

## The Implementation of TeSME in a Chinese School: A Case Study.

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<p>Pagjono Kaur has been an English teacher for 26 years. She is also the head of TeSME in her school and a master ETeMS trainer.</p> <p>She received her teaching certificate from Maktab Perguruan Seri Kota, Kuala Lumpur.</p> <p>She has held the following posts: the head of the English Language Panel for 20 years and the head of the District English Panel for Primary Schools from 2000-2002.</p>	<p><b>ABSTRACT</b></p> <p><i>This study looks at the problems that exist in the teaching and learning of Science and Mathematics in Year One in one specific school. The subjects for this study were the teachers teaching in a Chinese vernacular school in a rural area, about 25 kms from the city of Alor Star. The main data collection technique was the interview. One of the findings was that pupils in Year One were unable to comprehend and produce sentences in English. Some strategies to overcome some of the problems identified are also suggested.</i></p>
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### 1. Introduction

In the year 2002 it was decided that Science and Mathematics would be taught in English starting from Year 2003 and this would begin with Year 1, Form 1 and Lower Six. All this while Science and Mathematics was taught in Malay in National Schools, Chinese and Tamil in Vernacular Schools. To prepare teachers for this change a course named ETeMS (English for Teaching Mathematics and Science ) was introduced in phases. The course is to enhance the English language skills of Mathematics and Science teachers to enable them to teach effectively using English as the medium of instruction.

However there were problems raised regarding teaching Mathematics and Science in English (TeSME). These problems were raised during the ETeMS course for teachers. One such problem was experienced in a Chinese school in a rural area. This problem was regarding pupils in Year One being unable to neither comprehend nor produce sentences in English. So, it was decided that a study be carried out in

this Chinese Primary School in a rural area where Science and Mathematics are taught in English in Year One .

## **2.0. Background of the problem.**

This problem arose during a workshop of the ETeMS course. The teachers were required to produce a test kit with objective and subjective items. The teachers from a Chinese school mentioned the low proficiency level in English of their pupils in a rural school in Year One. They mentioned that their pupils are unable to answer subjective questions on observation, reasoning or open-ended type. The reason given is the pupils are unable to comprehend discourse and produce sentences on their own. Sentence structures are necessary when reporting observations, for reasoning, predicting, communicating, making inferences and solving non-numerical Mathematical problems.

Although in Year One it is only simple sentence structures, pupils are still unable to comprehend. After hearing this problem it was decided that a study be carried out in the school where the teacher who brought up this problem came from.

This school is located 25 kilometres away from the town of Alor Star. Most of the pupils in this school come from Chinese speaking homes and environment where English is hardly heard or used. Mandarin is the medium of instruction in school. Science and Mathematics are taught in two languages. Science is taught 3 periods per week in English and 3 periods per week in Mandarin, whereas Mathematics is taught 4 periods in English and 6 periods in Mandarin. It will be interesting to find out that teaching of Science and Mathematics in English is redundant. However this is for another study. There are only 2 classes in Year One. There are two different teachers for each of the class but each of them teaches either Mathematics or Science in English and Mandarin to the same pupils. By having the same teacher to teach in both languages may cause problems to arise. This would also make an interesting study.

This research paper is to find solutions to overcome the problem of pupils in this Chinese school who are unable to neither comprehend nor produce simple sentence structures. Since it is the first year of implementing the teaching of Mathematics and Science in English, it would be a good idea to start acting on the problem.

### **3.0 Aim :**

The aim of this study was to find out :-

- 3.1 The problems faced by teachers in the teaching of Mathematics and Science in a Chinese school.
- 3.2 To focus on the problem of comprehending and producing sentences in English.
- 3.3 To suggest and think of solutions to the problem.

### **4.0 Main problem:**

This study paper examines why pupils in this particular school are unable to understand and produce sentence structures.

#### **4.1 Sub-problems**

- 4.1 Pupils are unable to comprehend more than a word at a time.
- 4.2 Pupils are unable to produce ideas in a string of meaningful discourse.

### **5.0 Research questions**

- 5.1 What can be done to enable pupils to comprehend more than a word at a time?
- 5.2 How can we help pupils to produce ideas in a string of meaningful discourse?

### **6.0 Significance**

This study will be significant for teachers, teaching in Chinese schools in Year 1 who are facing the same problem, where pupils cannot understand discourse nor produce it. So this paper will set teachers thinking and prepare them before hand to face and overcome this problem. It is hoped that the ideas put forward will be of use to them. By being prepared before hand the teachers do not have to turn back and start from scratch.

### **7.0 Methodology**

This paper is an investigative study because an interview was carried out with two teachers in the Chinese Primary School to confirm the problem. These teachers are directly involved in the teaching of Mathematics and Science in Year 1.

For the solutions, books and the internet were referred to, language experts and

teachers were queried and self –brainstorming was carried out.

### **7.1 Subjects**

For the purpose of identifying a problem regarding problems faced by Mathematics and Science teachers in Year 1, an interview with teachers directly involved in TeSME in a Chinese school in a rural area was carried out. Each of the teachers has 24 to 26 years of experience in teaching. Throughout their career they have only taught in Chinese schools and using the Mandarin language. Even this year they are teaching Mathematics and Science in Mandarin too in Year 1. It is the first year they are teaching the subject in English also. Each of them holds only 1 class in Year 1. There are only 2 classes in Year 1. Mathematics is taught for 4 periods in English and 6 periods in Mandarin in Year 1.

Similarly for Science, they teach 3 periods in English and 3 periods in Mandarin. Both these teachers attended the ETeMS course last year.

### **7.2 Data Collection instrument**

- i) To investigate the problem interviews were carried out. A framework of questions for a focused interview was drawn up to find out the implementation and if the problem really existed ( please see appendix A). The respondents were given the freedom to talk and give their views.
- ii) For the solutions the methodology employed was to post the problem in written form to Language Officers, lecturers, a teacher teaching pre-school children, a retired and re-employed teacher who has taught Year 1 pupils before, reference to the internet and brain-storming was carried out.

## **8.0 Main Findings**

8.1 From the interviews carried out the teachers stated that the pupils found it difficult to understand Science in English compared to Science and Mathematics in Mandarin. They had problem comprehending sentences. The level of proficiency in English was very low. Most of the time the teachers used translation to make students understand.

8.2 As for the solutions, the findings were as the following:-

1. **Practice beyond the word:** Use pictures and try to construct beyond the word. The picture must be related to the topic being taught. For example:  
Show the picture of food. Nutritious food- bread, fried rice, eggs, milk, chicken  
Non-nutritious food – sweets, ice-cream, prawn crackers, etc.

Bread is nutritious.

Nutritious food makes us healthy

Nutritious food gives us energy.

Nutritious food helps us to grow

It is good for our body.

Show picture of a boy having bread and milk for breakfast. It is morning. Ali is eating bread and drinking milk. Bread and milk are nutritious food. This will help pupils understand word in structure.

- . Start with a word and expand. e.g. A cat, a bird.

A brown bird, a black cat, a cat's head, a bird's legs, a cow's tail,

(Add functional words such as prepositions, articles, connectors after teaching the word.)

2. Try to **teach the same topic for the three subjects** as much as possible. By correlating the syllabus pupils will understand better.

For example: animals and numbers

Eng: names/ young/ food/ parts of the body etc.

Science: habitats/group identity/parts of the body .etc.

Maths : A farmer has five cows, 4 ducks and 6 goats. How many animals are there in his farm?

Worksheets, visuals should be a combined effort and used for all three subjects and not segmented.

3. Create interest /re-enforcement through **visuals**.

Example- Use videos or CD's -children love watching animal movies.

3.1-Teachers should know the content of the show well before showing it to the pupils.

3.2- Set task for children so that they have aim and focus (only one or two task at a time)

3.3- Explain the task clearly by reading the instruction. Get pupils to read the instruction a few times. (To familiarize pupils with instructions)

Examples: Tick ( ) if you can see the animals.

Lions ( )

Snake ( )

Circle the animal with stripes.

Cow Tiger Cat

4. Lots of time and **patience** is required in the beginning. Encourage pupils to participate by pointing to pictures and any response in Chinese should be repeated by the teacher in English. Facial expressions gestures and utterance should be comprehended in the form of phrases and sentences. A feeling of acceptance and assurance will encourage the child to understand and participate.

5. **Games** – Use games, songs and rhymes and mind-mapping to create interest.. Start with games, allow them to have fun. Do not push children to book based learning. A really fun game, song or rhyme can wake them up and bring laughter into the classroom.

e.g. i. Let children create funny composite animals-one with a tiger's head, a cat's ears, an elephant's legs. Put names of animals on the wall, let pupils paste their pictures to describe parts of animals.

ii. Other games using big flash cards with simple sentences- stick to the animal. Rearrange in correct order. Read aloud .

iii. Unscrambling of words to form sentences. – This will help in word order.

e.g. of songs-When you're happy and you know it-to teach parts of the body.

Old Macdonald Had a Farm-names and sounds of animals

6. **Chants-** they help children to listen to lots of meaningful language, learn to work together, pick up chunks, enjoy repeating them . Use gestures, sounds and body movements.

e.g. My name's Fred and I am a frog – jump, jump, jump

My name's Kate and I am a cat – miaow, miaow, miaow

My name's Titi and I am a fish - swim, swim, swim

My name's Mickey and I am a mouse – squeak, squeak, squeak

In the beginning for word recognition they can underline animals and their movement or sounds.

7. **Models-** Draw a picture and label the animal . Paste a model with the following

1. ....is a big/ small animal.
2. ....lives in the jungle.
3. ....eats leaves.
4. ....can run, fly, swim etc.

Play a recorded version of the above sentences

Pupils follow and say

Then let them comprehend by writing out looking at the pictures.

#### **Wall display**

Display pupils work. (It will create a great sense of achievement).

8. **Experiments** –provide hands on experience. Do experiments wherever and whenever possible. Observing real situations and reinforcing using visuals, CD's. Relating to science process skills

Compare, contrast, classify, communicate, conclude

e.g. Seed germination.

Watering plants in the Science garden.

Making an analogy to real life. E.g. Can they live without water? Can you live without water?

This **situational approach** gets pupils involved. Get pupils to handle materials on their own. Repeating simple sentences while doing.

Record observations in the form of tables.

e.g. Measuring height.

Glue straws to the wall.

Get someone to stand near the straws and another pupil counts the number of straws that are the same as the height. Then say my/ your height is the same as 5 straws.

Taste and smell : Lay out different types of food. Tell pupils:

We eat many types of food everyday.

Food has different taste .

Some food has smell.

Some does not have smell.

Get pupils to taste and group the food : sour, sweet, salty (The teacher should do and say, followed by the pupils. Then the pupils do it on their own and say the sentence. It will help them understand sentence structures.

#### 7. Doing **projects and scrap books.**

e.g. Mobiles - labelling parts, writing simple sentences

Herbarium –labelling and writing a few simple sentences.

Diorama- mini aquarium-writing simple sentences on the box.

Models – making models of plants-increase pupils visual spatial intelligence-increase creative skills and understanding of concepts.

When the teacher generates interest and curiosity, pupils themselves will come to understand the wonderful world of Science.

#### 8. **Eliciting**-using questions

Elicit words, phrases, sentences to describe what is seen in the picture.

Use simple and common structures. Pictures from previous lessons will enable them to recall familiar words.

e.g. After having taught healthy and wilted. Ask questions holding up a potted plant.

What is this? Is it healthy? What colour are the leaves? Does it get sunlight?

Does it need water?

Why has the other plant wilted? What does it need?

#### 9. **Total physical response.** – Teach parts of the body –singular and plural .e.g.

Touch your eye. Touch your eyes. Point to your ear. Point to your ears.

One gives the command and the other performs. It helps in communication.

10. **Mimes** – Encourage use of words.

e.g. Good habits. – After having introduced orally. Mime it and let pupils response.

Brush your teeth. Pupils response You are brushing your teeth.

11. Using characters to represent words because the Chinese language uses **pictograms** whereas ours is Romanised-using letters. So write out and put pictogram above words so that they can understand the sentence.

12. **Courseware-** Make full use of the courseware provided by the Ministry of Education. It is well organized and relevant to the topics. It uses simple sentence structures which can help pupils develop their auditory skills.

## 9.0 Conclusion

The study above suggests that teachers ought to use the solutions suggested or think of other possible approaches so that they can get students to comprehend beyond single words and also produce simple sentences in English. This will enable pupils to carry out activities on reasoning, predicting, observing and communicating and also understand and solve Mathematical problems. In this way they will become successful in Science and Mathematics. Learning Science and Mathematics in English would be more meaningful to students.