

THE ENHANCEMENT OF ELEMENTARY STUDENTS' EMOTIONAL INTELLIGENCE THROUGH MINDFULNESS TRAINING

Yau Yan Wong

Satit Kaset International Program, Kasetsart University Laboratory School,
Kasetsart University

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Abstract

The purpose of this classroom research study is to develop a school-based mindfulness training program for enhancing elementary students' emotional intelligence in a public school in Thailand. A group of 28 fourth graders (15 boys, 13 girls) from 9 to 10 years old participated in an eight-week mindfulness training course. Each week participants learned how to apply mindfulness in different areas of their lives. Students' emotional intelligence was assessed by their parents twice, before and after the training. Based on the scores of the emotional intelligence assessment, the researcher selected the students and parents to participate in focus group discussions. The results showed an improvement in students' emotional self-control, empathy, self-motivation, interpersonal relationships, life satisfaction and peace after the training. The implication of the study is that mindfulness training can be a tool for educators to develop students' emotional and social competencies. The keys to the successful implementation of a mindfulness training program among children were discussed from students' and parents' feedback.

Keywords: Mindfulness practice, Emotional intelligence, Elementary student

Introduction

The main objective of education is to help students acquire the knowledge and skills to build a successful career and a fulfilled life. Since decades ago, educators have been focusing mainly on the development of students' cognitive abilities or Intelligent Quotient (IQ) (Wechsler, 1950). Educators and employers have been using mainly IQ tests to predict students' or employees' success. However, employers have probably noticed some employees in organizations who display great competencies beyond traditional cognitive ability. Meanwhile they also noticed some people who, despite of their great cognitive abilities, demonstrate deficiencies in getting their job done (Lynn & Lynn, 2015). One of the factors that contributed to these deficiencies is a lack of emotional intelligence (EI), which was defined as a group of "competencies related to managing oneself and one's interactions with others" (Lynn & Lynn, 2015).

A few research studies (Goleman, 1995; Druskat, Sala & Mount, 2006; Vazirani, 2010) discovered that EI, not IQ, is a key factor in determining the success of employees. They discovered a strong positive correlation between EI and leadership among managers (Goleman, 1995; Caruso, Mayer & Salovey, 2002; Stein et al., 2008). Another study has shown that students with high EI received more nominations for "cooperative" and "leadership", and fewer

for "disruptive", "dependent" and "aggressive" (Petrides et al., 2006).

Many schools until now put little emphasis on the cultivation of emotional and social skills in their curricula. As a result, many young people are expected to pick up these important life skills on their own in an often stressful and competitive school environment. The lack of support from schools given to students' emotional and social development has contributed to some serious problems. In Thailand, the Rajanukul Institution, the Department of Mental Health (MOH) reported that according to their children and youth behaviors survey conducted in 2012, among seven million youths and children, one million of them displayed symptoms of depression and anxiety and 50 percent of the surveyed population show a sign of distress with reduction in happiness level in schools. Researchers from MOH suggested parents and teachers laying the foundation of EI for children as early as pregnancy and provide a positive environment for the upbringing of children.

One of the highly researched ways to enhance people's mental health is mindfulness practice, which is a systematic way of training to mind to pay attention and be aware of bodily and mental phenomena. The objective of this study is to develop and evaluate the effectiveness of a mindfulness-based emotional intelligence development curricula for grade four students in a Thai public school.

Literature Review

1. What is Emotional Intelligence?

The idea of non-cognitive abilities originated from Thorndike (1920), who suggested that besides IQ there is social intelligence, which affects how people manage their own emotions and their relationship with the others. Building on Thorndike's work, Gardner (1983) challenged the view of intelligence as a unitary intelligence in his book "Frames of Mind: The Theory of Multiple Intelligences". He said intelligence includes a set of abilities that are used for problem-solving in a community or cultural setting. He defined social intelligence as both intrapersonal and interpersonal intelligences, which later became part of emotional intelligence. Along the way, three main models and measurements of emotional intelligence emerged later, including the ability-based model (Salovey & Mayer, 1990), the competency-based model (Goleman, 1995; Bar-On, 1997), and the trait model (Petrides et al., 2006).

The researcher of this paper conducted several quasi-experiments in the past (Chongphaisal, Raweewan & Wong, 2012; Jarutawai et al., 2014; Wong, 2016) that showed some enhancement in the children's EI through mindfulness training as short as six weeks, which suggested that EI is more than a trait that cannot be developed.

On the other hand, it is hard to measure subjective emotional experiences based on a set of standard scores, like in the ability model (Pérez, Petrides & Furnham, 2005). Emotional intelligence influences the way that people interpret their emotional experiences and interact with other people. The social norms about how to interpret emotional and social experiences and how to express emotions in different situations varies in different cultures (Ilangoan, Scroggins & Rozell, 2007 cited in Sucaromana, 2010).

As a result, this study adopts the competency-based model of EI created by Department of Mental Health, the Ministry of Public Health, Thailand in 2000, which regards EI as a combination of personality traits and socio-emotional skills that can be developed. This model divides EI into three subscales, including *virtue*, *competence*, and *happiness* (Department of Mental Health, 2000). A brief description of the nine factors measured by these three subscales is displayed in Table 1. An assessment called Thai Emotional Intelligence Screening Test (TEIST) was created based on this model. This conceptualization of EI overlaps with two other major mixed models, EQ-I model by Bar-On (1997) and ECI by Goleman (1995).

Table 1 Description of Nine EI competencies of TEIST (Sucaromana, 2010)

TEIST subscales	The emotional intelligence competencies
<i>Virtue</i>	
Emotional self-control	Awareness and management one's emotions, and expression of self in a constructive manner
Empathy	Awareness and understanding of others feelings
Responsibility	Ability to give and take, ownership of one's own mistakes, and social responsibility
<i>Competence</i>	
Self-motivation	Awareness of one's own competence, and perseverance to achieve one's goals
Problem-solving	Interpreting and solving problems effectively, and being flexible
Interpersonal relationship	Establishing meaningful relationships, communicating in a constructive manner, and solving problems with others creatively
<i>Happiness</i>	
Self-esteem	Being respectful and confident in oneself
Life-satisfaction	Being optimistic, having a sense of humour, and appreciation towards whatever one has
Peace	Being fun-loving, relaxed and having a peaceful mind

2. What is Mindfulness Practice?

One of the highly researched ways to enhance emotional well-being is mindfulness practice. Lately, scientists became interested in the science behind mindfulness practice. Jon Kabat-Zinn, a professor at University of Massachusetts Medical Centre in America, is one of the pioneers secularizing and mainstreaming mindfulness practices in the United States during 1970s (Wilson, 2014). Kabat-Zinn (1994) defined mindfulness as “simply a practical way to be more in touch with the fullness of your being through a systematic process of self-observation, self-inquiry, and mindful action.”

Many studies found that a prolonged period of mindfulness practice such as meditation can increase the capacity of the prefrontal cortex and the density of the grey matter, which help reduce stress, anxiety and depression among adults (Lama & Goleman, 2004). These research findings have changed scientists' previous belief that brain capacity and intelligence are fixed qualities which people were born with.

A few mindfulness training programs start to emerge in schools, such as .b program (Mindfulness in Schools Project, n.d.), Mindful Schools (Mindful Schools, n.d.), Mind Up (The Hawm Foundation, 2011), Holistic Me (Carlillian,

n.d.), etc. Mindfulness training has been offered as a series of social and emotional learning programs in schools or integrated informally with learning in a curriculum. Mindfulness education has been documented to improve emotional regulation, social skills, anxiety, and depression in adults and youth (Baer, 2003; Kabat-Zinn, 1982, 1990, 2003; Burke, 2010; Goldin & Cross, 2010 cited in LaRock, 2014: 6).

From the literature review, the following hypothesis is proposed:

The eight-week mindfulness training course could enhance the emotional intelligence of the grade four students.

Methodology

This study adopts the one group pretest posttest pre-experimental design, which is an empirical study used to estimate the causal impact of an intervention on its target population without random assignment of subjects.

1. Participants

This study was conducted among a group of grade four students at Satit Kaset International Program, Kasetsart University Laboratory School, which is a public school in Thailand. There are in total 28 grade four students, including 15 males (51.7%) and 13 females (44.8%), joining the mindfulness training program. The age range of the students are between eight to ten years old.

As the foreign homeroom teacher of grade four class was the only teacher certified to teach mindfulness practice to children, the

grade four students were chosen to be the experimental group.

2. Intervention

The intervention of this experiment is an eight-week mindfulness training course designed by a foreign homeroom teacher for grade four students, who had been trained to teach mindfulness-based curricula and has over seven years of experience in mindfulness practice. The main purpose of this training course is to enhance students' self-awareness, ability to manage emotions, concentration, and interpersonal communication skills. Three lesson plans were borrowed from the book entitled "Planting Seeds-Cultivating Mindfulness among Children" by Nhat Hanh (2011) and the Plum Village.

According to the previous findings, short intensive daily mindfulness training is more effective than long weekly mindfulness training. Therefore, this course included frequent daily short mindfulness activities over a duration of two months. There were in total eight activities, one activity per week, 15 to 20 minutes per activity (Table 2). The teacher introduced the activity in the homeroom session every Monday. Every Friday, the teacher followed up on the students' progress.

Previous findings from action research also concluded that there is a positive correlation between parents' EI and children's EI (Wong, 2015, 2016). Hence, this training course also invited parents to practice with their children. A worksheet for parents was distributed at

the beginning of every week and they were encouraged to practice with their children.

3. Procedure

Before the experiment, an informed consent form was distributed to every student. Three students whose parents did not give us their informed consent were not assessed. However, they participated in the classroom activities like other students. A demographic information form was given to every parent to collect descriptive data that may be relevant to the data analysis.

Students were assessed by their parents before and after the eight-week mindfulness training.

The means of pre-test EI scores were used to identify the key informants, which included students with the highest EI and those with the lowest EI. The researcher invited the key informants to join semi-structured focus group interviews before the training course to get to know their previous experiences and knowledge about mindfulness practice. A semi-structured focus group discussion began with a set of predetermined questions and expanded by ad hoc questions based on the key informants'

response.

After the training, focus group discussions with parents and students were conducted to collect feedback about the activities. For the post-test discussions, parents and students were chosen based on the differences in the students' pre and post-test EI scores.

4. Measurement

The Thai Emotional Intelligence Screening Test for Thai Population (TEISTTP) for parents with children from 6 to 11 years old, developed by Department of Mental Health, the Ministry of Public Health, Thailand in 2000, was used by parents to evaluate their children's EI through rating how much each statement best described their children's behaviors. Both English and Thai versions are available to the parents. It has 60 items on four-point Likert Scale (1 = never or not true of me, 2 = sometimes true of me, 3 = almost true of me, and 4 = very true of me). The total maximum score is 240. The first subscale, *virtue*, consists of 20 items. The second subscale, *competence*, consists of the next 20 items. The third subscale, *happiness*, consists of the final 20 items.

Table 2 Activities of the Mindfulness Training Course

Week	Mindfulness Practice	Activity
1	Mindful Breathing	Belly breathing (Observe the in-breath and out-breath)
2	Mindful Eating	Fruit contemplation (Nhat-Hanh, 2011), mindful milk breaks (Observe the process of eating)
3	Mindful Walking	A nature walk in the woods (Walking meditation)
4	The Monkey Mind	Sitting meditation – noticing thoughts
5	The Mindfulness Jar	Sitting meditation – labelling difficult emotions
6	Getting through the Storm	Deep relaxation through body scanning (Nhat-Hanh, 2011)
7	Mindful Communication	Active listening in pairs (Nhat-Hanh, 2011)
8	Cultivating Loving-Kindness	Expressing gratitude to a person daily

Results

1. Emotional Intelligence Scores from Parents' Assessment

According to 26 parents' assessments of grade four students' EI, the mean of overall post-test EI scores ($\bar{X} = 180.12$, S.D. = 15.84) is higher than that of overall pre-test EI scores ($\bar{X} = 167.92$, S.D. = 13.15). Their mean difference is 12.18 (min = -45, max = 35, S.D. = 16.74).

The results from the comparison of individual factor in EI showed that the mean of the post-test scores of emotional self-control, empathy, self-motivation, interpersonal relationships, life satisfaction and peace are higher than that of the pre-test scores. However, the post-test scores of responsibility, problem-solving, and self-esteem are lower than that of the pre-test scores (Table 3). That means the curriculum needs to put more emphasis on these three competencies in the future.

2. Focus Group Interviews with Students

Based on students' EI scores, class participation and the quality of reflective journals, twelve key informants were selected among the grade four students for focus group discussion. Six of them have higher EI after the training and six of them have lower EI after the training. During and after the training, these students were interviewed by teachers in semi-structured focus group interviews. The purpose of the interviews is to understand the previous experience in mindfulness practice of students and their parents, the frequency of students' practice, the frequency of students and parents practiced together, students' experiences during and after the training, and students' suggestions for future improvement. Theme analysis was used to analyse the content of the discussions.

Students with higher post-test EI have a daily habit of mindfulness practice with their

parents and practiced by themselves more frequently than those with lower post-test EI.

Despite of the differences shown in the quantitative data, both groups of students (i.e. students with higher overall post-test EI scores and students with lower overall post-test EI

scores) said they felt the benefits of mindfulness practice. They mentioned that it helped them reduce stress, enhance concentration, reduce anxiety, calm down, get better grades, and remember things better.

Table 3 Comparison of Pre-Test and Post-Test EI Scores from Parents' Assessment of Grade 4 Students

Factors	Pre-Test		Post-Test		Difference (Post-Test – Pre-Test)	
	M	S.D.	M	S.D.	M	S.D.
Overall EI	167.92	13.15	180.12	15.84	12.18	16.74
Emotional self-control	16.69	1.995	20.42	2.730	3.73	3.66
Empathy	26.96	3.883	28.23	5.210	1.27	4.84
Responsibility	22.42	2.845	22.27	2.808	-.15	4.01
Self-motivation	18.50	2.642	20.54	3.603	2.04	4.26
Problem-solving	12.81	2.684	12.77	2.320	-.04	2.84
Interpersonal relationships	16.88	2.582	19.81	2.098	2.92	2.84
Self-esteem	13.96	2.049	13.12	2.142	-.85	2.48
Life satisfaction	17.15	2.395	19.62	2.228	2.46	2.94
Peace	22.54	2.302	23.35	2.966	.81	3.76

3. Focus Group Interviews with Parents

Twelve parents were invited to join semi-structured focus group interviews after the training course, but only six parents were available. The purpose of the focus group discussion is to understand parents' previous experience in mindfulness practice, their observation of any changes in their children's behaviors, their experiences during the home practice, their parenting styles, and their suggestions for

improvement in the future. Theme analysis was used to analyse the content of the discussions. Among these six parents, the children of four of them have higher post-test EI scores in their self-assessment and two of them have lower post-test EI scores. However, all of them said they saw improvement in their children's ability to handle stress, ability to focus and interpersonal skills.

The two parents whose children had lower post-test EI scores said their children couldn't explain to them clearly the purpose of mindfulness practice. They suggested the instructor organize a training course for the parents before conducting the experiment so that they can guide their children better.

Discussions

Mindfulness practice is one of the most highly researched method for enhancing emotional well-being in the recent decade. This study is a pre-experiment, which aimed at implementing and evaluating a mindfulness training program among a group of grade four students.

Based on the parents' assessments of their children's EI, the overall mean and six out of nine EI competencies of the post-test scores were higher than that of the pre-test scores. This suggests that this mindfulness training course might have a positive impact on the children's EI development, which supports the hypothesis of the study. However, the post-test scores of three components including responsibility, problem-solving and self-esteem were lower than the pre-test scores, which implies those activities targeted the above competencies may not be effective. Hence, further investigation is needed to improve the effectiveness of the program.

During the focus group discussions parents reported that they saw some positive changes in their children's ability to handle stress, ability to focus and interpersonal skills. The students

also reported that the training had helped them manage stress, enhance concentration and get better grades. The findings from this study are similar to those of several classroom studies showing promising benefits associated with mindfulness practice among children and teenagers, such as, (1) decrease in anxiety, (2) enhanced attention, (2) reduced emotional reactivity, (3) enhancement in some areas of metacognition, and (4) better social skills (Weare, 2012).

In addition, in this study, students with enhanced EI had more support from their families, which already had some experience in mindfulness, and practiced more frequently. Another study also discovered that when mindfulness training was provided for both parents and children with ADHD, there was a significant reduction in parental stress, emotional reactivity, and children's ADHD symptoms (van de Oord, Bögels & Peijnenburg, 2012). Therefore, family support may influence children's interest in mindfulness and the effectiveness of the training course.

Conclusion

The results of this study suggest that mindfulness training may help students build competencies such as emotional intelligence, concentration, stress management and social skills that are beyond the traditional cognitive abilities, but are equally as important for their success in the future.

This study also suggests that family involvement, the frequency of the practices, and the

delivery of instructions are crucial factors that influence the effectiveness of the mindfulness training. The keys to the successful implementation of mindfulness training in a school are: (1) the training and experiences of the instructor, (2) to engage the parents or caretakers to practice with the participants, (3) to practice with the participants as frequently as possible, and (4) to integrate mindfulness practice in various activities.

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Name and Surname: Yau Yan, Wong

Highest Education: Master of Science Research Methods in Psychology,
University College London, United Kingdom

University or Agency: Satit Kaset International Program,
Kasetsart University Laboratory School, Thailand

Field of Expertise: Development of Emotional Intelligence through
Mindfulness Practice

Address: 50 Ngam Wong Wan Rd., Ladyao, Chatuchak, Bangkok 10900

