

# The chomskyan paradigm shift of growing language in the mind/brain: A validation of the ‘*Nama (mind)-Rupa (body)* hypothesis’

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## Abstract

This paper poses a practical and tangible research problem. Its emphasis is on the ‘*Chomskyan Paradigm Shift (1988) of Growing Language in the Mind/Brain (CPSGLM/B)*’ to the research study. From the miracle-working powers of a triple layer of mind in the religion of wisdom—*Buddhism with its conscious, subconscious, and superconscious overall componential parts*—in which a Thai guru has generated the underlying sole ‘*Nama (mind)-Rupa (body) Hypothesis (NRH)*’ of ELT/SLA in the East since 1991/1996 up until 2018 [7]. This paper shall put it to a test by using the so-called ‘*Sequential Exploratory Mixed-Methods Design (SEMMD)*’ of which the *QUAL* component is dominant while the *quan* one is in its service as a complement only [27].

The new ‘*Guided Meditative Techniques of Teaching (GMTT)*’ [7] was used as the basis for the lessons in this research. Participants were split into two groups. Prior to each lesson one group carried out a short meditative practice and the other listened to music for 3 - 5 minutes. “That is, after the first pretest, the treatment is introduced followed by a posttest. Then, after the second pretest, an alternative treatment (no treatment) is introduced and that is followed by a posttest. This procedure is followed for two or three times, and the results following the experimental treatment are compared with the alternative treatment scores” [1]. After each individual lesson, the pre-test and post-test score were collected, between every treatment—using X for treatment and a zero (O) for no treatment. These were administered as follows:

$$T_1 X T_2 \rightarrow T_3 O T_4 \rightarrow T_5 X T_6 \rightarrow T_7 O T_8$$

The method that was used was taken from the literature [1]. It states that: “This procedure is followed for two or three times, and the results following the experimental treatment are compared with the alternative treatment scores.” [1] The overall results from this research were found to be statistically significant at the *0.01* level. That is to say, the NRH test was found to be highly tenable, and it showed an overall positive impact on the learner’s ability to learn language.

**Keywords:** Chomskyan paradigm shift of growing language in the mind/brain, Nama-Rupa hypothesis of ELT/SLA, sequential exploratory mixed-methods design.

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## 1. Background of the Study and the Research Problem

The impact of meditative practices on language acquisition, learning, and teaching has been greatly emphasized in Thailand for a very long time. The late Supreme Patriarch, a Thai guru of English Language Teaching (ELT) and Second Language Acquisition (SLA) was a strong supporter. Interest has also been growing globally among neuroscientists in recent years [3-5]. Relevant research on the role of meditation in the East and the West were reviewed as part of this research. The underlying sole NRH constructed

by the Thai guru was selected in order to validate in this study. The statements of the NRH with its entire brain-wave patterns of various types in meditative states have been taken from the literature and appear below:

It is now conclusive that language resides in the left hemisphere of the brain. [6] With reference to the infant discipline of SLA: I submit that the mind & body must be integrated in order to concentrate on a certain thing—in this case it is the L1/L2 to be acquired and/or learnt. Indeed, meditation is an effective-practical way and means to bring the mind & body together. I present now a central hypothesis of the Nama-Rupa Phenomena as follows:

1. Language acquisition is a conscious, subcon-

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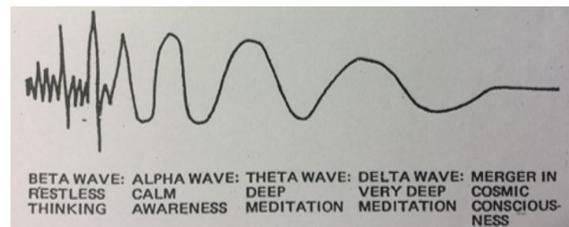


Figure 1: Brain Wave Adapted from Ven. Avadhutika Ananda Mitra [8]

scious, as well as superconscious procedures.

2. The integrated Nama-Rupa will set off if enough comprehensible speech input has entered the LAD/LAS or the mind/brain.

This hypothesis has one correlation. This is that the Nama-Rupa is achieved through ‘*Samadhi*’ (mindfulness concentration) only. [7]

This study has originated from a paradigm shift in meditation of Eastern Mysticism in terms of the **NRH** of guided mindfulness techniques in **ELT/SLA**. *It has been developed by the Thai guru since 1991 and was continually developed, refined and testified until 2017!* A well-known book entitled *The Power of Your Subconscious Mind* written by an eminent medical doctor with a PhD & DD—Dr. Joseph Murphy[9]—has combined spiritual wisdom with cutting-edge scientific research into the mind/brain and its integral connection between thoughts and one’s daily life. This book had a direct influence on this research study as well as the book—*Beyond the Superconscious Mind*—by Ven. Avadhutika Ananda Mitra. [8]

Additional evidence for background of the study and the research problem was also gathered from a recent book entitled *Buddha’s Brain* [5] by two eminent neuropsychologist and neurologist—Drs. Rick Hanson & Richard Mendius. In this book the foundations of mindfulness, blissful concentration, and road map of meditation were laid out for non-Buddhist meditators to follow [5]. The most recent book that was studied for this research was: *The Tao of SLA in Theory and Practice* by the Thai guru of ELT [7]. In this book the ‘*Anapanasatibhavana: Mindfulness with Breathing Techniques*’ [10] of L1/L2 acquisition and learning in Theravada Buddhist meditative practices are detailed in full.

The scope of this paper is broad and wide. Research sources include those dating back to 2600 years ago. These look at the history of the **Eastern Mysticism vis-à-vis Buddhist Meditation** with its parallels between the **Western Rationalism/Scientism** the 17-th, 18-th, and early 19-th century of Modern Physics. A study of this nature required a lot of time, energy, mind/brain mapping, soul-searching, and intuitive insights into the various problems of teaching English in order to carry out the research study successfully in the long run. Fortunately, ‘*the works of two great scholars in the West and the East*’ provided sufficient pertinent

information to make the investigation into quantum physics and meditative practices ([11] and [12]) run accurately and smoothly.

It should be noted at this point that the problems of ELT in Thailand have loomed large for a very long time. Problems have been present since English was first taught as a compulsory subject in Thai schools in 1921. Today the ‘*Education First English Proficiency Index (EF EPI) 2017*’ ranked Thailand 15-th out of 20 countries in Asia and 53-rd out of the countries in the rankings globally. The following figure shows these results.

Education First—a Swiss language school operator with worldwide branches carried out a study of 1.3 million adults who took the ‘*EF Standard English Test (EF SET)*’ and found that *English proficiency amongst its Thai students had dropped in the latest results of 2018*. It stated that “Thailand has a score of 48.54, which is classified as low proficiency. In 2017, Thailand was 53-rd (49.7) out of 80 countries and was also categorized in the low proficiency band.” It continued to report that “In East Asia, Thailand has the worst English proficiency except for Cambodia and Myanmar. Thailand is behind China and Japan, which supposedly have low abilities in English.” [15]

The results of the annual ‘*Ordinary National Educational Test (O-NET)*’ in Thailand are shown below:

*The scores of 2017 were dismal failures all along as usual. I wonder what the “heck” [7] have the concerned authorities and the ‘National Institute of Educational Testing Service’ (NIETS) had been doing so far since the O-NET was first administered in 2005 with utter failure?*

Indeed, it is unfortunate that the ‘*Ministry of Education (MoE)*’ has not appeared to pay any genuine attention to these very facts or the numerous theoretical and practical proposals that have been proposed to it. The Ministry had been chronologically and rigorously criticized, but has failed to take action. Several viable solutions have been recommended by many Thai ELT experts. [7,16–20]

Several cooperative projects had been launched to improve teacher training in the region. These include the ‘*South-East Asian Regional English Project (SEAREP)*’ and the ‘*Regional English Language Centre (RELC)*’. This was one of the projects of the South-East Asian Ministers of Education Organiza-



**Figure 2:** Thailand's English Proficiency Trend in 2017 (<https://www.ef.com/>[13] & <https://coconuts.co/bangkok/news/thailands-english-proficiency-improves-low-low-according-ef/>[14], retrieved 29th December, 2018)

tion (SEAMEO). It consisted of a four-month intensive training programme delivering 400 hours of tuition. It was focused on key EFL/ESL personnel from Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam. The 'National Language Center' (NLC) was also established in Thailand with funding from the Ford foundation. This was later renamed the 'Central Institute of English Language' (CIEL)[18–19,21].

More recently the 'British Council' (BC) 'Regional English Training Centres (RETC) Project' popularly known as 'English Boot Camp' (EBC) began to work in close partnership with the MoE. Their aim was transform the ELT in state primary and secondary schools across the country. [22] The 'Common European Framework of Reference for Languages' (CEFR) was used as a tool to evaluate the English proficiency or communicative competence skills of Thai in-service teachers by the British Council. They found that: "Only 75 % of participating teachers were ... at the elementary A2 level or below. Only 20 % were at B1, or intermediate level, and only 5 % were at B2 and above level or upper intermediate."

It was thought that as a result of the boot camp "participants benefited from the British Council's teaching methodologies, techniques, and cutting edge education technology, all of which boosted their confidence, both in using English themselves and teaching it." [23]

Nevertheless, the Thai guru of ELT/SLA had this to say about the BC EBC current developmental projects all over the Kingdom nowadays: "[Although it is quite effective], it puts the emphasis on teacher training alone like the aforesaid SEAREP and/or RELC." [7]

According to the UNESCO Man of the World (2006 - 2007) [24] report the four *kalyanamittas* (good companions) who direct or lead us to become educated or learned persons with insightful and intuitive knowl-

edge are mindfulness, awareness, meditation, and wisdom. 'Mindfulness & Awareness' are part and parcel of each other. Hence, 'meditation' plays the central role for the other components. These components make a significant and real impact in education, learning, and life.

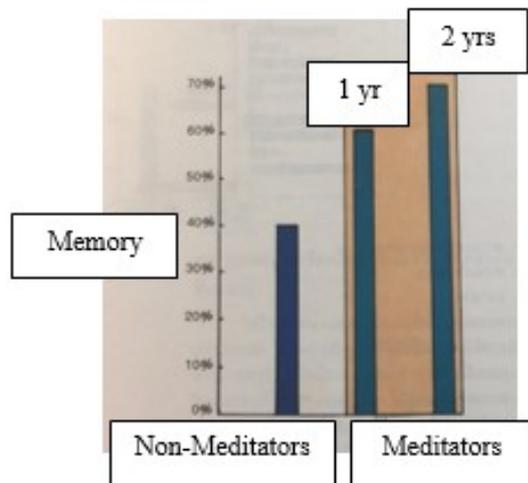
To the knowledge of the author, meditation is used globally in education and learning, including in ELT. However, in the case of Malaysia no studies using meditative practices with regard to the teaching of English were found. In an attempt to find out techniques employed by learners to discover the language learning strategies [25] used among them meditating through relaxing exercises were referred to. They were, however, referred to in passing and in its questionnaire tool only.

In his 'Theory of Language Acquisition' (TLA) in terms of the 'Chomskyan Paradigm Shift' (CPS), Chomsky put great emphasis on 'mind-brain metaphor of growing language.' Indeed, it was him who coined the nominal compound "mind/brain" in his TLA/CPS. [26]

Interestingly, according to 'Eastern Mysticism' as regards meditation—this ultimate truth was realized 2600 years ago by the Buddha! In 'Western Scientism,' especially with reference to 'Modern Physics,' meditative practices have also been scientifically recognized. [11]

This research tested the effectiveness of the NRH by using a 'Sequential Exploratory Mixed-Methods Design: SEMMD'. In this the qualitative, *QUAL*, component is dominant while the quantitative, *quan*, component serves to support it. [27]

The following word of a world-famous pioneer on mixed-methods approaches, John W. Creswell, was also a major inspiration to the author. He stated that: "In mixed methods research, researchers may both test



**Figure 3:** The Benefit of Meditation on Memory Adapted from Api-jit [12]

theories and generate them.” [28-29]

In CPSGLM/B: **“Language is Not Learned, It Grows.** The term “language learning” has had its day. It is a relic of the past. A child does not **learn** language. It **grows** in the mind-brain of the child.” It has been suggested that: “Children already bring a package of relevant information to the process of **language acquisition.** With this, they can progress to more and more mature states of knowledge.” [30]. The notion that language resides in the mind/brain is known as Chomsky’s ‘Innateness Hypothesis: **IH**’ which naturally exists in his so-called ‘Language Acquisition Device/System: **LAD/LAS.**’ [31]

The recent books ‘Guided Meditative Techniques of Teaching: **GMTT**’ [32-33] and ‘**English for (Thai) Student Teachers**’ [34-37] were used in this investigation. The practical quasi-experimental research tool known as the ‘*Equivalent Time-Sample Design: **ETSD***’ was employed. Prior to each lesson both experimental and control groups were given a pre-test. Following this they participated in a *meditative practice or listened to music for 3 - 5 minutes.* They were then given the same language lesson. Following this they were given a post-test. After each lesson, the pre-test and post-tests for all of the participants were analyzed as follows:

$$T_1 \times T_2 \rightarrow T_3 \text{ O } T_4 \rightarrow T_5 \times T_6 \rightarrow T_7 \text{ O } T_8$$

In this research, this procedure is repeated for five times, and the results following the experimental treatment are compared with the alternative treatment scores.” [1]

## 2. Review of Related literature

### 2.1. The complete research cycle

This study followed the step-by-step process of research which is as follows:

**Practical Problem:** The failure of English Language Teaching (ELT in Thailand) from its inception.

**Research Question:** How does mindfulness meditation prior to an English lesson affects the students’ achievement in English?

**Research Problem:** We have to look for a fruitful hypothesis of Second Language Acquisition (SLA).

**Research Answer:** Test whether or not the solution is tenable.

That is to say, the research model comes full circle.

In accordance with the research method used in this study, two types of literature review were carried out. The former was the primacy or dominant **QUAL research** studies; the latter was the complementary **quan research** experiments added in the service of the former. [27-28]

### 2.2. The QUAL research studies

Anapanasatibhavana (mindfulness with breathing) provides instruction for one of the easiest and most original ways to practice meditation from Theravada Buddhism. [10] It was developed 2600 years ago and has shown promise for use to aid learning. For these reasons it was chosen for the practice that would be used for this research.

Research by Chaikuman and Phanto [39] was conducted with 25 students Matthayomsuksa 5 (Grade 11). Their objectives were; (1) to study learning achievement in English language, (2) to study reading skill in English vocabulary and (3) to study students’ satisfaction in instructional management by Anapanasatibhavana using pre-experimental design. The results revealed that; (1) for the study of learning achievement in English language, 56.00% students passed the criterion. (2) as for reading comprehension it was achieved 65.06%, and (3) regarding student’s satisfaction on instructional management, it was “the highest level.”

Another study of guided mindfulness meditation in the English language classroom was carried out by Jenkins. [47] This was a practical study and an exemplar par excellence of EFL/ESL teaching. The researcher let the pupils do “guided meditation for about three minutes”. They stated that “you can do this longer, but I found that three to five minutes reaped the results I was looking for.” Her subjects for the study were seventh-grade students aged 12 and 13. Experiments were carried out in ESL classes with students representing over a dozen ethnicities. The research concluded that the results were very fruitful. The researcher stated that: “Meditating in class helped my students to be more focused and open to language acquisition. The technique described here can be used for nearly any age and for any language level.”

**Table 1.** O-NET results of English in 2016/2017

O-Net Score	2016/English Subject	2017/English Subject
<b>Grade 6</b>	34.59	36.34
<b>Grade 9</b>	31.80	30.45
<b>Grade 12</b>	26.59	40.67

The Master's degree in teaching (MAT) qualitative study by Kwon [40] intended to explore the benefits of mindfulness to a teacher's professional practice further. In contrast to the previous study on mindfulness meditation, it added to the small number of qualitative studies that have been carried out. It did this by providing a descriptive account of mindfulness practice from an in-service teacher's perspective. The study reinforced the results from the existing literature. It found benefits from integrating mindfulness training into teacher education and professional development workshops for in-service teachers.

### 2.3. The quan research experiments

Two experiments testing the NRH were carried out by its founder and his former student. These were as follows:

A limited study was carried out using the 'Posttest-Only Control-Group Design' "the researcher was teaching both groups by himself, using the Buddhist 'question-answer method' (*Pucchavissajana* or *cat-echism*) with English as a medium of instruction. The experimental group was meditating by means of 'Khanika Samadhi' prior to every lesson for about five minutes."

A comparison of English language [achievement test] in terms of 'accent', 'fluency', and 'comprehension' between the experimental and control groups was carried out using a 'Mann-Whitney U-test'. It was found that the results were statistically significant at the 0.05 level for all three of the dependent variables that were studied. [41]

The latter research developed modular materials that could be used to teach the four integrated skills of English. These were developed to use the 'Mental-Visual-Literacy Technique' of teaching. Real and placebo treatment was provided to the samples in the experiment, or another word experimental group meditated prior lesson (Real) and control group listened to English classic song prior lesson (Placebo).

The findings indicated that "the quality of innovative materials developed by the researcher were higher than 80/80 assessing criteria, the students were satisfied with the teaching materials, and the achievement tests were significant at the .05 level. All in all, the hypothesis of this study was satisfactorily confirmed." [42]

This study was conducted in response to the challenges faced by the NRH's founder.

### 3. Research Methods

The SEMMD Model was employed in this study. The SEMMD model states that: "The studies are sequential in that one study follows and builds on the next ... The model itself is an iterative design in which theory generated from the qualitative component is tested out on a representative population, findings are compared, ..." In addition, the authors explain that "and then if needed, the theory is revised and tested out again in an ongoing process of theory generation and testing in a series of "wave" studies ... In this case, the sequential study is not done for exploratory ..." Finally, the authors conclude: "but for data gathering purposes, with the goal of generalizing and validating the qualitative analysis and interpretation." [27] Hence the *SEMMD* paradigm was appropriate for this research study.

The objective of this research was to test or practice the NRH model thoroughly. *The Buddha has taught us how to deal with doubtful matters by using 'Kalamasutta-khanniyattana 10'* which give his advice on how to investigate a doctrine.' [2] Hearsay maybe simply fad and fashion in vogue. *Don't jump on the bandwagon or be a mouse caught in a trap of the fake gurus!*

The following flow-diagram illustrates the '*Qual-Quan sequential exploratory design*' of this research. It gives one of the research questions that were investigated in this study.

The *SEMMD* model in the following diagram was divided in three phases. These were: QUAL research, quan research and findings. A simple and practical design for classroom research was carried out.

One author on experimental method states that if: "You have not been able to find similar groups to serve as control and experimental groups. You have only your students in your particular ESL class. ... [Of course], has a control group is best, but if it's impossible, [two experts on research design and statistics have this to say]: The time-series designs may be an alternative you will want to consider." [1]

In addition, they continue to say: "Quasi-experimental designs are practical compromises between true experimentation and the nature of human language behavior which we wish to investigate" *even though there is the problem of finding a control group by means of random assignment!* [1] This could be considered to be a weak point of this study however it is felt that the results were still valid., This paper was carried out using the *SEMMD* model. The research

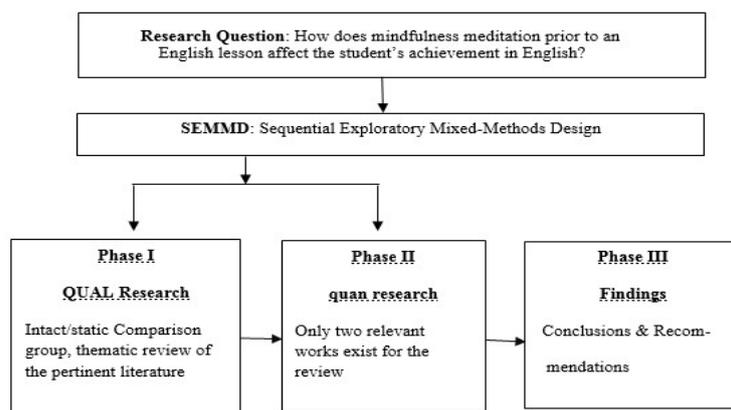


Figure 4: The SEMMD (modified from [27])

process that was followed is shown in the following flow diagram:

In the *SEMMD*, “the qualitative component is primary and is used to generate theory or specific theoretical constructs. The quantitative component is used in the service of the qualitative in that it ‘tests out’ ideas generated from the qualitative component”. [27, 29] This is the approach that was followed for this research.

#### 4. Results

From Table 2, it can be seen that the satisfaction in learning English for student teachers was high (= 3.21, 0.59). In this research project, only two classes of student teachers of English were available for the *ETSD* *quan* experiments. According to Hatch and Farhady: “Such designs are susceptible to some of the questions of internal and external validity. However, given the present state of the art, they are the best alternatives available to do this.” A coin was tossed between the two classes to establish which group would serve as the control and which would be the experimental groups. Hence, “after the first pretest, the treatment is introduced followed by the posttest. Then, after the second pretest, an alternative treatment (non treatment) is introduced and that is followed by a posttest. This [particular] procedure is followed for two or three times, ...” [1]. For this research, the researcher prepares pre-test and post-test for the experimental and control groups in order to compare their achievement in English after the experiment. Moreover, the experimental and the control group will be taught by using ‘*Guided Mindfulness Teaching Techniques*’ (*GMTT*). Study how to create an achievement test, then create the criterion referenced test to test the four language skills for pre-test and post-test according to the theory and practice of textbooks of experts both foreign and Thai and then perform multiple-choice test design. It is multi-choice examinations

with four options, a total of 60, select only 40 practical purposes. First of all, both experimental and control group did the pre-test. Then, for the experimental group, before lesson students practiced meditation for 5 minutes while they were meditating, they were also listening to the sound of nature such as water flow sound, wind blow sound, bird singing sound to clear their minds. Each student got a little book named “Anapanasati’s handbook by Buddhadasa Bhikkhu” (Appendix 7) and they were trained how to meditate. After that, they would study follow the lesson plans. On the other hand, for the control group, before class started, they were listening to music especially their northeastern music for 5 minutes which they quite preferred because most of them came from northeastern part of Thailand. After completing all lesson plans, both groups did the post-test. But only the experimental group answered the questionnaire.

The overall results of the study were found to be statistically significant. “The significance of probability is  $p = 0.01$  (the 1 per cent significance level) is referred to as **highly significant**.” [43] That is to say, the NRH appeared to provide a big improvement to the language improvement of the students. The full results were as follows:

It was therefore concluded that mindfulness meditation prior to the English lesson had a positive effect on the students’ achievement during the lesson.

#### 5. Conclusions and Recommendations

From the *QUAL components*, of this research it appeared that meditative practices could have a significant role in L1/L2 acquisition, learning, and teaching English. That is to say that the NRH model and the meditative teaching technique of the Chomskyan paradigm shift on ‘growing language in the mind/brain’ has been successful in ELT/SLA in this research.

The analysis of the quantitative results also supported the same findings. The results were found to

**Table 2.** Satisfaction assessment of the students

Evaluation items	$\bar{X}$	S.D.	Satisfaction level	Order
1.Meditation before the lesson helps to concentrate in class more.	4.93	0.26	Highest	1
2.Meditation before the lesson wastes the time of studying.	1.20	0.77	High	5
3.Meditation before the lesson makes it easier to understand the lesson.	4.33	0.72	High	4
4.Meditation before the lesson makes studying better.	4.87	0.35	Highest	2
5.Meditation before the lesson makes learning more fun.	4.73	0.46	Highest	3
6.Meditation before the lesson makes the learners tired.	1.20	0.77	High	5
7. Meditation before the lesson confuses the learners.	1.20	0.77	High	5
<b>Total</b>	<b>3.21</b>	<b>0.59</b>	<b>High</b>	

**Table 3.** The results of the study

Groups	Results	n	$\bar{X}$	S.D.	t
Experimental Group	Before meditation	18	18.94	4.13	1.72
	After meditation	18	26.00	3.80	
Control Group	No meditation	18	17.33	4.82	9.44
	No meditation	18	19.14	4.77	

be significant at the 0.01 level. [43]

Two experiments testing the NRH were carried out by its founder and his former student, and this research was the third study to test the NRH. It is recommended that the NRH does not need to be retested or validated anymore because three of such studies had already been conducted with positive results. However, research should be carried out for the effect of mediating for a longer period of time. This should include the *Upacara-samadhi* (access concentration), *Appana-samadhi* (attainment concentration) and *Khanika-samadhi* (momentary concentration). A study indicated that *longer periods of meditative practices* (1 to 2 hrs) could lead to improved memory. [12]

*In the classroom it may not practical to spend long period's meditation.* Students should therefore be advised to regularly practice meditation by themselves to improve their abilities. One study states the case of Dr. Apijit who had done this whilst studying overseas [12]. During this time he improved from being at the bottom of the class to the top in every subject at the primary and secondary school level. This included *in English even though this was not his first language.* Numerous research studies have also confirmed the benefits of meditation in learning. [12, 44]

All in all, the advantages of meditation in education, happiness, healing, health, life, success, wellbeing, and work are numerous. [9] It is therefore advisable to practice meditation as a daily routine for half an hour or more if possible to improve memory and learning. Meditation can also be a period of restful exercise in a relaxed atmosphere. It can be done whilst standing, sitting, walking, and even sleeping!

#### Endnotes:

\*A research paper presented at The 12th Malaysia

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