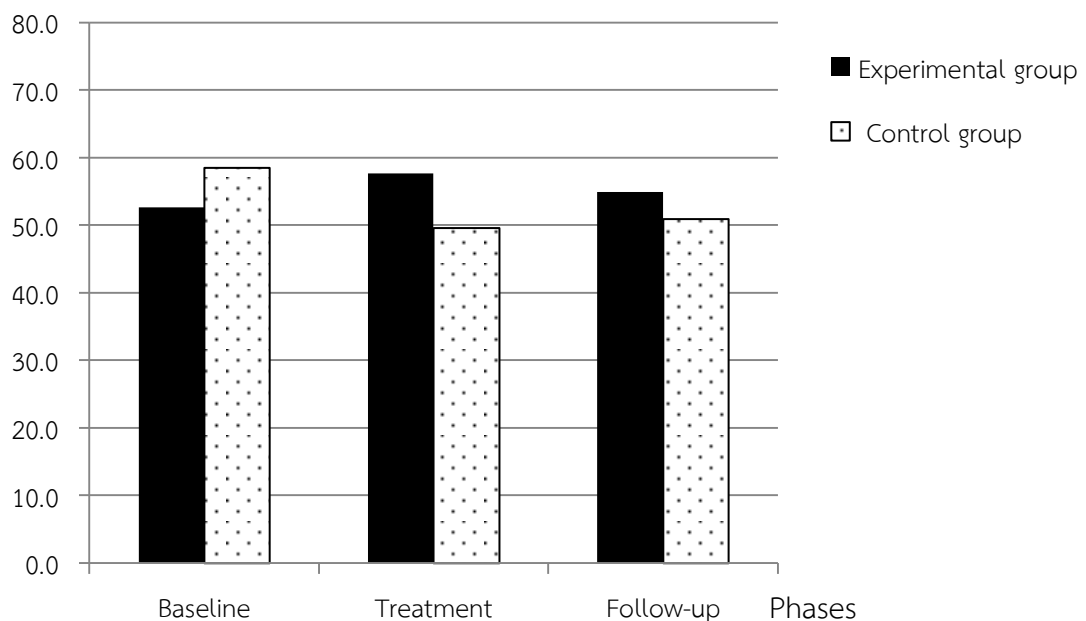
	Phases		
	Baseline	Treatment	Follow-up
Experimental group	52.6 (8.5)	57.7 (8.6)	54.9 (10.9)
Control group	58.5 (12.2)	49.6 (13.1)	50.9 (12.4)

*Note* The SDs are in parentheses.



**Figure 11** Mean mindfulness scores of the experimental and control groups in the pilot study across phases

The mindfulness scores



The results indicated that the interaction pattern of times of measurement by the conditioned groups between the second- and fourth-grade was similar. However, results revealed two-way significant interactions between times of measurement and conditioned groups. It indicated that the changing patterns of mindfulness scores were different between the experimental and control groups. The contrast analysis revealed that the mindfulness scores in the first time of measurement were significantly different from the average scores of the second to fifth times of measurement. The Figure 10 showed that the mindfulness scores of the experiment and control groups for Time 1 are very similar, yet the mindfulness scores of the experimental group for the later times are higher than those of the control group. Although the mindfulness scores of the experimental group for Time 5 reduced, the scores was still higher than those of the control group. In other word, children who were in the experimental group gradually improved their mindfulness skills. The program's effect also showed a stability pattern at a one-month follow up.

## Appendix P

### The MEP's Time Schedule in the Pilot Study

Week	Minute																																																	
	1-10			11-20			21-30			31-40			41-50			51-60																																		
1	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
1	Introducing themselves			"Who are you?" game			Introducing the program's purpose and rules			"Simon says" game			GD & Sum			Completing the questionnaires																																		
2	"Simon says" game			GD & Sum			"Fast and slow" game			GD & Sum			GD & Sum			Distributing and explaining homework																																		
3	Homework discussion			GD & Sum			"Whose is it?" game			GD & Sum			Distributing and explaining homework			Completing the questionnaires																																		
4	"Drumming" game			GD & Sum			Homework discussion			"Whose voice is this?" game			GD & Sum			Distributing and explaining homework																																		
5	Homework discussion			GD & Sum			"Do you remember?" game			GD & Sum			Distributing and explaining homework			Completing the questionnaires																																		
6	"Facial acting" game			GD & Sum			Homework discussion			Thoughts or emotions			What will happen next?			GD & Sum			Distributing and explaining homework																															
7	"Simon says" game			GD & Sum			Homework discussion			med.			GD & Sum			Sharing experiences and impressions			Completing the questionnaires																															
	No activity for a month												Completing the questionnaires																																					

\*The highlighted rows are the week the students, both the experiment and control groups, were asked to complete the questionnaires; GD & Sum are group discussion and summary; med. is meditation.

## Appendix Q

### The MEP's Time Schedule in the Experiment Study

Week	Minute																													
	1-10		11-20			21-30			31-40			41-50			51-60															
1	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0
2	grouping	Introducing themselves		"Who are you?" game			Introducing the program's purpose and rules			3-min med. "Fast and slow" game			Group discussion and summary (GD & Sum)			Distributing and explaining homework														
3	3-min med.	GD & Sum	Homework discussion		"Whose is it?" game			Group discussion and summary			Distributing and explaining homework			Completing the questionnaires																
4	3-min med.	GD & Sum	Homework discussion		"Drumming" game			"Whose voice is this?" game			Group discussion and summary			Distributing and explaining homework																
5	3-min med.	GD & Sum	Homework discussion		"Do you remember?" game			Group discussion and summary			Distributing and explaining homework			Completing the questionnaires																
6	3-min med.	GD & Sum	Homework discussion		Thoughts or emotions			What do they think and feel?			GD & Sum			What will happen next?																
7	3-min med.	GD & Sum	Homework discussion		"Simon says" game			GD & Sum			Sharing experiences and impressions			Completing the questionnaires																
8	No activity																													
9	Completing the questionnaires																													

\*The highlighted rows are the week the students, both the experiment and control groups, were asked to complete the questionnaires; 3-min med. is three-minute meditation.

## Appendix R

### The Activities' Details of the Mindfulness Enhancement Program (MEP)

Session	Purposed	Lesson title	Lesson content
1	Building relationship and moving activities To build relationship among the group member (i.e., the students and a investigator)	Introducing themselves "Who are you?" game	The group members sat on the floor as the circle shape. Then, each group member would be asked to introduce themselves. The students were split into two groups. Each group sat on each side of a piece of cloth unfolded by the investigator and interposed between them. Each round, each group chose one student as competitor. They sat in front of their group, behind each side of the cloth. When the cloth was opened, who could tell another competitor's name first would win for that round. This game finished when everyone became as the competitor at least one round. The investigator explained the program's purpose, its characteristics, and its rule
	To introduce the program's purpose and rules	Introducing the program's purpose and rules	

Session	Purposed	Lesson title	Lesson content
1 Building relationship and moving activities (cont.)	To calm the group members down from the early activity, to get them ready for the followed activities, to practice them observe their environment, and to practice mindfulness skill (i.e., awareness and acceptance skills)	Three-minute meditation	The students were asked to gently close their eyes, take a deep breath, and observe their breaths. After that, they were asked to raise each arm up and put them down slowly, move their hands and finger slowly. While they moved each part of their body, they were also asked to observe their movement to practice awareness skill. Moreover, to practice acceptance skill, they were asked to observe the happening and disappearing of their sensations.
	To help the students easily observe what is happening, while they fast and slowly moved each of their body	“Fast and slow” game	The students were asked to swing their arms, spin their head, run and walk fast and slowly alternately.

Session	Purposed	Lesson title	Lesson content
1 Building relationship and moving activities (cont.)	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the three-minute meditation and “Fast and slow” game. The investigator summarized the activities and their experiences.
	To give the students opportunities to practice mindfulness skill in daily life	Distributing and explaining homework	The investigator distributed and explained daily homework. The students were asked to do homework every day. Moreover, they were asked to record their experiences, thoughts, emotions, and opinion from each activity every day.
		<ul style="list-style-type: none"> <li>● Three-minute meditation</li> </ul>	The process was same as three-minute meditation in in-class session.
		<ul style="list-style-type: none"> <li>● “Fast and slow” game</li> </ul>	The process was same as “fast and slow” game in in-class session.

Session	Purposed	Lesson title	Lesson content
2 Touching activities	To calm the group members down from the early activity, to get them ready for the followed activities, to practice them observe their environment, and to practice mindfulness skill	Three-minute meditation	The students were asked to gently close their eyes, take a deep breath, and observe their breaths. After that, they were asked to touch the chair where they were sitting, their cloth, and their skin. While they were touching each of them, they were asked to observe their sensations to practice awareness skill. Moreover, to practice acceptance skill, they were asked to observe the happening and disappearing of their sensations.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the three-minute meditation. The investigator summarized the activities and their experiences.
	To share experiences and opinions from daily homework	Homework discussion	The group members were asked to share their experiences from daily homework. The investigator give them a reward for their doing homework.

Session	Purposed	Lesson title	Lesson content
2 Touching activities (cont.)	To encourage the students observe their sensations from touching stationary they use every day	“Whose is it?” game	The students placed their stationary, one for each, underneath the cloth. Then, they touched the things under the cloth and tried to find their own stationary. Before starting the activity, they were asked to carefully observe their sensations while they touched their own object.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the “Whose is it?” game. The investigator summarized the activities and their experiences.
	To give the students opportunities to practice mindfulness skill in daily life	Distributing and explaining homework	The investigator distributed and explained daily homework. The students were asked to do homework every day. Moreover, they were asked to record their experiences, thoughts, emotions, and opinion from each activity every day.
		● Three-minute meditation	The process was same as three-minute meditation in in-class session.



Session	Purposed	Lesson title	Lesson content
2 Touching activities (cont.)		<ul style="list-style-type: none"> <li>● Touching activity</li> </ul>	In every day, while they hold something, they were asked to carefully notice its detail by their touching such as its skin and weight, at least one for each day.
3 Hearing and smelling activities	To calm the group members down from the early activity, to get them ready for the followed activities, to practice them observe their environment, and to practice mindfulness skill (i.e., awareness and acceptance skills)	Three-minute meditation	The students were asked to gently close their eyes, take a deep breath, and observe their breaths. After that, they were asked to observe the voice they heard. Moreover, they were asked to observe their sensations to practice awareness skill. Moreover, to practice acceptance skill, they were asked to observe the happening and disappearing of their sensations.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the three-minute meditation. The investigator summarized the activities and their experiences.

Session	Purposed	Lesson title	Lesson content
3 Hearing and smelling activities (cont.)	To share experiences and opinions from daily homework	Homework discussion	The group members were asked to share their experiences from daily homework. The investigator give them a reward for their doing homework.
	To practice keeping attention to and being aware of what is hearing	“Drumming” game	A group member hit the table or floor to make a rhythm, each round. Other group members had to carefully notice and followed the rhythm as a leader. Each group member turned to a leader at least one round.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the “Drumming” game. The investigator summarized the activities and their experiences.

Session	Purposed	Lesson title	Lesson content
3 Hearing and smelling activities (cont.)	To practice choosing the target voice to pay attention to and be aware of	“Whose voice is this?” game	Before starting the activity, each student was asked to say “hello”, other had to remember each voice. After that, they were split into two groups. Each group sat on each side of a piece of cloth unfolded by the investigator and interposed between them. Each round, each group chose one student as competitor. They sat in front of their group, behind each side of the cloth. When each round started, except the competitor, everyone clap their hands and the competitor said “hello”. After both of them said the word, other team was asked to guess whose such voice was.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the “Whose voice is this?” game. The investigator summarized the activities and their experiences.

Session	Purposed	Lesson title	Lesson content
3 Hearing and smelling activities (cont.)	To give the students opportunities to practice mindfulness skill in daily life	Distributing and explaining homework	The investigator distributed and explained daily homework. The students were asked to do homework every day. Moreover, they were asked to record their experiences, thoughts, emotions, and opinion from each activity every day.
		<ul style="list-style-type: none"> <li>● Three-minute meditation</li> </ul>	The process was same as three-minute meditation in in-class session.
		<ul style="list-style-type: none"> <li>● Listening activity</li> </ul>	At least one event in every day, they were asked to carefully listened and fully paid attention to <u>whom</u> they were speaking with.
		Smelling activity	The students were asked to notice at least one smell for each day.

Session	Purposed	Lesson title	Lesson content
4 Seeing and tasting activities	To calm the group members down from the early activity, to get them ready for the followed activities, to practice them observe their environment, and to practice mindfulness skill (i.e., awareness and acceptance skills)	Three-minute meditation	Before starting the meditation, the students were asked to observe their environment silently, for a while. Then, they were asked to gently close their eyes, take a deep breath, and observe their breaths. In the same time, the investigator guided them to pay attention to their breath by saying “breathe in when you are breathing in” and “breathe out when you are breathing out”. They were asked to observe their sensations from their breath to practice awareness skill. Moreover, to practice acceptance skill, they were asked to observe the happening and disappearing of their sensations.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the three-minute meditation. The investigator summarized the activities and their experiences.

Session	Purposed	Lesson title	Lesson content
4 Seeing and tasting activities (cont.)	To share experiences and opinions from daily homework	Homework discussion	The group members were asked to share their experiences from daily homework. The investigator give them a reward for their doing homework.
	To practice how to pay attention and be aware of what they were seeing in their environment	“Do you remember?” game	Before starting the activity, the students were asked to carefully observe their classroom for 30 seconds. Then, they were questioned about some details from their classroom.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from “Do you remember?” game. The investigator summarized the activities and their experiences.
	To give the students opportunities to practice mindfulness skill in daily life	Distributing and explaining homework	The investigator distributed and explained daily homework. The students were asked to do homework every day. Moreover, they were asked to record their experiences, thoughts, emotions, and opinion from each activity every day.
		● Three-minute meditation	The process was same as three-minute meditation in in-class session.

Session	Purposed	Lesson title	Lesson content
4 Seeing and tasting activities (cont.)		<ul style="list-style-type: none"> <li>● Seeing activity</li> </ul>	The students might not notice something around them before; thus they were asked to intentionally see and carefully observe the detail at least once for each day.
		<ul style="list-style-type: none"> <li>● Slowly chew, slowly swallow</li> </ul>	While the students had meal, they were asked to slowly and carefully chew their meal. While they were chewing, they were asked to carefully observe the texture and taste of such food. When they were swallowing their food, they were asked to carefully observe their sensations.



Session	Purposed	Lesson title	Lesson content
5	Internal states To calm the group members down from the early activity, to get them ready for the followed activities, to practice them observe their environment, and to practice mindfulness skill (i.e., awareness and acceptance skills)	Three-minute meditation	They were asked to gently close their eyes and take a deep breath. In the same time, they were guided to pay attention to their breath by saying “breathe in when you are breathing in” and “breathe out when you are breathing out”. Likewise, if their thoughts or emotions arose, they were asked to observe what it is and came back to their breath to practice awareness skill. Moreover, to practice acceptance skill, they were asked to observe the happening and disappearing of their thoughts and emotions.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the three-minute meditation. The investigator summarized the activities and their experiences.
	To share experiences and opinions from daily homework	Homework discussion	The group members were asked to share their experiences from daily homework. The investigator give them a reward for their doing homework.



Session	Purposed	Lesson title	Lesson content
5 Internal states (cont.)	To make the students clearly understand what thought and emotion are	Thoughts or emotions	With the student's experiences, they were asked to share their view what thought and emotion are. Moreover, cartoon characters who were saying something, such as "I am hungry", were used as the tools for this activity. (Appendix S)
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the "Thoughts and emotions". The investigator summarized the activities and their experiences.
	To practice observing facial expression	What do they think and feel?	The students' were asked to guess what cartoon characters feel. Various cartoon characters that had different facial expressions were used as tool for this activity. (Appendix S)
	To practice observing facial expression	"Facial acting" game	The students were asked to volunteer to be an actor / actress, one for each round. The actor / actress showed their facial expression. Other students had to guess what feeling he / she was acting. The game finished when everyone came to be the actor / actress at least one time.

Session	Purposed	Lesson title	Lesson content
5 Internal states (cont.)	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the “What do you think and feel?” and “Facial acting” game. The investigator summarized the activities and their experiences.
	To help the students understand and be aware of the connection between thoughts and emotions in different situations	What will happen next?	The short scenes of situation, such as a boy throw a ball to a girl, were showed the students. Then, to point out the connection between thoughts and emotions, they were asked to discuss in several questions. For example, “have you ever been in such situation?” “ <u>what</u> do you think if it has some mistakes?” or “if you think that ....., what do you feel?” (Appendix S)

Session	Purposed	Lesson title	Lesson content
5 Internal states (cont.)	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the “What will happen next?” The investigator summarized the activities and their experiences.
	To give the students opportunities to practice mindfulness skill in daily life	Distributing and explaining homework	The investigator distributed and explained daily homework. The students were asked to do homework every day. Moreover, they were asked to record their experiences, thoughts, emotions, and opinion from each activity every day.
		<ul style="list-style-type: none"> <li>● Three-minute meditation</li> <li>● My thoughts and emotions</li> </ul>	<p>The process was same as three-minute meditation in in-class session.</p> <p>At least one event for every day, the students were asked to record the event including their thoughts and emotions related to such event.</p>

Session	Purposed	Lesson title	Lesson content
6 Closing the program	To calm the group members down from the early activity, to get them ready for the followed activities, to practice them observe their environment, and to practice mindfulness skill (i.e., awareness and acceptance skills)	Three-minute meditation	They were asked to gently close their eyes and take a deep breath. In the same time, they were guided to pay attention to their breath by saying “breathe in when you are breathing in” and “breathe out when you are breathing out”. Likewise, if their thoughts or emotions arose, they were asked to observe what it is and came back to their breath to practice awareness skill. Moreover, to practice acceptance skill, they were asked to observe the happening and disappearing of their thoughts and emotions.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from the three-minute meditation. The investigator summarized the activities and their experiences.
	To share experiences and opinions from daily homework	Homework discussion	The group members were asked to share their experiences from daily homework. The investigator give them a reward for their doing homework.

Session	Purposed	Lesson title	Lesson content
6 Closing the program (cont.)	To help the student apply what they had learned from the program	“Simon says” game	The students followed the investigator’s order. However, they had to follow only the order beginning with the word “Simon says”. They had to be fully aware of and pay attention to what they were hearing and what they should follow.
	To share experiences and opinions among the group members	Group discussion and summary	The group members were asked to share their experiences from “Simon says” game. The investigator summarized the activities and their experiences.
	To let the students summarize their experiences and impressions	Experiences and impressions	The students wrote down their experiences and impressions from the program. When they finished their writing, they were asked to volunteer to share their writing with other. Moreover, the investigator concluded the program, concluded their points from doing homework, gave them a reward, and thank you to the students for their participation.

Appendix S

Tools of the Session 5 (Internal States) in the Mindfulness Enhancement Program

Thought or Emotions



What do they think and feel?

1



2



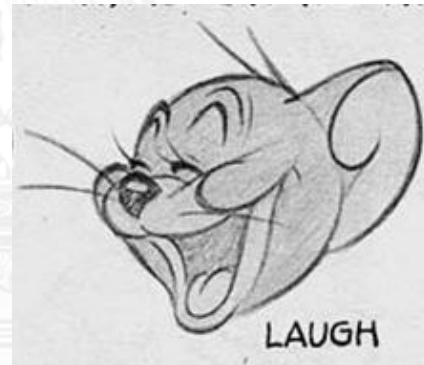
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จุฬาลงกรณ์มหาวิทยาลัย  
CHULALONGKORN



มีความสุขจัง

หนูเสียใจ



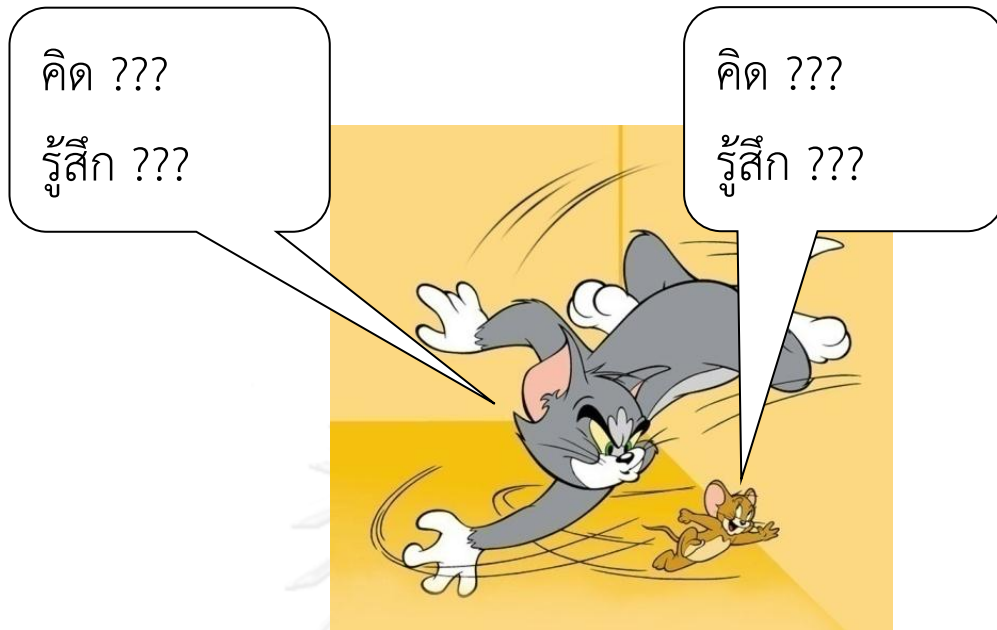
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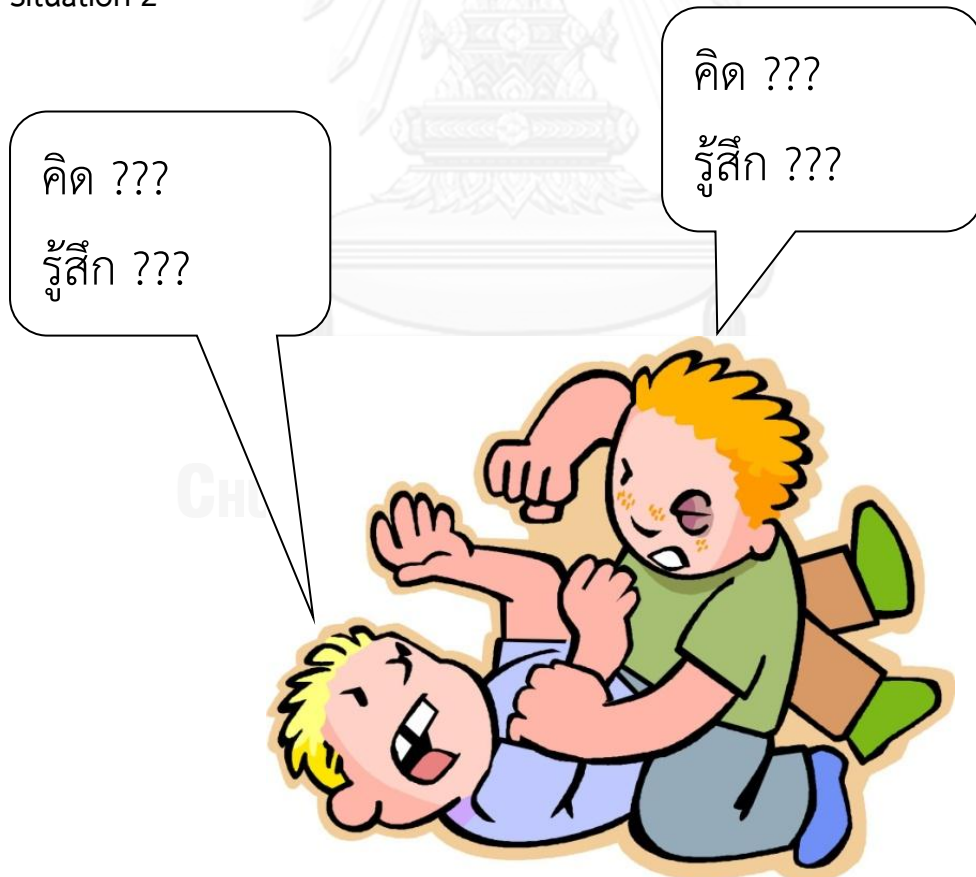
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Situation 1



Situation 2



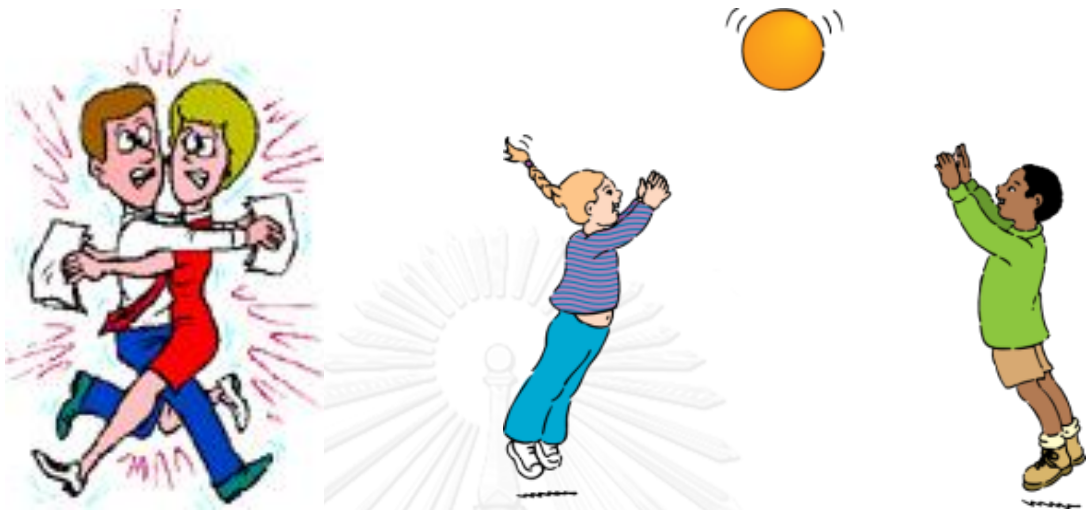
Situation 3



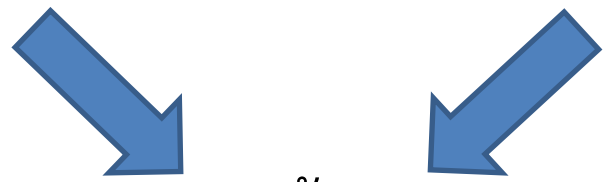
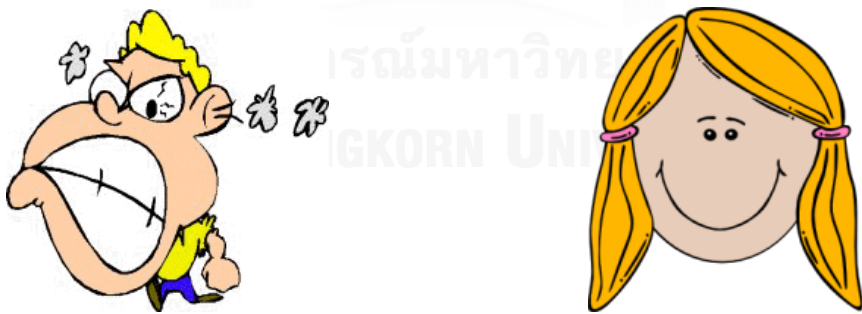
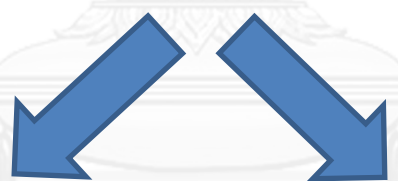
Situation 4



What will happen next?



ความคิด???



เกิดอะไรขึ้นต่อไป???

## Appendix T

## Daily Homework of the Mindfulness Enhancement Program

# สมุดประจำตัว



ชื่อ – นามสกุล  
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ชื่อเล่น .....

ชั้น ประถมศึกษาปีที่ .....

## สัปดาห์ที่ 2 การเคลื่อนไหว

เด็กๆ เขียนประสบการณ์ที่ได้รับ ความรู้สึกและความ  
ประทับใจที่มีต่อกิจกรรมในสัปดาห์นี้กันหน่อยนะ

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## นั่งผ่อนคลาย 3 นาทีเป็นยังไง???

พอหลับตาแล้วลองขยับนิ้วเท้า นิ้วมือ รู้สึก

ยังไงบ้างน้า??? รู้สึกยังไงเวลาที่ขยับนิ้ว???

รู้สึกว่าผิวเราตึงกันมัย??? แล้วก็กลับมาสนใจที่

ลมหายใจที่ปลายจมูกกันนะว่าเป็นยังไงเอ่ย??? รู้สึกถึงลม

หายใจเวลาที่ผ่านปลายจมูกของเราบ้างมัยนะ???



มาลองเล่นเกม “เร็วและช้า” ที่บ้านกันดีกว่า วันละ 5 นาที



นะ สลับกันไประหว่างเร็วกับช้านะ อาจจะ

วิ่งแล้วเดิน หรือเหวี่ยงแขนเร็วๆ แล้วค่อย

ช้า หรือลุกนั่งเร็วๆ แล้วค่อยช้านะ คือหรือ

รู้สึกยังไงกันหนอ เวลาทำอะไรเร็วๆ รู้สึกถึง

ลมที่ผ่านตัวเรามั้ยนะ??? รู้สึกแขนหรือขาเกร็งกันมัย???

หายใจแรงขึ้นหรือเปล่า??? แล้วพอเปลี่ยนมาทำช้าๆ ละรู้สึก

ยังไงบ้างน้า แตกต่างจากตอนที่วิ่งเร็วๆ มั้ย??? อย่างเช่น พอ

วิ่งเร็วๆ แล้วเปลี่ยนมาช้านะ เราารู้สึกเหมือนมีอะไรบีบๆ ที่ขา

**ลองทำทุกวันแล้วเขียนเล่าให้ฟังหน่อยนะจ๊ะ**

### สัปดาห์ที่ 3 การสัมผัส

เด็กๆ เขียนประสบการณ์ที่ได้รับ ความรู้สึก และความ  
ประทับใจที่มีต่อกิจกรรมในสัปดาห์นี้กันหน่อยนะ

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## นั่งผ่อนคลาย 3 นาทีเป็นยังไง???

พอหลับตาแล้วลองเอามือลูบแขนซิ อีกวัน  
ลองเอามือลูบขา อีกวันลองเอามือลูบพื้น แต่  
ละวันที่ลูบสิ่งต่างๆ รู้สึกยังไงบ้างนะ??? เสร็จ  
แล้วก็กลับมาสนใจที่ลมหายใจนะ รู้สึกถึงความร้อนของลม  
หายใจที่ปลายจมูกกันบ้างมั๊ย???



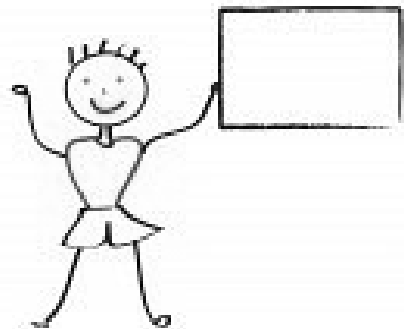
## ของแต่ละอย่างที่เราจับเป็นยังไงนะ???



ก่อนจะหยิบอะไรลองหันมาสนใจของอัน  
นั้นซักนิด เราหยิบของถูกมั๊ย??? ผิวของ  
มันเป็นยังไง??? น้ำหนักเป็นยังไง??? มี  
บ้างมั๊ยที่เราหยิบของโดยที่ไม่ได้สนใจเลย  
ทำให้หยิบของผิด แล้วพอหยิบของผิดแล้วรู้สึกหรือคิดยังไงกัน  
บ้างเอ่ย???

ลองทำทุกวันแล้วเขียนเล่า

หน่อยนะจ๊ะ





## สัปดาห์ที่ 4 การฟัง

เด็กๆ เขียนประสบการณ์ที่ได้รับ ความรู้สึก  
และความประทับใจที่มีต่อกิจกรรมใน  
สัปดาห์นี้กันหน่อยนะ



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## นั่งผ่อนคลาย 3 นาทีเป็นยังไง???



พอหลับตาแล้วลองฟังเสียงกันหน่อยซิ เอ... เรา  
ได้ยินเสียงอะไรบ้างน้า??? เลือกซัก 1 เสียงที่เรา  
จะตั้งใจฟังหน่อยซิ มันเป็นเสียงอะไรหนอ... มี  
จังหวะมั๊ยนะ??? แล้วรู้สึกยังไงกับเสียงนั้น??? พอฟังเสียงแล้ว  
ก็กลับมาที่ลมหายใจกันนะ รู้สึกถึงลมหายใจที่ปลายจมูกกัน  
บ้างมั๊ยเวลาที่ลมหายใจผ่านปลายจมูก รู้สึกยังไงกันบ้างนะ???

## ถ้าเราตั้งใจฟังจะเป็นยังไงนะ???

เวลาคุยกับใครลองตั้งใจฟังอย่าง



เต็มที่ ไม่

สนใจเสียงอื่นหรืออย่างอื่น เราเข้าใจเพื่อน คุณครู คุณพ่อคุณแม่  
มากขึ้นหรือเปล่าน้า??? แล้วรู้สึกยังไงบ้างนะ???

## เอ... กลิ่นอะไรหนอ???

แต่ละวันเราได้กลิ่นอะไรกันบ้างนะ มันมีกลิ่น  
อะไรผสมกันอยู่บ้างน้า มันฉุนหรือหอม???  
เราารู้สึกยังไงกับกลิ่นนั้น???



ลองทำทุกวันแล้วเขียนเล่าให้หน่อยนะจ๊ะ

## สัปดาห์ที่ 5 การมองเห็น

เด็กๆ เขียนประสบการณ์ที่ได้รับ  
ความรู้สึก และความประทับใจที่มีต่อ  
กิจกรรมในสัปดาห์นี้กันหน่อยนะ



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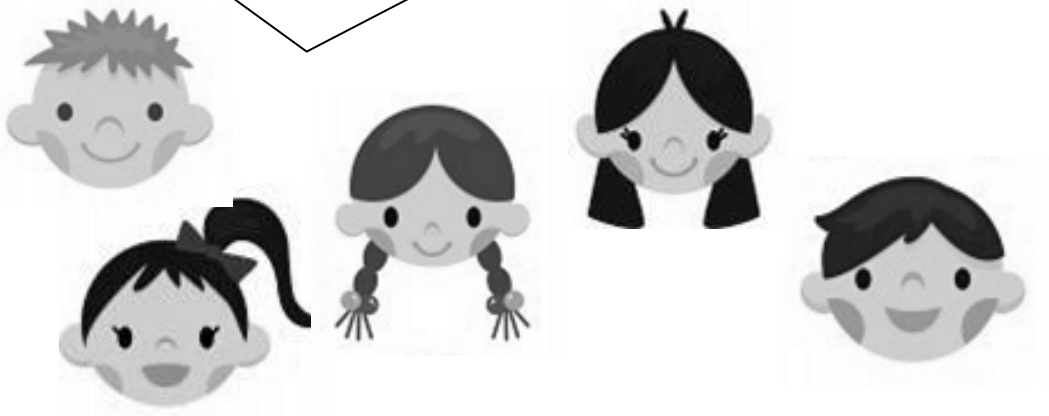
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## นั่งผ่อนคลาย 3 นาทีเป็นยังไง???

ลองตั้งใจมองดูรายละเอียดของสิ่งของของหน้อยชิ สีเป็นยังไง น้ำ  
ผิวของมันล่ะ เอ...แล้วเรารู้สึกยังไงกับของสิ่งนั้น แล้วกลับมา  
สนใจที่ลมหายใจกันนะว่ารู้สึกถึงลมหายใจที่ปลายจมูกกันหรือ  
เปล่า วันนี้เราหายใจแรงหรือหายใจเบาละ



### ตั้งใจมองวันละ 1 อย่าง

เวลาเดินผ่านอะไรลองตั้งใจสังเกตสิ่งรอบตัว  
หน้อยชิ แล้วเราอาจจะตกใจว่า อื้อ!! เราไม่เคยเห็นมันมาก่อน  
เลยนะ แล้วรู้สึกยังไงเวลาที่เพิ่งสังเกตเห็น ลองสังเกตซักวันละ  
1 อย่างนะจ๊ะ



### ค่อยๆ เคี้ยว ค่อยๆ กลืน วันละ 5 คำ

มาลองค่อยๆ เคี้ยว ค่อยๆ กลืนซักวันละ 5 คำซิ เรารู้สึกถึงรส  
อะไรบ้าง แล้วอาหารที่เรากำลังทานมันกรอบหรือนุ่มนะ???  
พอเราค่อยๆ กลืนแล้วตอนนี้อาหารอยู่ตรงไหนแล้วละเนี่ย ที่  
คอแล้วหรือถึงท้องแล้ว แล้วเรารู้สึกยังไงกับอาหารนะ???

**ลองทำทุกวัน แล้วเขียนเล่าให้หน้อยนะจ๊ะ**

## สัปดาห์ที่ 6 ความคิดและความรู้สึก



เด็กๆ เขียนประสบการณ์ที่ได้รับ ความรู้สึก และ  
ความประทับใจที่มีต่อกิจกรรมในสัปดาห์นี้กันหน่อยนะ

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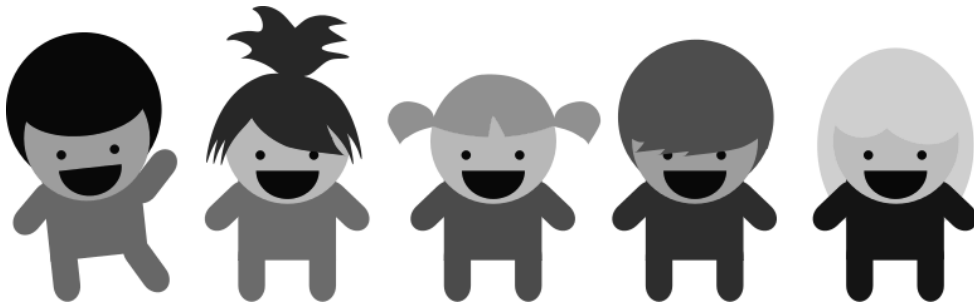
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CHULABHONGKORN UNIVERSITY



## นั่งผ่อนคลาย 3 นาทีเป็นยังไงนะ???



มาสังเกตความคิดและความรู้สึก  
ระหว่างที่นั่งหลับตาก็ดีกว่า นั่ง  
หลับตาพูดในใจว่า “เข้า” และพูด  
“ออก” เวลาที่หายใจออก พอเราคิด  
หรือรู้สึกอะไรก็รู้ว่าเรากำลังคิดอยู่นะ

รู้สึกอยู่นะ แล้วก็กลับมาพูด “เข้า” และ “ออก” กันเหมือนเดิม  
มาดูกันซิว่ารู้สึกยังไงกันบ้าง

## เราคิดและรู้สึกยังไงบ้าง???

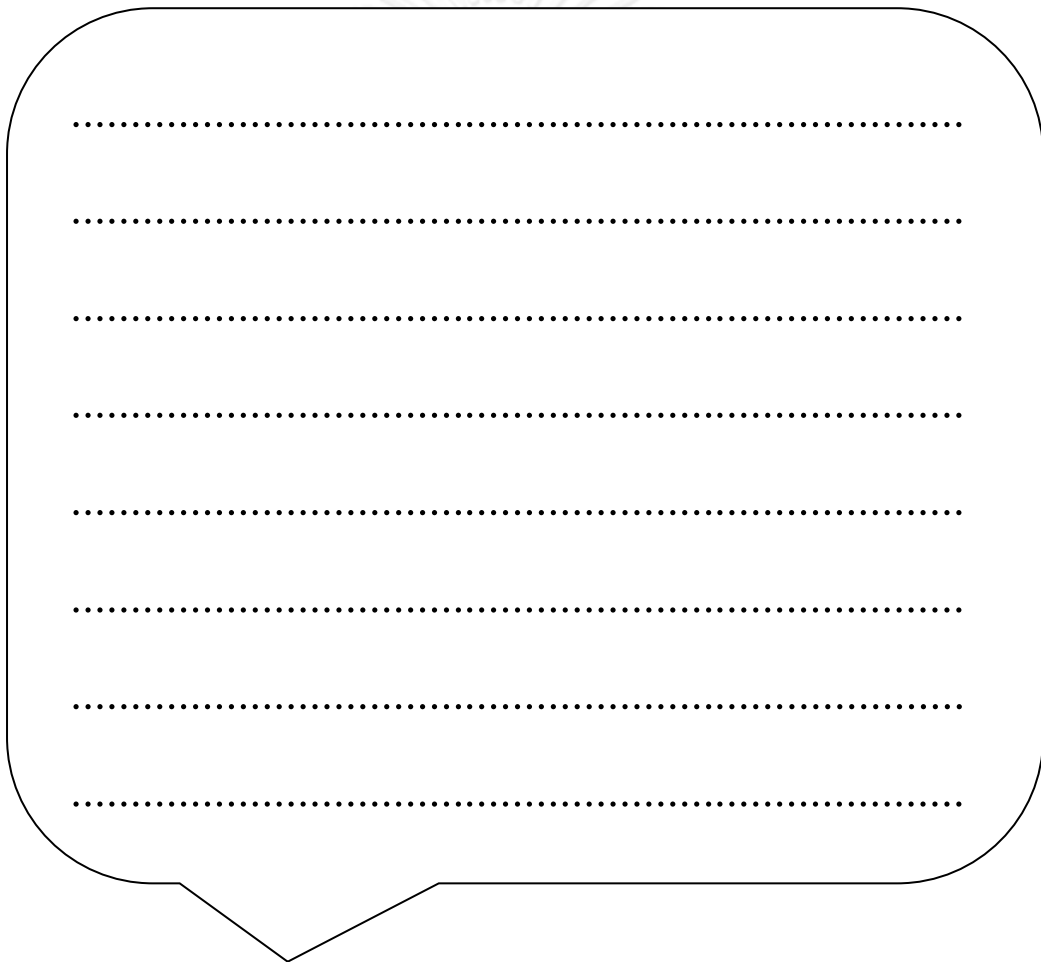
เวลาที่เกิดอะไรขึ้น ลองสังเกตซิ  
ว่าเราคิดยังไงและรู้สึกยังไงกัน  
บ้าง??? ลองเล่าวันละ 1 เรื่องนะ



ลองทำทุกวัน แล้วเขียนเล่าให้หน่อยนะจ๊ะ

## สัปดาห์ที่ 7 จบกิจกรรมแล้วจ้ะ

เด็กๆ ช่วยเขียนประสบการณ์ที่ได้รับ ความรู้สึก และความ  
ประทับใจที่เด็กๆ มีต่อกิจกรรมที่เราทำกันมาตลอด 6 สัปดาห์  
ที่ผ่านมาให้หน่อยนะจ๊ะ



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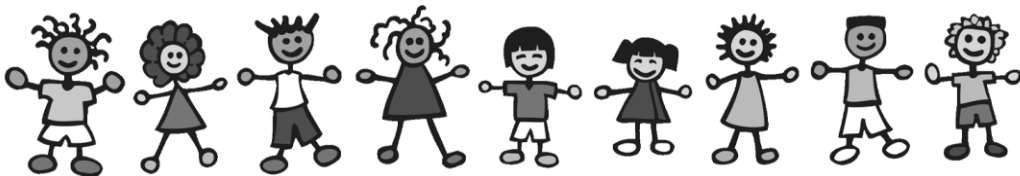
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## VITA

Miss Jirapattara Reveepatarakul was born on June 30, 1984 in Bangkok province, Thailand. She graduated primary level from Prapamontri school in 1996 and graduated lower and upper secondary level from Triamudomsuksa Pattanakarn School in 2002. Then, she graduated with a bachelor's degree of Science with first-class honor from Faculty of Psychology, Chulalongkorn University in 2006.







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**CHULALONGKORN UNIVERSITY**