

## The Transcendental Meditation Program at Dhammajarinee Witthaya School - A Qualitative Analysis

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### Abstract

A qualitative analysis of the twice-daily practice of the Transcendental Meditation (TM) technique at a Buddhist boarding school for at-risk girls, Dhammajarinee Witthaya, Ratchaburi, Thailand, reveals intriguing findings. Suspension rates have been dramatically reduced to 5% from 30%. A student survey, interviews with the director and full-time faculty, overall results of standardized tests, and awards won by students in competitions with students from other schools describe a transformation in student behavior, an increase in happiness, and suggest that academic performance may be improving as well.

The TM program is an effortless, secular, mental practice that is easily learned by students during a few short lessons. Over 380 published studies worldwide document a) brain wave EEG (electroencephalographic) changes that show increased brain integration—global brain wave coherence over the whole brain—and b) physiological studies that suggest the body is resting deeply. The studies further document that as the brain starts to function more coherently and the body gets deep rest, behavior improves, happiness increases, intelligence and creativity increase, health gets better, and anxiety and stress levels drop.

The Dhammajarinee Witthaya students and faculty report that they enjoy the TM practice and also report numerous behavioral and cognitive improvements. It is the hope that this qualitative analysis will inspire controlled quantitative studies at Dhammajarinee Witthaya to elucidate further how the TM practice helps to transform the school climate.

**Keywords:** *Transcendental Meditation, Dhammajarinee, total brain functioning, consciousness, student behavior, academic performance, happiness, self-development*

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### 1. Introduction: The *Transcendental Meditation* (TM) Program—Overview of Benefits for Students

“Every once in awhile, when visiting a successful school, you see something that makes your jaw drop, something so extraordinary, you have to stop and make sure what you saw is actually what it appears to be.” This comment by David Markus, former Editorial Director, Edutopia, (2015, August) about the Transcendental Meditation® program in a school he visited in California, USA, matches my experience when I sat in with over 350 students at Dhammajarinee Witthaya School, Thailand, during their afternoon practice of the Transcendental Meditation (TM) technique. After only 30 seconds, the natural chatter and vibrancy of pre-teen and teenage girls settled down, and the room became completely still. Not a sound was heard for 15 minutes. The feeling in the room was extraordinary.

Dhammajarinee Witthaya is a girl’s boarding school near Ratchaburi, Thailand, where over 600 girls live and study under the guidance of Buddhist nuns. In 2008, two daily TM periods were incorporated into the school’s curriculum by the director, Mae Chee Aunampai Passakchai, as an experiment to help the students manage stress. These students come from extremely challenged backgrounds. Mae Chee explained,

‘In Thailand, we have many girls who lack an opportunity for proper education. From different provinces all over Thailand, they come from poor families, broken homes; some are orphans. Some are violently abused or at-risk of being sexually abused. Our school provides all students with a free education. Everything is free: free clothing, food, personal items, and school supplies.’

(Dhammajarinee Witthaya School website, December 3, 2012)

Coming to Dhammajarinee Witthaya, girls are welcomed into a compassionate, loving, and supportive, yet highly structured environment. In this atmosphere, they live, study, and learn practical skills. Seven years after introducing TM, Mee Chee Anumpai reports that the TM practice has transformed the school climate. This paper investigates how the TM practice impacts the students at Dhammajarinee Witthaya.

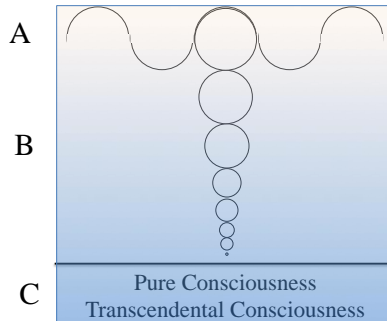
It is well-known that stress affects the learning process—it diminishes cognitive function, emotional well-being, physical health, and behavior (Center for Wellness & Achievement in Education [CWAE], 2015, April 21, p.5). Over 380 published studies document benefits of TM practice including improved stress management. The TM program was introduced to Southeast Asia and the West from India in 1958 by Maharishi Mahesh Yogi. It is an effortless, secular, mental practice that students learn in a few short lessons. Worldwide, over 750 educational institutions in 48 countries, including 235,000 students from various cultural, religious, and economic backgrounds participate in the same twice-daily practice of the TM program. Three high schools and one middle school in San Francisco, California, USA, use the TM practice in a program called Quiet Time. Seventeen studies, conducted at these four schools by CWAE, document positive benefits for students including improvements in stress management, behavior, happiness and self-esteem, academic performance, and health (CWAE, 2015, April 21).

### 1.1 The Experience of Transcending

Every experience changes the brain. Every experience results in a cascade of electrical activity over the brain that gives rise to the conscious perception of the situation. When an action is repeated, the imprint left on the actual physical structure of the brain becomes stronger, and the corresponding functions in those areas are strengthened. Neural pathways get structured. One creates brain circuits by the choices of behavior and experiences that optimize one's ability to respond in the future. For instance, Woollett and Maguire (2006) found that experienced London taxi drivers have thicker brain areas that guide planning a route, estimating time, or looking out for obstacles in the road. Dr. F.T. Travis, professor and Director of the Center for Brain, Consciousness, and Cognition at Maharishi University of Management, USA, who has published more than 70 studies on autonomic and EEG correlates of the meditation experience says that inner experiences also strengthen specific brain circuits and thereby change how one sees the world. (Personal Communication, August, 2015).

The Transcendental Meditation® (TM) technique brings a new inner experience into the student's life—that of transcending. In an effortless and systematic manner, TM leads to transcending.

*Transcending* refers to the experience of allowing one's attention to go beyond active localized thinking and open to the non-localized quiet field of wakefulness inside. To illustrate this transcending experience, the student's mind can be compared to the ocean with its constantly wavy surface and silent depth. The ocean surface relates to the active, wavy surface of the student's thinking/feeling mind and the silent ocean depth to the underlying transcendental level of wakefulness inside. See Figure 1 below. During the practice of the TM technique, the attention is naturally drawn within and students easily let go of the wavy level of their localized concerns (A)—whatever they may be—to effortlessly experience increasingly quieter, less wavy, levels of the thinking process (B). Then, they transcend wavy thinking altogether and open their awareness to the inner ocean of *pure wakefulness* that is quiet and non-local (C) (Maharishi, 1963/2001, pp. 362-364). This quietly awake level of the mind is called *pure consciousness* because it is wakefulness without an object. Maharishi calls this inner transcendental wakefulness, *Transcendental Consciousness*, and also explains that it is a reservoir of inner happiness or bliss (pp. 102-103).



**Figure 1** Surface waves and deep silence

### 1.2 A Unique Mind-Body State—Restful Alertness

Over 50 years of research on the TM technique has brought forward two main physiological (body-brain) markers of the experience of *pure* or Transcendental Consciousness. These markers are a) natural breath suspension (Badawi, et al., 1984), and b) high alpha1 (8-10 Hz) global brain wave coherence (Travis, et al., 2010).

Natural breath suspension<sup>1</sup> means that the body is resting profoundly. On the other hand, high alpha1 global coherence signifies inner wakefulness—lively inner silence. While most experiences activate localized brain areas, such as sensory, emotional, or motor areas, the experience of Transcendental Consciousness leads to a global EEG pattern—alpha1 coherence across the cortex—that can be called *total brain functioning*. In this situation, it is not that the whole brain is active, the whole brain is awake (Travis et al., 2010). Researchers call this unique mind-body state, *restful alertness* (Wallace, 1970). Orme-Johnson and Farrow (1977) describe the restful-alertness achieved during the Transcendental Meditation practice, Stated most simply, this state is one of extreme quietness and coherence in the nervous system, experienced in full conscious awareness, and achieved by means of a remarkably quick and natural process. (p. 25)

Importantly, the goal of the TM program is to stabilize the state of restful alertness during daily life—outside the TM practice—to benefit students in everything they do. The restful state enables students to manage stress. The holistic alertness—integrated brain functioning—enables students to perform well. Travis, Harung, and others explain that coherent brain waves over the total brain signify an underlying holistic wakefulness that allows practitioners to be able to see parts in terms of the whole—a larger abstract arena that includes time, values, memories, and goals. With this holistic awareness, the student can spontaneously experience the unity of diversity. This higher brain integration is associated with increased happiness, higher creativity, and the ability to make good judgments. In other words, integrated brain functioning is the foundation that enables the student to think holistically; it is the basis for happiness, mental clarity, and ethical behavior (Travis and Lagrosen, 2014; Harung and Travis, 2012; Travis, Harung, and Lagrosen, 2011; Harung, et al., 2011). Researchers say that everything good about the brain comes from its coherent functioning.

These results are observed soon after learning the technique. In one study, Travis and Arenander (2006) found an exceptionally high level of pre-frontal global EEG coherence during the TM practice (eyes closed) after only two months and that same high level of coherence was maintained during all post tests—after 6 and 12 months. Further, outside of the practice with eyes open and performing a challenging computer task, the researchers found increasing measures of global coherence in the prefrontal area suggesting that the prefrontal cortex is gradually learning to function in an increasingly integrated and effective way. The researchers explain that because the prefrontal cortex is well-connected to all other brain areas, prefrontal cortex coherence signals coherence over the whole brain. One further study suggests that brain Integration continues to develop throughout life (Travis, Tecce, Arenander, and Wallace, 2002).

<sup>1</sup> Technically, the breath is not completely suspended. The individual can breathe but he is spontaneously experiencing *apneustic* breathing—a long slow inhalation of breath.

### 1.3 Published Studies Document Positive Results for Students

Experiencing this unique restfully alert state allows students to prepare themselves for their school day—they are calm and happy inside, yet alert and ready to learn. Hundreds of published studies document results that benefit students (CWAE, 2015, April 21). A few are presented below.

Decreased anxiety demonstrates the ability to effectively manage stress. Researchers at Stanford University Medical Center, Eppley, Abrams, and Shear (1989), conducted a meta-analysis of 146 studies and found that the TM practice showed a significantly greater effect in reducing trait (chronic) anxiety than standard or alternative treatments, including mindfulness-based therapy and other meditation and relaxation practices.

Improved school behavior creates a more settled learning environment. Barnes, Bauza, and Treiber (2003) found that after only four months of practice of TM, behavior of adolescent students significantly improved when compared to a control group in these measures: Absentee Class Periods ( $p = .05$ ), Rule Infractions ( $p = .03$ ) and Suspension Days ( $p = .04$ ).

A higher level of moral reasoning supports the growth of good judgment and ethical behavior in students. Nidich et al. (1983) studied the relationship between the practice of TM and moral reasoning by comparing scores for TM practitioners with non-practitioners. Scores on moral reasoning were significantly higher ( $p = .001$ ) for practitioners than non-practitioners.

Increased creativity and intelligence lead to academic excellence. So and Orme-Johnson (2001) studied 362 high school students at three schools in Taiwan. They found that regular practice of TM for 6-12 months improved cognitive ability on five variables: Creativity ( $p = 0001$ ), Field Independence ( $p = .0001$ ), Practical Intelligence ( $p = .0001$ ), Mental Efficiency ( $p = 0003$ ), and Abstract Intelligence ( $p = .001$ ). EEG measures during creative moments and during the practice of the Transcendental Meditation technique show marked similarities, explaining why creativity increases with regular practice of the Transcendental Meditation technique (Kaplan, 2010, May 25).

Increased ego development supports the growth of self-confidence and self-esteem—qualities that support learning and expression during student life as well as success in daily life after graduation. In a 10-year comparative study, Chandler et al. (2005) found that students who learned TM in college and regularly practiced for ten years afterward demonstrated a significant increase in self-development ( $p = .0000002$ ) in contrast to the control group who did not learn TM.

Reducing substance abuse is one further area of interest for schools. In 1994, a meta-analysis of 198 treatment outcomes found that practice of TM significantly reduced tobacco, alcohol, and illicit drug use compared to standard substance abuse treatments and prevention programs. Usually, treatment outcomes fall off within three (3) months; however, the effects of TM practice increased over time. Total abstinence from tobacco, alcohol, and non-prescribed drugs ranged from 51% to 89% over an 18-22 month period (Alexander, Robinson, and Rainforth, 1994).

## 2. Objectives

A large body of published quantitative research (CWAE, 2015, April 21, pp. 48-49) together with a qualitative analysis of reports from students, faculty and administrators from four USA schools (pp. 34-46) suggest a wide range of benefits for students from the twice-daily TM practice. In this paper, we seek to know how the TM practice impacts the Thailand school, Dhammajarinee Witthaya, by analyzing: a) suspension rates; b) students' responses to a survey asking them to report on results of their TM practice in three categories—cognitive, affective (emotional), and behavioral; c) observations of students by the director and full-time faculty; and finally, d) results of a five-year review by the Office for National Education Standards and Quality Assessment (ONESQA) and awards that students won in competitions with students from other schools. Further, we seek to identify patterns that can be used in hypotheses for future quantitative controlled research to substantiate this qualitative analysis.

## 3. Design and Methods

This paper uses a naturalistic qualitative research design that utilizes observation and includes suspension rates, student survey, semi-structured interviews, performance on standardized tests, and a student awards. Suspension rates, even though quantitative, are included because the findings support the

observations of improved student behavior. This design was adopted after a discussion with the school director who explained what school records exist.

### 3.1 Subjects

In 1990, a small group of Buddhist nuns opened a home to care for and educate 10-15 at risk girls in Thailand. Their home quickly grew into the current school, Dhammajarinnee Witthaya, a girl's boarding school, offering a standard curriculum from Kindergarten through grade 12. The school is directed by the principal, Mae Chee Aunampai Passakchai, who has been at the school since its beginning.

She did not learn TM when her students learned in the fall of 2008. She wanted to remain objective and quietly observe how the students reacted to this program. She reports that, first of all, the students did not complain about being required to participate twice a day. Second, she noticed that the students were becoming more calm and happier (Personal Communication, Mae Chee Aunampai Passakchai, March, 2013). Because she noticed considerable improvements in the students, Mae Chee Aunampai learned TM herself in December 2008. She reported,

‘After my TM practice, I feel self-confident and happy inside. Before I learned this technique, I used to become angry easily. Now, I feel calm and peaceful. My health has improved significantly. When working, I have a more comprehensive vision; yet at the same time, I am more precise and efficient. I am more compassionate and patient. Mainly, I enjoy a playful mood.’

(Personal Communication, March 13, 2013).

Each year since 2009, all new incoming students, grade 4-12, learn TM during the first month of school. They practice TM in a large group twice daily every day. In the academic year of 2015-2016, of the 620 total students, 368 students are in grades 4-12. All 368 students participate in the TM program. During the academic year of 2014-2015, 242 students were in grades 4-12, all practicing TM as part of their school day.

### 3.2 Instruments

1. **Suspension rates.** The school started keeping records for suspensions during the 2008-2009 academic year. The suspension rates for 2008-2015 are presented.
2. **Student survey (three-part).** In February 2015, two Thai teachers of the Transcendental Meditation program conducted a survey of the 242 students from grades 4-12. A survey, formulated by Dr. Saksit, professor, Graduate School of Education, Rajapark Institute, Thailand, was administered to all 242 students. See Appendix. The survey was in Thai and the students responded in Thai. Both questions and responses were then translated into English. Part 1 asked for general information (grade level, age). Students were not asked to give their names. Part 2 asked students to respond on a five-point Likert scale—1 for strongly agree and 5 for strongly disagree to questions about results of their TM practice in three areas: cognitive, emotional, and behavioral. Sample questions were: TM helps me understand my friends better or TM helps to improve my behavior or TM helps me to have self-confidence. Part 3 was optional, open-ended, asking students to describe results of their TM practice in their own words.
3. **Semi-structured faculty interviews.** The director and all twenty-one full-time faculties practice the TM technique regularly. The above researchers interviewed all faculties and asked these 4 questions to assess the changes they observe in the students:
  - i. Subjects they teach, age, number of years at Dhammajarinnee Witthaya;
  - ii. Do you observe positive changes in students after they learn TM (yes or no);
  - iii. List details of positive changes observed in:
    - a. behavior
    - b. academic performance, and,
  - iv. Results of TM practice you have noticed in yourself.
4. **Standardized Tests and Student Awards.** Finally, two indications of academic performance: a) results from the Office for National Education Standards and Quality Assessment five-year review;

and b) awards received by students in regional and national competitions—during 2009 and 2014—are presented.

#### 4. Results

##### 4.1 Suspension Rates

School records show that suspension rates decreased each year after introducing the TM practice to a low of 5% (Personal Communication, Dhammajarinee Witthaya School Records Manager, August, 2015).

2008-2009	30% (TM practice started)
2009-2010	25%
2010-2011	20%
2011-2012	15%
2012-2013	10%
2013-2014	8%
2014-2015	5%

##### 4.2 Student Survey (three-part)

All 242 students responded to part 2 of the survey. In summary, the responses showed that 94% of the students were certain that they are gaining benefit from the TM program. Across all three sections (cognitive, emotional, and behavioral), more than half of the students (52%-55%) responded that they *Totally Agree* with the benefits mentioned in cognitive skills, emotional maturity, and behavior. A slightly lesser percent responded that they *Agree* with the benefits in all three sections. A much smaller number—around 5%—responded *Not Sure*. Further, a much lower percent (ranging from .01% - 1%) said they *Disagreed* or *Totally Disagreed* with the components in all three categories. A slightly stronger certainty was observed for the emotional (affective) components than the other two. See Appendix.

Of the 242 students, 213 students responded to part 3. All responses were positive. The responses were compiled into seven general categories (below). Next to each category name is the number of responses reported for that particular result. Note: If a student described two or more results, each result was included separately. To show the wide range of results described, 40 sample responses are presented below. Category #'s are given in brackets [ ].

1. Improvement in behavior—increased harmony in relationships, becoming a better person (110 responses)
2. Improvement in studies—mental clarity, memory, intelligence (109 responses)
3. Increased happiness/self-confidence/better mood (89 responses)
4. More relaxed/less stressful (72 responses)
5. Increased creativity/expressive ability (10 responses)
6. Better sleep (8 responses)
7. Good things come to me (7 responses)

Total: 405 results described by 213 students.

##### *Sample comments from students:*

1. Before I learned TM, I felt I had no one in my life, no parents and relatives. Now, because I have been meditating regularly, my life is much, much better. [7]
2. TM helps me release my stress so I have more intelligence. [4,1]
3. I am very happy from the practice of TM. It helps me feel so relaxed all the time. When I'm tired after a long day of study and work, TM gives me a good rest. [3, 4]
4. TM makes me more awake and more active. I can concentrate better in the classroom and can get along with others easily. [1, 2]
5. TM makes me sleep better and feel fresh and have a good day. [6, 4]
6. TM makes me better in behavior, speech, and action. [2]

7. After I practice TM, I am more expressive in thinking, speaking and acting, and TM allows me to be more creative. [5]
8. After I practice TM, I have better relationships with others. Whatever I desire, it gets fulfilled. I am good with my friends. [2,7]
9. Before TM, I always got angry easily. TM makes me happy and not feel angry with anyone. [2]
10. I can understand my studies in the classroom better and I can understand people better. Thereby, I gain more knowledge. [2, 1]
11. TM is a peaceful practice, feeling like I am by myself. TM helps improve my brain, clearer thinking. [4, 1]
12. TM is one of the beautiful things in the world; it makes me happier. [3]
13. TM really helps me reduce stress. It makes me happy and I behave better. Whatever I want, I get it easily. I want all the people in Thailand to practice this technique. Then everyone will have good heart, generosity toward people in the world so that we can live together in peace. [4, 3, 2, 5]
14. TM makes me feel that I want to study; I am more self-confident. I trust others more than before. [1, 3, 2]
15. When I practice TM, I feel so calm and peaceful. When I feel stressful and then I practice TM, I feel light, clear—stress does not increase. [4, 3]
16. Practicing TM helps me think more positive without stress. [3, 4]
17. Every time I practice TM, many good things come into my life. [7]
18. TM is a meditation technique that is really good. I feel my life has a lot of good things coming to me. My brain is clear; I feel silence within myself. [7, 1, 4]
19. Any day I put my attention on practicing TM, I feel so happy. Whatever I do, it seems to be smooth. [3, 7]
20. TM makes us feel so restful, happy in daily activities, feeling calmer and more peaceful. I don't argue with friends as before. I am calm; I get along with others. I am myself more. [4, 3, 2, 5]
21. TM makes me calm, be able to concentrate, have good thoughts, more intelligence. [4, 1, 3]
22. TM helps release stress. The more I practice, better things come into my life. Whatever I want, I get it. I feel very happy. [4,7, 3]
23. My study is better after I practice TM. [1]
24. TM makes me happy and healthy. [3]
25. TM makes me cheerful, energetic, and more attentive to my study. [3, 4, 1]
26. Meditation helps me with my study and I feel so relaxed. [1, 4]
27. TM helps with my study, feeling comfortable, happy, and have a better understanding. [1, 3]
28. TM helps me change my behavior. I can put my attention on my study. [2, 1]
29. I understand more in all of my classes. TM improves my study. [1]
30. Before, when I meditated using another kind of meditation, I got headaches. But after I practice TM, now I feel more relaxed and less stressful. [4]
31. My memory is better. My life has changed in a better way. [1, 7]
32. Practicing TM makes my face look brighter, more cheerful, and I have better behavior. [3, 2]
33. TM makes my brain function better. I have a better life and it helps my family have a better life too. [1, 7]
34. TM gives me enough rest, more concentration, better mood, and happier. [4, 1, 3]
35. TM improves my brain, have a better memory. Good things start to flow into my life. [1, 7]
36. I feel more responsible in whatever I do. I am happy and not so stressful. [3, 4]
37. Practicing TM helps clear my brain. [1]
38. What I ask for, I always get it. Good things come to my life regularly. I have better concentration in study. [3, 7, 1]
39. I can solve problems in class easier, more concentration, understand the context of my study, and I am happy in my daily life. [1, 3]
40. TM brings many good changes in my life. I am happier, more natural, have a better mood. I used to have nightmares every night but now I don't have them anymore. [7, 3, 5, 6]

#### **4.3 Semi-structured faculty interviews**

Each of the 22 individuals interviewed (the director and 21 full-time faculty) gave answers to all four questions. Regarding the yes/no question #2, all 22 responded *yes*. Further, all responses to question 3 were positive. Some described their observations in detail. Seven examples are presented below.

***Mae Chee Aunampai Passakchai, Director and Principal, 20 years at the school:***

I had been at Dhammajarinnee Witthaya for 15 years before introducing the TM practice. Because the students come from extremely challenging backgrounds, they come to the school very depressed, stressful, and unhappy. We tried many things but the students' behavior remained quite rough, and they still did not study well in class. They did not have self-confidence. However, after the students started to practice TM as part of their school day, I have observed that they are doing dramatically better. I attribute improvements in behavior and studies to an increase in inner happiness that they get from their TM practice. After learning TM, they become happy, more cheerful, and joyful. As a result, they can concentrate better in class and focus better in their studies. Their behavior becomes more gentle. Their self-confidence improves. They become more responsible.

***F1: Science teacher and manager of school records (age 32) 7 years at school:***

- a. After learning TM, the behavior of the new students is softer, less aggressive. They listen better to the teacher.
- b. I observe that the students study better; they can concentrate more easily and are more lively, responsive, and expressive in class. Also, their overall grades are much better.

***F2: Science teacher and Director of Student Activities (age 32), 6.5 years at school:***

- a. After TM, I observe that students are more kind and considerate. They are aware of the consequences, and that makes them more disciplined in their behavior. They are more tolerant, more positive in thinking, and more discreet.
- b. After TM, I observe that students have better memory, including winning national memory competitions. They are more expressive in answering and speaking in class and during activity outside class. They understand the context of the lessons more quickly. They express more creativity in their art projects and Mind Map competitions.

***F3: Social Science teacher (Age: 25) 1.5 years at school:***

- a. When students first came to the school, they were very quiet, no response in class, not polite in their speech. After TM, they speak to their friends more, pay attention to their study. They have better relationships with their classmates, very few arguments in class. After students practice TM, there are zero wrangles, and they are interested in gaining more knowledge.
- b. I observed they have a better memory (e.g. they won prizes for memory competitions many times). They are able to explain what they learn in class very well. They increasingly put more attention on their study especially when they have to do a group project. They are very creative and do very well in drawing, doing research.

***F4: The Assistant for Personnel Management (age 35) 1 year at school:***

- a. I observe that the students' behavior is much better after learning TM. They are happier; they smile more. They have better relationships with each other, and b) better academic performance.

***F5: Science and Health Education (Age 25) 1 year at school:***

- a. I observed that after the students learn TM, they are more enthusiastic in learning, have better health, are cheerful and happy. They are able to live harmoniously with others. TM is one of the relaxing techniques. For example, sometimes when students are sleepy, after practicing TM before class, they look so relaxed and refreshed. They are able to study.
- b. I observed that students are able to connect what they learn in one subject to other different subjects. Many of them want to express their ideas in positive and more creative ways. They understand the lesson and connect their knowledge to the new knowledge; they can identify the



differences and utilize them. They are eager to learn new things. Most of the time, students are quite creative, either by themselves or in groups. They have their own individual ideas; they are innovative and bring out points that are useful for the society.

**F6: English teacher (Age: 29) 1 year at school:**

- a. I observed that before TM, the students dared not express their ideas. However, after TM, they are more friendly, more natural. They are more themselves and not shy to speak. Practicing TM helps to draw out the goodness in the students in a natural way, resulting in better learning ability and better living in daily life.
- b. I observed that after TM, they remembered what they have been taught and retain the material longer. They take part in any project, presenting their work very well. They are interested in gaining knowledge—the teacher can notice from their eyes and faces that they are receptive and ready. They are becoming very creative especially in arts and music.

**F7: Thai Language teacher (Age: 25) 1 year at school:**

- a. After TM, some students who used to be quite aggressive have become obedient and do what we ask them to do. I also notice some changes in their physiology—radiant faces and clearer skin.
- b. I observed that after TM they can concentrate better in class. Students are better able to remember past lessons that they used to forget. They are more expressive in speaking out their ideas. They get better scores on their exams. Most of the students enjoy their study. They are very creative even beyond the teachers’ expectation.

**4.4 Standardized Tests and Student Awards**

Mee Chee Anumpai explains that students did not do very well in academics before learning TM; therefore, before 2009, the emphasis was on learning practical skills, including agriculture, waitressing, and cooking. Starting early in 2009 (the year the TM program was introduced), students started taking the national standardized test, O-NET (Occupational Information Network) and continue to do so regularly. Also, the school has shifted to a more academic orientation because the students are doing better in their studies. The Office for National Education Standards and Quality Assessment (ONESQA), who visit the school every five years for an official evaluation, gave the Dhammajarinnee Witthaya a *pass* on O-NET in 2014. This means that the students, even with their challenging backgrounds<sup>2</sup> are performing at least up to the national academic standard for Thailand. (Personal Communication, Dhammajarinnee Witthaya School Records Manager, August, 2015).

Regardless, the director feels the best indications of improved academic performance are the awards earned at regional and national competitions where the students compete with students from other schools. Because the director saw improvements in behavior and academic skills after introducing TM to the students, she felt confident to send the students to competitions. The students first entered into three competitions in 2009 and won no awards. During the academic year of 2014-2015, 118 students in grades 4-12 (almost 50% of all students in grades 4-12) participated in 60 regional and seven national competitions (Personal Communication, Mae Chee Anumpai, August, 2015). Their achievements are presented in the figure below. Blue color designates regional competitions; green designates national competitions.

First Prize	Second Prize	Third Prize	Consolation	Gold Medal 1	Gold Medal 2	Gold Medal 3	Silver Medal	Copper Medal
16	11	5	6	13	3	3	2	1
3	3	1						

**Figure 5** Competition prizes awarded

The students placed or received Honorable Mention (Consolation) in all 67 competitions they entered. Top prizes were earned in 32 of the 67 competitions. Regional competition top prizes were earned

<sup>2</sup> A significant number of Dhammajarinnee Witthaya students come from the Hill Tribes in northern Thailand. Students attending village schools in these locations score very low on O-NET (Ryann, 2013, February 19; Kaewmala, 2012, February 23).

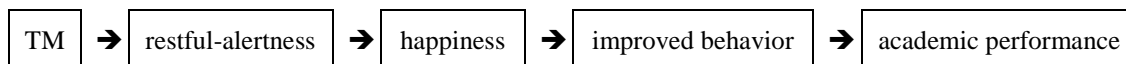
in diverse subjects including, Innovative Science Project, Science Genius, Chinese Writing, Mind Map, Singing, Dharma Story Telling, and Sorapanya and Aradhana Buddhist Chanting.

Top prizes for national competitions were earned in Mind Map @ Home, Mind Map Live, and Sorapanya Chanting. On 29 May 2015, five students from grade 6 received the National First Place Award for their Sorapanya Buddhist Chanting from Her Royal Highness Princess Mahachakri Sirindhorn (Personal Communication, Dhammajarinee Witthaya School Records Manager, August, 2015).

## 5. Discussion and Conclusion

This qualitative analysis shows how TM impacted the Dhammajarinee Witthaya school. Suspension rates dropped from 30% in 2009 to 5% in 2014. A student survey showed that 94% of students agreed with statements suggesting they have benefitted cognitively, emotionally, and behaviorally from their TM practice. Also, 213 students described 405 positive results from their TM practice in their own words. During interviews, the director and all full-time faculty noted that they observed positive changes in both the behavior and academic performance of students after they learned TM. Further, in 2014, ONESQA reviewed student scores on O-NET and confirmed that Dhammajarinee Witthaya students, even though they come from extremely challenged backgrounds, are meeting the Thai education standards. Finally, 118 students out of 242 participated in the 2014 competitions and all students placed. In most academic settings, awards won at competitions would not be considered indications of overall academic performance. However, in this case, almost ½ of the students placed in competitions with students from other schools. The success of students in 2014-2015 was many times more than in 2009.

Although all findings are intriguing, they are neither comprehensive nor conclusive. Only a few variables have been evaluated, and no controlled studies have been conducted yet. Still, these findings suggest that the TM practice is helping Dhammajarinee Witthaya students manage stress much better, become happier and more joyful, improve their behavior, and could possibly be influencing their academic performance. To substantiate these findings, more research is necessary. For future research, hypotheses could be based on the director's rationale for results of the TM program:



Then, controlled quantitative research can be conducted including tests to assess how the TM program impacts brain functioning and autonomic changes (restful alertness); standard psychological tests to assess anxiety, well-being, happiness, and self-confidence (happiness); standard tests for improved behavior (behavior); and standardized tests and other objective data to assess academic performance. These results could further elucidate how TM practice helps to transform the school climate.

In educational institutions across the globe, status quo programs are not adequately educating students for the 21<sup>st</sup> century. While gaining knowledge or specialized training, students also need to learn systematic methods to develop total brain functioning (holistic thinking) and to manage stress. One prominent American educator observes,

'I have been watching countless classrooms in countless schools trying countless programs (including programs of my own design) for improving the learning of disadvantaged children .... By far the best thing I have seen is also the simplest to do and loveliest to witness—children meditating. They close their eyes, they calm down, and they rest in silence. The effect of doing this regularly on all the things we care about in schools—attendance, behavior, engagement, performance, creativity, and self-control—dwarf the effects of anything I have done or seen done in schools.'

(Professor Joshua Aronson, Ph.D., Steinhardt School of Education,  
New York University, CWAE, 2015, April 21, p. 46)

Our students are the 21<sup>st</sup> century. If we teach our students how to open their attention to their inner quiet wakefulness and experience themselves fully, we will shape a brilliant future.

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**Appendix**

Steps of design for the student survey of attitudes toward TM practice so that they have relevant meaning for students (Personal Communication, Dr. Saksit Khattiyasuwan, August, 2015):

1. Study related literature: basic concepts of attitude, TM practice, and how to measure attitude together with basic education, core curriculum relating to morality.
2. Design the attitude test: it consisted of three parts; personal information of the respondents, 30 items of attitude, and an open-ended part for more opinions of TM practice.
3. Develop the test as the instrument of collecting data for the research.
4. The instrument content validity was established by a panel of three experts.
5. Pilot study of the instrument was performed on 30 students as a means to test the clarity, validity, and reliability of the instrument.
6. The reliability of the instrument was estimated by Cronbach’s alpha coefficient (0.95).

**Part 2: Student Survey: Questions and Responses (raw data)**

Questions	Level of opinion				
	5 Totally agree	4 Agree	3 Not sure	2 Disagree	1 Totally disagree
<b>Section 1: Cognitive Component</b>					
1. TM helps to develop brain potential	140	96	6		
2. TM helps to develop morality	109	128	5		
3. TM helps to have self-confident	106	109	25	1	1
4. TM helps to solve problem	100	129	13		
5. TM helps with creativity	129	98	15		
6. TM helps to develop learning ability	131	95	16		
7. TM helps to develop mental health	164	73	5		
8. TM helps to develop physiology health	125	105	12		
9. TM helps to improve behavior	131	100	10		1
<b>Section 2: Affective Component</b>					
1. TM helps release stress	154	76	11	1	
2. TM helps relaxing	157	79	6		
3. TM helps to have good mood	138	92	12		
4. TM helps to be calm	92	128	21		1
5. TM helps to have happiness	138	98	4	2	
6. TM helps to be comfortable	150	82	10		
7. TM helps to be stable	69	138	35		
<b>Section 3: Behavioral Component after TM</b>					
1. Regularly in practicing TM	93	131	18		
2. Be able to utilize the benefit from TM in daily life	146	83	13		
3. better understanding towards others	196	32	12	2	
4. more compassion towards others	136	100	6		
5. have better relationship with classmate	129	100	10	3	
6. be more respectful towards adults	156	80	6		
7. have more concentration in the classroom	121	106	15		
8. have more harmony	100	119	21		2