

**The Second International Forum on Education Reform:
Key Factors in Effective Implementation
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**Education Reform: Key Factors in Effective Implementation
The process of reform implementation initiated at local levels:
in Nan Province - the northern part of Thailand**

by

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Abstract

This case study is aimed to determine the factors which bear impact on the effectiveness of primary school. Concerning an effective teaching-learning process based on the learner-centered approach - the application of Japanese abacus, English style pen pal and the junior scientist project to Thai class during the 2000 - 2001 academic years. From three interested questions that (1) How to apply the Japanese abacus to Thai class in the remote area of Thailand? (2) How Thai pupils in the remote area can learn the meaningful English as a foreigner language? (3) How to encourage science method as well as Buddhist Philosophy to Thai pupils' learning style? The primary school under Nan Provincial Primary Education Committee - the northern part of Thailand is selected. In this study the data were collected by (1) observing the pupils' behavior during study, (2) pre-post testing, (3) interviewing the pupils' attitude, and (4) the pupils' achievement.

According to the application the Japanese abacus to Thai class, it is found that even the achievement was not appreciated the pupils' attitude toward mathematics is good. They can master for calculating by use Japanese abacus. Furthermore, the pupils could understand the explanation of the American textbooks and Japanese textbooks as well as Thai textbooks.

According to English class, pen pal project is introduced. The pupils learn the meaningful English as a foreigner language. Not only English but also the related subjects should be learnt before the pupils write the letters to their

pen-pals. The integration subjects are needed. It is found that the pupils' achievement increased more than fifty percent.

For Thai educational philosophy, Buddhist Philosophy is much appropriate to Thai pupils' learning style. In addition, the science method (the problem-solving method) is very similar to Buddhist Philosophy (The Four Noble Truths). One of the most important underlying philosophical concepts is the doctrine of change (Anicca). It implies that there is always a hope for a person to become better. He should not despair. Progress is always possible when an effort is properly made. The Buddha made some statements or doctrines which may be considered as underlying democratic concepts are (1) individual differences, (2) respect for individuals, (3) Cooperation and participation, and (4) Faith in intelligence. These statements are very similar to the learner-centered approach.

From research results, it could be concluded that the key factors of an effective teaching learning process are as follows:

1. The role of the teachers – the teachers should play a major role to conduct research for the development of learning appropriate for learners.
2. Based on learner – centered approach the role of teachers and pupils should be acted as the partners to learn together.
3. High cooperation and encouragement from the school principal and colleague are needed.
4. Not only the meaningful lessons for the pupils' daily life but also the funny lessons are very welcome to the pupils' learning style.
5. The announcement of an effective teaching – learning process based on the learner – centered approach to the parents to avoid mis-understanding of educational reform is needed.

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The whole process of teaching and learning

should be fun



“One of my strongest beliefs about teaching is that
the whole process of teaching and learning should be fun”

Nawee Primary School Profile

Nawee Primary School is located in Ban Luang District, Nan Province, the northern part of Thailand (700 kilometers from Bangkok).

The parents are farmers. They are very poor.

The number of teachers: 6

The number of pupils (Grade 1 – 6)

Academic Year 2000 Total 81 Academic Year 2001 Total 77

Academic Year 2002 Total 61

Our Proudest Award from Kanagawa Prefecture Artist Association Junior KEN –TEN in 2002, Japan By the Tokai Bank Foundation, Japan

The number of participated countries is 13 countries.

2001 Academic Year

Nawee Primary School sent 73 pictures to join with this program. 16 pictures were selected to print as postcard.

2002 Academic Year

Nawee Primary Schools sent 77 pictures to join with this program.

Japanese Abacus (Soroban) is taught in Thai classroom during the 2001 – 2002 academic year.

Academic Year	Grade Level	Number of pupils
2001	5 th and 6 th grade	29
2002	1 st – 6 th grade	61

English – Pen Pal Project

Pen pal between the pupils of Nawee Primary School, Nan, Thailand and Bowen Island Community School, Canada

Academic Year	Grade Level	Number of Thai pupils	Number of Canadian pupils
2000	5 th - 6 th	29	29
2001	5 th - 6 th	29	29

Pen pal between the pupils of Nawee Primary School, Nan, Thailand and Kariyado Primary School, Handa Japan

Academic Year	Grade Level	No. of Thai pupils	No. of Japanese pupils
2001	5 th - 6 th	29	106
2002	5 th - 6 th	29	106

Pen pal between the pupils of Nawee Primary school's net Nan, Thailand and Kariyado Primary School, Handa Japan

Academic Year	No. of school net	No. of Thai pupils	No. of Japanese pupil
2002	5	103	40

Theory of multiple intelligence (MI Theory)

By Howard Gardner (1993)

1. Linguistic Intelligence
2. Logical-Mathematical Intelligence
3. Spatial Intelligence
4. Bodily-Kinesthetic Intelligence
5. Musical Intelligence
6. Interpersonal Intelligence
7. Intrapersonal Intelligence
8. Naturalist Intelligence

Key points in MI Theory

1. Each person possesses all eight intelligence
2. Most people can develop each intelligence to an adequate level of competency
3. Intelligence usually work together in complex ways
4. There are many ways to be intelligent within each category

Teaching Students about MI Theory (Armstrong Thomas, 2000)

A Five-Minutes Introduction to MI Theory

Here are the simple terms for each of the intelligence and some questions that Armstrong (Armstrong, T, 2000) used in his presentation.

Linguistic Intelligence (Word Smart)

- "How many people here can speak?"
- "How many people here can write?"

Logical-Mathematical Intelligence (Number Smart or Logic Smart)

- "How many of you can do math?"
- "How many people here have done a science experiment?"

Spatial Intelligence (Picture Smart)

- "How many of you draw?"
- "How many people here see pictures in their head when they close their eyes?"
- "How many of you enjoy watching moving pictures on television or in the movies?"

Bodily-Kinesthetic Intelligence (Body Smart, Sport Smart, or Hand Smart)

- "How many people here like sports?"
- "How many of you enjoy making things with your hand, like models of LEGO structures?"

Musical Intelligence (Music Smart)

- "How many here enjoy listening to music?"
- "How many have ever played a musical instrument or sung a song?"

Interpersonal Intelligence (People Smart)

- "How many people have at least on friend?"
- "How many of you enjoy working in groups at least part of the time here in school?"

Intrapersonal Intelligence (Self Smart)

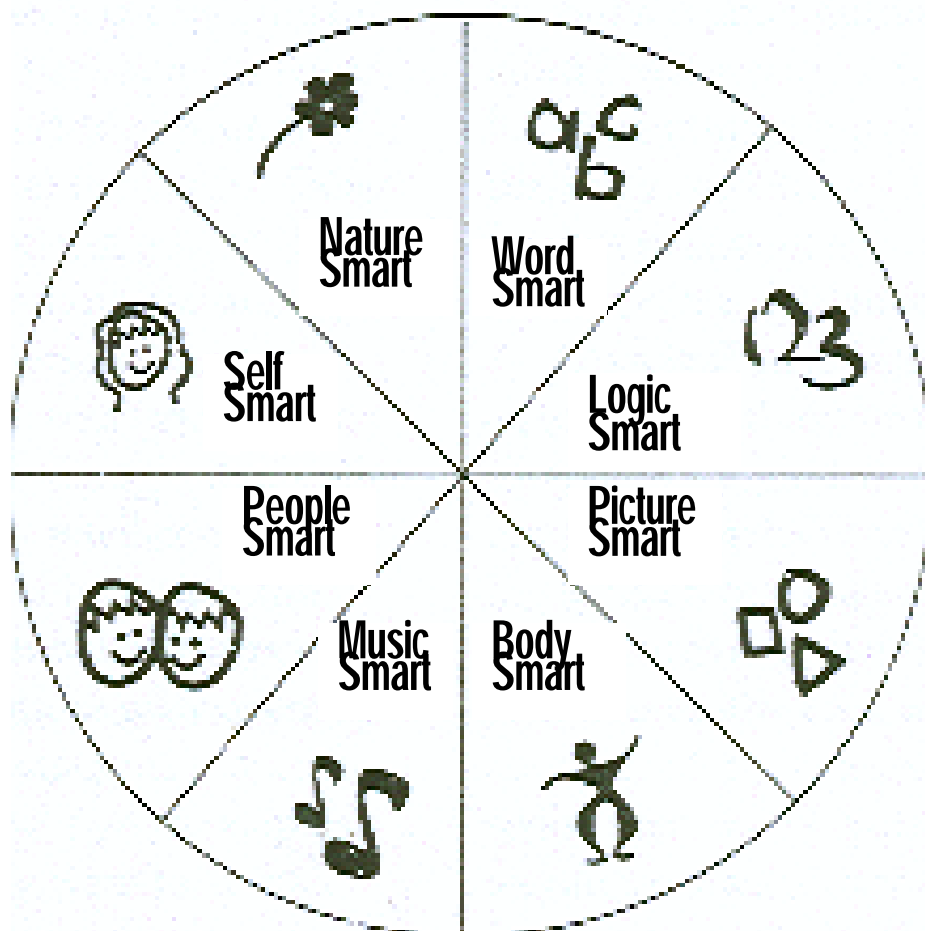
- “How many of you have a secret or special place you go to when you want to get away from everybody and everything?”
- “How many of you like to spend at least part of the time working on your own here in class?”

Naturalist Intelligence (Nature Smart)

- “How many of you enjoy being out in nature?”
- “How many of you have ever had a butterfly collection, an insect collection, a collection of leaves from trees in your neighborhood, a collection of shells, or some other kind of collection of natural things?”
- “How many of you have pets, or enjoy spending time with animals?”

MI PIZZA

(Armstrong, Thomas, 2002)



Japanese Abacus (SOROBAN) is fun

"Get your soroban ready."

"Let's start with 5 Baht, 2 Baht, 1 Baht, subtract 2 Baht, add 3 Baht, that's all.

What did you get?"

"Nine Baht," students said altogether with brilliant eyes, proudly.

The above 3rd-grade class needed just 15 minutes of explanation to understand basic addition and subtraction of the use of Japanese abacus.

Children are fond of using a moving gadget, instead of having to sit and listen to lectures. It's fun to use soroban. That motivates their active attitude toward study.

Why we teach SOROBAN?

1. It is more fun for children to work on the abacus, than with pencil and paper.
2. Unlike adding machine, they cannot get an answer without thinking the process of computation.
3. This is especially true in English speaking countries where numbers such as 11 or 80 are "not" read like ten and one or eight tens. (In Japanese they are read and pronounced exactly like ten and one or eight tens as well as in Thai and Chinese.)
4. Problems of addition and subtraction are frequently given orally. This is one of the most exciting practices for children in steps of learning the use of abacus, while oral problems cannot be given in pencil-and-paper math.
5. According to a carefully programmed teaching plan, children are instructed from easy to difficult.

Pen Pal Address

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A Close resemblance of the structure of the Four Noble Truths and the Problem-Solving Method

Structure, or Step in the Four Noble Truths	Structure, or Step in the Problem-Solving Method
1. Dukkha (suffering) 2.	1. A Problematic Situation
2. Samudaya (origin)	2. Formulation of Hypotheses
3. Nirodha (extinction)	3. Experimentation
4. Magga (path or way)	4. Analysis of data and 5. Conclusion

A Close resemblance of the structure of the Four Noble Truths and the Problem-Solving Method

The Unit of work ‘Purification of Drinking Water’ on the elementary – grade level

Steps in the Four Noble Truths	Activities in teaching and learning as regards the unit of work ‘Purification of Drinking Water’.
1. Dukkha (The Problem)	In our village, we do not have the regular public water works as in the city. Our source of water is from the well or the stream running by the village. The water from these sources is not safe for drinking purposes. What can we do to purify the water so that we will have pure drinking water? This is the problem recognized by the children in a village school.
2. Samudaya (The Hypotheses)	By reading some available materials, looking at pictures obtained from the Health Division of the village, listening to talks given by the teacher and an official from the Health Division, etc., the children decide to find out for themselves what kind of water can be obtained by the following methods: <ol style="list-style-type: none"> 1. Boil the water from the well. 2. Stir it with alum. 3. Let the water pass through a simple kind of filter made by the students themselves.
3. Nirodaya (The Experiment)	The class is divided into three groups. The first group engages in boiling the water, the second in using the alum to stir the water for a sufficient period of time, and the third in filtering the water. Each group would keep a record of what is actually done.

Steps in the Four Noble Truths	Activities in teaching and learning as regards the unit of work "Purification of Drinking Water".
<p>4. Magga (Analysis of data, and reaching a conclusion)</p>	<p>(a) With the help of the science teacher who uses a microscope, or other relevant procedures, the children find out that:</p> <ul style="list-style-type: none"> - The well-water stirred by using alum is very clear, and looks clean, but actually there are germs in it. - The well-water passing through the simple hand-made filter is also clear, and looks clean, but there are also a lot of germs in its. - The boiled water is not clear at all, and looks the same as when it is first brought from the we., but the germs in it are all dead. <p>(b) After discussions and suggestions from the teacher, the whole class come to the following conclusions:</p> <ul style="list-style-type: none"> - The best way to get safe drinking water from the well-water is first to stir it with sufficient alum, let the particles settle down, and then heat the clear water till the boiling point. - It is most important for the village authority to install a public water-supply system of some kind as soon as possible.

Source: Saroj, 1970 *A Philosophy of Education for Thailand: The confluence of Buddhism and Democracy*