CHAPTER 5
PILOT LESSONS

5.1 General Studies

5.1.1 Selected Topics

The reason why there was a change in the lesson plan from the earlier plan prepared during the first phase, to the plan actually carried out as the pilot lesson is as follows:

It was recommended in the consultation with the teachers that the pilot lessons should be of experimental quality with somewhat difficult contents, rather than the easy ones that had been conducted. In doing so, it was felt that the pilot lesson could give more stimulus and impact to the overall situation. In other words, in order that the Child-Centered Approach (CCA) is established and gain wider understanding, the symbolic method of representing CCA that has experimental content was selected for the General Studies, the following topics were selected finally for the pilot lessons.

The main criteria for selection of the topics were:

(1) The topics that teachers are facing many difficulties in their daily teaching
(2) The topics that can be applied easily in different local conditions
(3) The topics that can be implemented easily and be successful for the CCA in Myanmar.

Table 5-1: Selected Topics of General Studies

Grade	Topic
KG	Topic 1: Brightness and Darkness
	Topic 2: Size
	Topic 3: Differentiate sweet sound and noisy sound.
	Topic 4: Admonishment
	Topic 5: Differentiate hot and cold materials
Grade 1	Topic 6: Washing hands
	Topic 7: Magnet
	Topic 8: Observing Plants
Grade 2	Topic 9: Cleaning Teeth
	Topic 10: Utilization of leaves (Herb)
	Topic 11: Air

During the preparation for the pilot lessons, all members of the working group for General Studies had reviewed the important issues proposed in the first phase.

5.1.2 Current Typical Lessons

Topic 1: Brightness and Darkness

1. Learning Objectives

a) To enable the children to explain what they know about the difference between Light and Dark

2. Teaching/Learning Materials

Make use of paintings and pictures that show clearly that it is light during the day (daytime) and dark during the night (nighttime) or that it can be made light by lighting a lamp

3. Learning Activities and Points to be improved

- There are less practical activities using children's feeling and thinking through active participation.

  ⇨ Children should fully participate and think in the lesson through activities.

- Children are not enthusiastic in learning the topic of "Brightness and Darkness" and some of the examples make children's understanding of the lesson difficult.

  ⇨ Many attractive and interesting materials should be produced, such as simple colored spectacles and darkroom box, utilizing locally available materials at low cost to the teacher.

- During the current lesson of General Studies in KG level, the lessons do not give children the opportunity to feel joy through playing.

  ⇨ Creative children's games were introduced with great joy for the lesson.

Topic 2: Size

1. Learning Objectives

a) To know whether objects provided are similar or difficult and be able to discriminate the difference

2. Teaching/Learning Materials

Pencil, a ruler, a book, an eraser, plastic toys (e.g. a ball or a doll), various types of breads and sweets of different flavors

3. Learning Activities and Points to be improved

- The current lessons of "Size" are mainly conducted only by using the textbook. Such lessons do not stimulate children's interest and active participation.

⇨ The lessons should be conducted outside of the classroom with various real things. This can make the children full of participation and interest.

- Children are not encouraged to learn the meaning of size in nature and daily life with their deep interest.

⇨ The new lesson introducesimagination and thinking about the meaning of size in nature and daily life.

Topic 3: Differentiate sweet sound and noisy sound

1. Learning Objectives

a) To listen to sounds and be able to describe the difference between the soft and the loud.
b) To do the same with pleasant and the noisy sounds

2. Teaching/Learning Materials

Pictures and sketches of various musical instruments (wind, stringed and percussion), various song birds, motor vehicles, trains, motorcycles and streamers and ships as well as models and real objects

3. Learning Activities and Points to be improved

- Proceedings depend on the teaching side and its requirements.

⇨ All lessons were conducted based on the children's desire and curiosity.

- There were few examples and little practice with no discussion effective references, or attractive materials.

⇨ Many attractive sound materials were introduced to listen to and were discussed by children in the group.

- Children have little interest or concern in learning to differentiate sweet sound and noisy sound without outdoors experiences.

⇨ Different kinds of sound were made by children themselves even in the classroom freely for the most effective practical experience.

Topic 4: Admonishment

1. Learning Objectives:

a) To be able to recite the poem with correct tempo and apt gesticulation
b) To be sweet and polite in speech

c) To be honest and brave in all their deeds
d) To persevere for attainment of outstanding knowledge

2. Teaching/Learning Materials

Picture concerning contents of the poem
Picture of a class or work that is the teacher teaching attentive pupils

3. Learning Activities and Points to be improved

- The lesson is being taught by reciting the poem and singing the songs without teaching materials.

  ⇨ Attractive Picture story-telling and games were introduced for the children's interests and concerns of admonishment.

- Students are studying only by rote without thinking or imagination.

  ⇨ Question and Answer session was made based on the children's experiences and psychology.

Topic 5: Differentiate hot and cold materials

1. Learning Objectives

a) To be able to say which things one sees in his/her surroundings is hot
b) To be able say which are cold

2. Teaching/Learning Materials

The sun, fire, ice, drinking water, pot and the flame of a candle

3. Learning Activities and Points to be improved

- The lesson finishes in many cases as it does not fully digest the contents.

  ⇨ New lesson is made slowly based on the children's understanding and digestion of the lesson.

- Since access to practical work is less, asking simple questions usually brings about learning. Non participation with little attractive practice in every aspect of the topic inhibits learning.

  ⇨ The lesson is made through positive child participation and practice. They could feel hot and cold through their five senses.

- Memorization oriented in many lessons in this topic.

⇨ New lesson is to make the children's stimulation and joy with thinking and imagination of the temperature "hot and cold" by many kinds of audio-visual materials.

Topic 6: Washing hands

1. Learning Objectives

a) To be able to describe the need for personal hygiene
b) To have the habits of bathing, and washing hands according to the weather
c) To keep fingernails clean and cut weekly
d) To have the habit of washing hands before and after meals, and after using the toilet
e) To be able to protected eyes from
f) To know that eating yellow green vegetables prevent weakness of the eyesight and keeping to that habit

2. Teaching/Learning Materials

Picture chart of a person bathing, sponging, washing hands before and after meals, after using toilets. Picture of vegetables containing vitamin A -real objects

3. Learning Activities and Points to be improved

- There are no interesting or stimulating learning activities through visual materials or demonstrations.

⇨ New lesson was made action-oriented through many audio-visual materials and practical lesson from daily life.

- There is no deep consideration or observation of the invisible world.

⇨ Basic scientific approach was introduced to examine the invisible world by using a magnifying glass.

- Children have no concern or interest in why cleaning is necessary for the health.

⇨ Teacher asked many different questions to children to support their interest and concerns with pictures.

- Lessons are conducted without any effective teaching materials or joy.

⇨ Lessons were conducted with creative approach with an interesting story and were based on the children's psychology.

Topic 7: Magnet

1. Learning Objectives

a) To know the different kinds of magnets in the environment and be able to describe them
b) To enjoy games with magnets

2. Teaching / Learning Materials

Natural magnet, magnet bar, U-shape magnet, paper clip, pins, real objects, picture charts

3. Typical current lessons to Improved lesson

- Current lessons are conducted without children's curiosity, enjoyment, participation or observation from their daily lives. Therefore, there are no motivational steps at all to improve scientific approaches and thinking.

⇨ The new lesson was made by representatives of every group. Then the children took the magnet with them to search for the iron sand in the school grounds and enjoyed themselves.

- In typical current lessons of "magnet," there was only one weak power magnet available for the whole class and it was impossible to make children experience it in his/her own hand.

⇨ Eight magnets were distributed to the eight groups in the class.

- There was no wonder in regards to the magnet function and no questions were stimulated.

⇨ Teacher asked many questions to children based on the work with the magnet and children's discoveries.

- All the lessons were conducted only inside the classroom and there were no activities conducted outdoors that emphasized the value of experiencing themselves in nature.

⇨ The new lesson was taught through, "fishing activity with magnet", and through a game of "finding iron sand outdoors". First, the fish toys made of plastic, paper, wood and iron were placed on the teacher's platform and children competed to fish for the fish-toy magnet.

Topic 8: Observing Plants

1. Learning objectives

a) To be able to describe that there are different parts of a plant
b) To be able to name the different parts of a plant

c) To be able to describe that some plants have all these parts but some do not

2. Teaching/Learning Materials

Real objects, models, pictures (the whole plant, the root, stem, leaves, branches, flowers, and fruits)

3. Learning Activities and Points to be improved

- The lesson is conducted very simply without any thinking or imagination.

  ⇨ *New lesson has first suggested to understand and think of the plants.*

- Concept for the lesson is so narrow and there is no motivation at all for practical skills.

  ⇨ Teacher told an interesting story with much information and knowledge of the plant environment.

- There is no group work or active participation outdoors for this lesson.

  ⇨ Observation by children was made outdoors.

- There is no systematic teaching of the plant and environment.

  ⇨ In the lesson teacher raised many questions to children about plants and asked them to think about the reason with much time. Based on this approach systematic knowledge and information of the plants will be introduced in the lesson.

Topic 9: Cleaning Teeth

1. Learning Objectives

a) To explain how keeping one's teeth clean and preventing them from decaying is essential

b) To differentiate the advantages of keeping one's teeth clean and the disadvantages of not keeping the teeth clean

c) To have the good habit of brushing the teeth systematically

2. Teaching/Learning Materials

A picture showing systematic brushing of teeth with a toothbrush, tooth-paste, salt to clean the teeth and a picture chart showing fruits and vegetables that make the teeth strong and firm.

3. Typical current lessons to Improved lesson

- Teaching method is always just like preaching style with out thinking and practice.

  ⇨ The new teaching method gave children the chance to think of a reason to clean teeth.

- Current lessons are conducted without any motivational methods or practical skills.

  ⇨ In new lesson, biscuits were distributed among the children and they confirmed themselves, opening their mouths, how much of the biscuit crumbs of remained and were stuck in between their teeth.

- In the current lessons, oral instruction occupied the major part and practice was not introduced in the lessons. Illustrations that were used were of poorer quality and could not arouse children's interests.

  ⇨ Simple but attractive picture story-telling with much information was played for the children in the lesson.

Topic 10: Utilization of leaves (herb)

1. Learning Objectives

   a) To be able to describe the size of plants in the environment
   b) To be able to describe the shapes of plants in the environment

2. Teaching/Learning Materials

   Real objects, models, real objects, picture charts (Grass, roses, rain trees, coconuts, tamarinds etc.)

3. Learning Activities and Points to be improved

   - There is no effective teaching method of the leaves lesson.

     ⇨ The new lesson intends to teach multi purpose learning such as listening, observing, collecting, reporting, analyzing, illustrating and book-making by children with great joy and discoveries.

   - Current lesson seems to be less interested in learning the relation between living things and leaves in their surroundings.

     ⇨ New lesson could provide new findings and discoveries by children and it discussed the relation between living things and leaves in their surroundings.

   - The children do not understand properly about utilization of the leaves and

functions.

⇨ Children will report the collection of the leaves and discuss how to utilize these leave with friends in groups.

Topic 11: Air

1. Learning Objectives

(a) To be able to understand that air is everywhere around us
(b) To be able to understand that man and animals can live only because of air
(c) To be able to understand that air causes locomotion of things

2. Teaching/Learning Materials

Hydrogen balloon, all kinds of balls, soap water, wheels, glass bowl in which fish are kept, paper arrow, fan, hand-fan, all sorts of liquids, a piece of cotton, a picture of a sailing boat, a kite, a picture showing rubbish being carried away by wind, plastic bags, pipe, straw, etc and pictures.

3. Learning Activities and Points to be improved

- There was no practice or demonstration about air in the lesson and no teaching aids for demonstration about air.

⇨ Teacher conducted various air experiments with simple teaching aids and materials. Teacher firstly demonstrated how to make the paper blow in the wind and other materials in the lesson.

- The children do not seem to take much interest in learning about the air inside water, etc.

⇨ Teacher conducted an interesting demonstration of air inside water.

- There is no participatory learning method about air based on their experiences.

⇨ Lesson was conducted with children's participation in the group through their daily experiences.

5.1.3 Major Points to be improved

(1) Rather than attempting to give children in KG, G1 and G2, much knowledge in the "one way teacher-to-student," it is significantly effective to give them concrete experiences to cultivate their rich receptivity and imagination. In addition, it is important to let children enjoy and be excited by studying.

(2) To facilitate this, the teacher needs to prepare effective educational materials, which should

be attractive and simple and should support children's enthusiasm and creativity. JICA Study Team had developed several audio-visual materials for KG, G1 and G2. During the pilot lessons, these materials played a highly important role to stimulate children's motivation and interest of studying. JICA Study Team had created the following "picture story telling" materials.

a. Panda Adventure Story (Civics)
b. Tin Tin and Tun Tun (Civics)
c. Cleaning Teeth (Life Skills)
d. Brightness and Darkness (Science)
e. The Big Turnip (Civics)
f. The First Tree (Science and Life Skills)

All lessons started by story-telling using a picture. Each topic aroused interest and curiosity among the children. Attractive teaching/learning materials gave great stimulus to children. Every story usually consists of approximately 16 pictures.

The story should be presented to the children in a lively manner to retain their interest and attention. After the completion of telling the story, teacher asks questions to the children. This will help them feel actively involved in the presentation, and also help them achieve a deeper understanding of the topics. The picture story-telling is the most effective and suitable media for the CCA lessons in Myanmar.

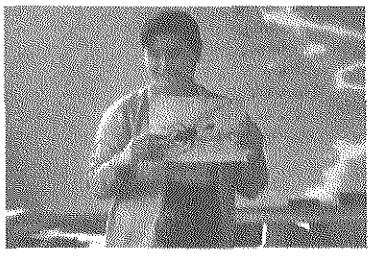
(3) In every lesson for KG, G1 and G2, it was pointed out that the most important points are to recognize the utility of the child's five senses (sight, hearing, touching, tasting, smelling) and fully exploit these senses during the learning process.

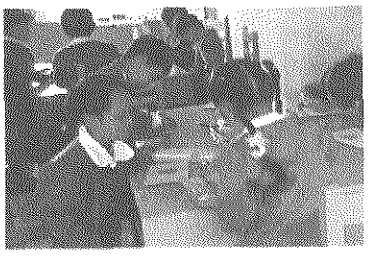
(4) All lessons should be activity-oriented for thought, imagination and positive participation in small groups through various games and competition.

(5) The lesson of General Studies in KG needs to provoke student's strong motivation and active communication by using teaching/learning materials.

(6) The lesson plans should be prepared simply and easily, with great flexibility in consideration of the local conditions and resources.

Teacher's attitude and development of the material is the Key to the lesson's success






5.2 Basic Science

5.2.1 Selected Topics

The criteria of selection of topics for Basic Science pilot lessons are as follows:

1) The topics that teachers in the classroom find difficulty to teach in current situation,
2) The topics that can develop children's interest and attitude toward science,
3) The topics involve more child-centered scientific activities (experiments and project type of activities), and
4) At least one topic each from physics, chemistry, biology and geology related subjects.

All science topics will deeply consider 'Learning by Doing' and more practice oriented to experiment and project activities, because it will develop children's positive attitude and behavior toward science as well as more knowledge. The selected topics for Basic Science are as follows;

Table 5-2: Selected Topics of Basic Science

Grade	Topic	
Grade 3	Topic 1:	Magnetism and Electricity
	Topic 3:	Sound produced by vibration
	Topic 5:	Solubility of Solid in Water
	Topic 7:	Animal-Reproduction (Lately requested by the work group)
	Topic 9:	Force (Lately requested by the work group)
Grade 4	Topic 2:	The Earth, the Moon and the Sun-Orbit of the Earth and the Moon
	Topic 4:	Different type of Living Things
	Topic 6:	Plants
	Topic 8:	Soil Erosion (Lately requested by the work group)

5.2.2 Current Typical Lessons

Topic 1: Magnetism and Electricity

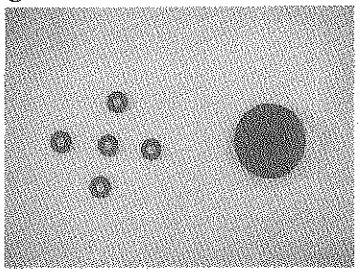
1. Learning Objectives

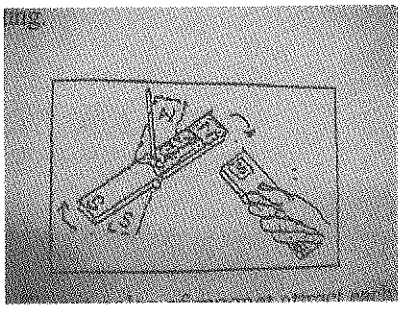
Children will be able
a) To explain that a magnet always point towards the south and north,
b) To explain like poles repel each other, and
c) To explain unlike poles attract each other.

2. Teaching/Learning Materials

Magnets if they are available. Often it is very difficult to obtain them.

3. Learning Activities and Points to be Improved

Learning Activities	Points to be Improved
● Explaining the concept in regards to this lesson. ● Explaining the procedures.	● Key concepts for this lesson are already summarized here. It is not very interesting for children if they do not have more discoveries for rest of the lesson.
● Teacher asks children to take out their magnets from their home. 	● It is nice for children to find magnets from various places, some of the children brought some from radios, some of them from motors and so on. It will indicate to children that magnets are used everywhere in our life. However teachers cannot fully utilize these materials because of lack of guidance.
● The teacher tells children to find some iron material to try their magnets and non-iron materials such as books, pencils, rulers, and tables.	● It is nice to let children to see by themselves. ● Activities with magnets are a good opportunity to show the basics of magnetism that are often used in daily life (for example motors, bells and so on). Recently lessons are not conducted to relate to real life.
● The teacher asks children the results (All together).	● This is not effective way of communication. Children do not have a chance to think by themselves.
● The teacher started to explain that magnets *always point* to the south and north. ● The teacher started to explain like poles repel each other and unlike poles attracts each other.	● Children cannot learn topics like *Magnetism if* they don't use magnets. This is recognized, as an essential problem for teaching this topic therefore it is necessary to provide some teaching/ learning materials in pilot lessons to prove the effectiveness of use.
● The teacher has the students write in groups. (Group activity)	● Magnets brought from home cannot fully utilized these materials because of a lack of guidance (They are not written N-S). We need to think of their proper

Note: The textbook shows the following picture, however, a bar magnet is not available in Myanmar. Many teachers do not conduct this experiment, instead showing only the picture in the textbook. 	use. ● To overcome material shortage, not only 'using bar magnets' but also some 'making magnets' can be a considerably interesting and effective activity. ● If the teacher crams a lot of activities and content, children cannot fully reflect and enjoy learning. Teachers should allow children to take time for an activity. ● It is possible to conduct activities that are very educational and enjoyable. This topic can draw full of wonder from children.

Topic 2: The Earth, the Moon and the Sun-Orbit of the Earth and the Moon

1. Learning Objectives

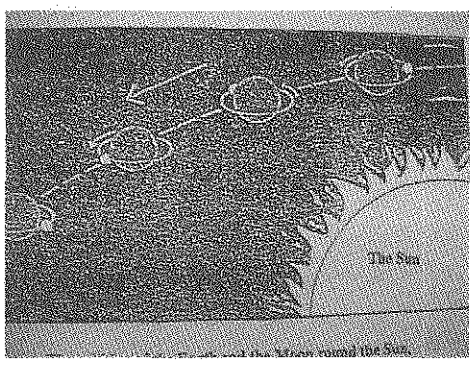
Children will be able
a) To draw the orbit of the moon,
b) To draw the orbit of the earth, and
c) To describe the earth rotates on its pole.

2. Teaching/Learning Materials

Not specially used.

3. Learning Activities and Points to be Improved

Learning Activities	Points to be Improved
● No proper INTRODUCTION in the lesson.	● There is no introduction for this topic, because a lot of teachers do not know the topic very well. The teacher's guidance, as well as the textbook's, does not explain well. ● This topic can be very closely related to children's daily life and social activities. Recently, it is not encouraged to link this topic to their daily lifes and social activities, but this

	develops more interest in science and also makes them realize science is developed essentially from people's life, experience and wisdom.
● Explanation with textbook containing the obits of the moon, the sun and the earth. 	● The illustration in the textbook does not give an accurate image of the solar system. Therefore it is necessary to prepare some appropriate teaching/ learning materials such as models and/or charts for this topic since the solar system itself could not be seen from the earth.
	● Children do not get an accurate idea about space.
	● The concepts in this topic are basic to astronomy and the beginning of the exploration of 'the macro world'. It is very important in science education to make children realize these exist. However recent lessons miss good information that could attract children's interest.
● Children can also draw the Sun, the Earth and the moon (A kind of EVALUATION).	● This is not a very effective way to do an evaluation. Children do not understand at all but still copy the picture in the textbook.

Topic 3: Sound Produced by Vibration

1. Learning Objectives

Children will be able

a) To identify emerging of sound through vibrations and

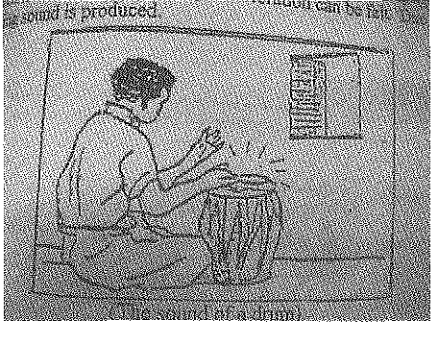
b) To understand that when sound stops vibration stops.

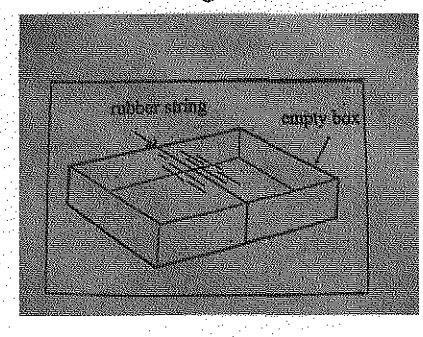
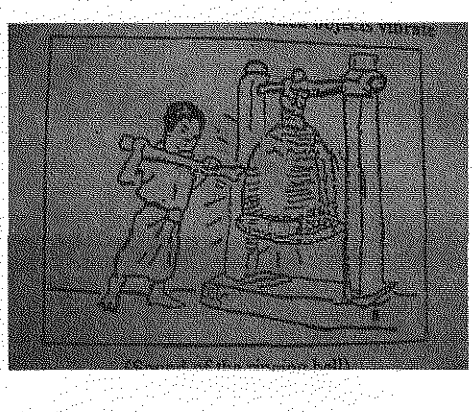
2. Teaching/Learning Materials

A drum, an empty tin with no cover, a rubber string, an empty box, nail, hummer and a

string

3. Learning Activities and Points to be Improved

Learning Activities	Points to be Improved
● The teacher claps hands and asks, "What is this?" (Sound)	● the first is a nice INTRODUCTION of the topic, but the other is too simple and it has no relevance to the key-concepts.
● The teacher asks, "Have you ever heard thunder? What sound is it? (Natural sound)	● It is possible to conduct very interesting experiments from local instruments that are familiar to children, however they are not fully utilized. For example, bells are a nice material to let children feel 'vibration'.
● The teacher beats bell and asks, "What sound is it? (Man made sound)	
● The teacher asks, "Who knows the sounds, which you learned in Grade (2)? (Individually)	● This is too simple question and has no follow-up activities.
● The teacher tells the students the lesson topic "Sound".	● It is meaningless to explain the topic this way since the teacher gave examples.
● The teacher demonstrates that the sound is found to be bouncing, due to the vibration of the leather face of the drum. When the sound of the drum stops, the vibration stops. 	● Children cannot understand the meaning of vibration form the movement of the paper. They think that these are jumping on the paper, which is not vibration.
● The teacher ties rubber strings tightly around an empty box without cover. When the rubber strings are strummed, mandolin-like sound is produced. While	● If the teacher demonstrates this experiment, it is difficult for children to hear the sound and hardly observe the vibration of the rubber string. It is

the sound is being produced, if a small piece of paper is put across the strings, the piece of paper is found to be hopping due to the vibration of the string. The sound is produced on account of the vibration of strings. 	recommended that children do it by themselves in a group.
● The teacher asks children to make a hole at the center of the closed end of the cans and connect two cans with a thread and talk to each other using these cans as mouthpieces. (Group work)	● This is the method introduced in the teacher's manual. However it is very *difficult for children to get materials* and it is even dangerous to make it. In addition, the string- telephone cannot work effectively (children can hear a little by them)
● Let children experiment by beating different materials that they are using such as iron pencil box, book, pencil, ruler, bag, desk, and chair.	● This activity has little reference to the topic. Children can misunderstand that 'beating something' causes 'sound' (not by vibration).
● The teacher asks children if they observed vibration with sound (Kind of conclusion and evaluation) 	● It is observed that concept of relation between vibration and sound is difficult to explain in the Myanmar language because of scientific terminology. Therefore it is necessary to try out clear principals of the topic and find effective way to teach children. ● It is also possible to conduct interesting projects for children such as making instruments from low-cost materials and presenting them to each other, however it is hardly done because teachers only try activities that they find in textbook or teacher's guide.

	● This illustration is shown in the textbook. It is better to have experiment in order to feel the vibration, instead of only seeing such an illustration. If time allows children to go to the temples to do such an experiment.

Topic 4: Different Type of Living Things

1. Learning Objectives

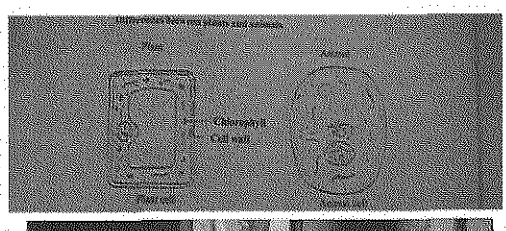
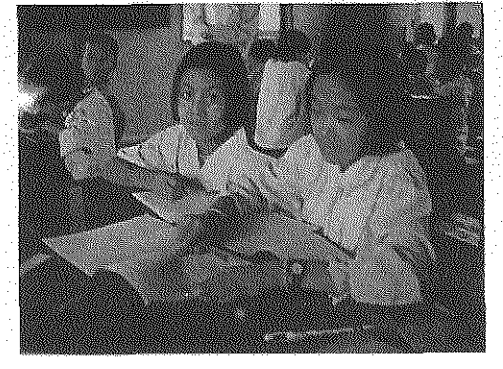
Children will be able

a) To instruct upon the nature of plants and animals.

2. Teaching/Learning Materials

Not specially used

3. Learning Activities and Points to be Improved

Learning Activities	Points to be Improved
● The teacher asks, "Do you know what are animals and plants?" ● The teacher explains from the textbook which is an 'animal cell' and which is a 'plants cell <Illustration in the textbook>   <Children are copying the illustration on the textbook>	● This introduction is too simple and it does not lead into the topic of the lesson, ● This topic was difficult to teach because even teachers could not understand the concept of this topic about 'plant and animal cells'. The topic should relate to children's daily life. Naturally children love animals and plants and learning about them. To stimulate their interest more, it is interesting to try out some new teaching/learning strategies in pilot lessons. ● It might be useful to introduce magnifying lenses to conduct this topic in an alternative way. ● This activity is nonsense, children do not understand cells. Teaching cells without using microscope seems difficult. Therefore in pilot lessons, it is necessary to make the concept more

● The teacher tells children to copy the drawing of a cell in the textbook.	practical and to find alternative teaching/learning strategies to teach cells without a microscope.

Topic 5: Solubility of Solid in Water

1. *Learning Objectives*

Children will be able

a) To identify that some solids have the property of solubility and

b) To identify that some solids do not have the property of solubility.

2. Teaching/Learning Materials

Water sugar, salt, stone and cooking oil

3. Learning Activities and Points to be Improved

Learning Activities	Points to be Improved
● The teacher explains about topics.	
● The teacher asks children the results (All together). The teacher asks 'What is soluble what is not?'	● This is not an effective way of communication. Children do not have a chance to think by themselves.
● The teacher demonstrates experiment using a glass of water, sugar, salt, stone and cooking oil.	● It is not difficult to conduct experiments in this topic, because equipment and material to be used are all very easily available even in rural schools. However these opportunities are not fully used and material like stone is nonsense because most children know stone is not soluble before they do the experiments. This experiment with stones is indicated in the textbook, in fact, therefore it looks like the most common experiment. however, more meaningful experiments with equally easily available materials is possible.
● The teacher asks children what is soluble what is not individually.	● It is found that the concept of solubility is sometimes taught incorrectly in classrooms, especially rural schools. Some teachers do not use the technical term of 'soluble' correctly. For correcting this misunderstanding, it is

	necessary to give clear instructions about 'solubility' and activities to help teachers understand the concept.
● The teacher asks children ' is sugar soluble? Children say, 'Yes.' ● The teacher asks children, 'is a stone soluble?' Children say, 'No.'	● This is a kind of conclusion, however it does not indicate the basic principal of solubility itself. Children know sugar is soluble and stones are not soluble before experiments therefore this lesson does not make any sense.

Topic 6: Plants

1. Learning Objectives

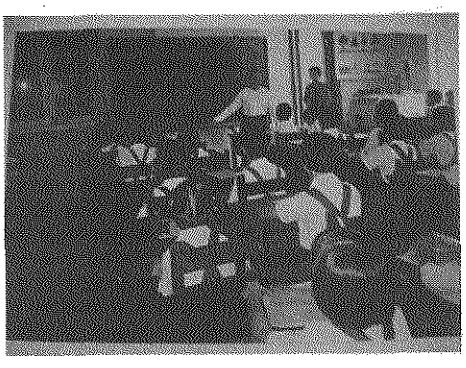
Children will be able

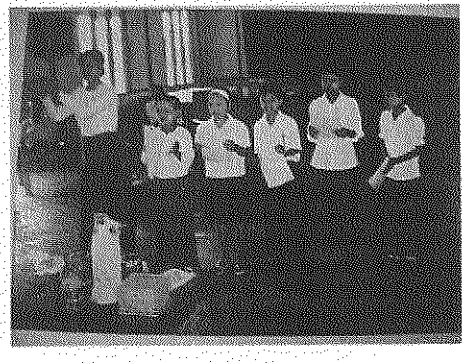
a) To explain cultivated plants and wild growth discriminatingly.

2. Teaching/Learning Materials

Local plants

3.Learning Activities and Points to be Improved

Learning Activities	Points to be Improved
● Explanation of the topic. ● The teacher writes down Domestic Plants and Wild Plants on the board. ● The teacher asks children, 'What are domestic plants and what are wild plants individually'. 	● If teachers explain the topic clearly at the beginning of the lessons, children would not be encouraged to think farther by themselves. ● This is often used in Myanmar. Teachers must be careful to categorize plants this way, some are difficult to clarify either as domestic or wild. Furthermore, these categories (domestic or wild) are not a scientific (botanic) distinction. ● It is sometimes useful to check children's knowledge. But in this case, it might be more effective to use plants first and develop into this question in an educational sequence.

● The teacher shows real plants she collected and asks children, 'What are domestic plants and what are wild plants?'	● It is going too fast to the next topic, so children will confuse the two concepts in this lesson. Teachers should take more time to develop the topic and deepen children's understanding.
● The teacher shows tomatoes, onions, potatoes and local cabbages to children and asks children which part of the plants they are.	
● Children answers the question in front of the class, everybody claps hands for right answers. 	● This reaction (clapping) is encouraging children, but on the other hand, this will stop children's further thinking process because children feel a sense of completion.
● The teacher finishes the lesson.	● Teachers should try to make children's learning continue after the lessons. If there is a conclusion/ summary (no follow-up words from the lesson), children do not develop their learning more.

Topic 7: Animal (Reproduction)

1. Learning Objectives

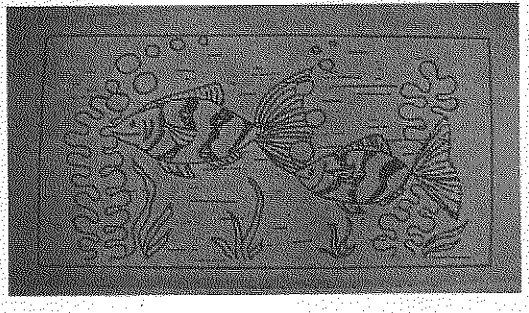
Children will be able

a) To know different kind of animals that hatch out of eggs and roe and

b) To explain the process of reproduction.

2. Teaching/Learning Materials

Not specially used <Illustration in the textbook>



3. Learning Activities and Points to be Improved

This topic was chosen due to a special request by the workgroup later. It was found that this topic was useful to try out as practice because they can use interesting local teaching/ learning materials.

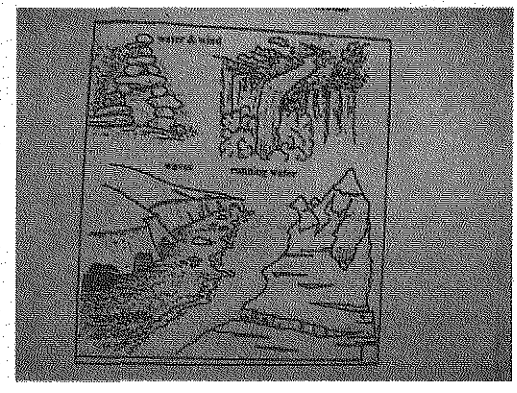
Topic 8: Soil Erosion

1. Learning Objectives

Children will be able
(a) To tell the cause or erosion.

2. Teaching/Learning Materials

Not specially used
<Illustration in the textbook>

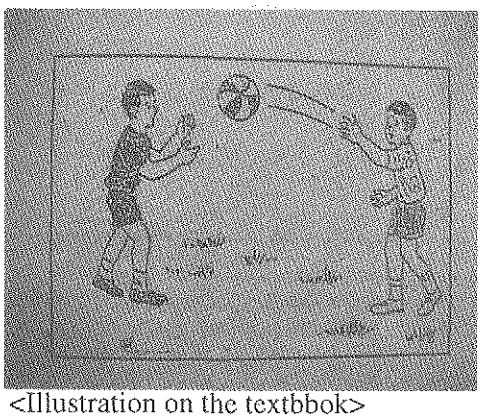


3.Learning Activities and Points to be Improved

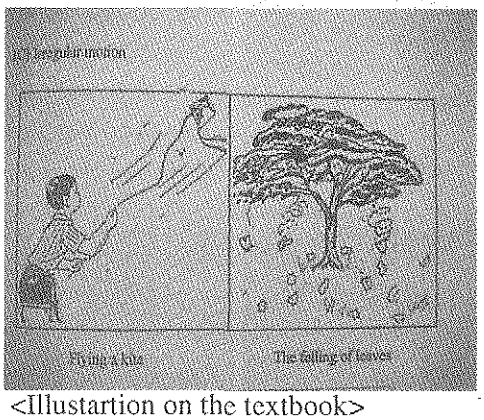
This topic was chosen due to a special request by the workgroup later. It was found that this topic was useful to try out as practice because they could develop interesting models.

Topic 9: Force

At the beginning, the topic was requested by the workgroup to make a lesson plan of 'movement' because in recent lessons, this topic was not well presented. It was found later that it was more difficult for children to understand the scientific meaning of 'movement' than of 'force'. Generally, these scientific concepts are taught first 'force' and 'movement' in a logical order. Therefore it was chosen to make a lesson plan of 'force'.



<Illustration on the textbbok>
Explanation of "**regular**" movement



<Illustartion on the textbook>
Explanation of "**irregular**" movement

5.2.3 Major Points to be Improved

For making the pilot lessons, following issues were specially taken into consideration.

(1) Reinforcing the idea of Child-Centered Approach (CCA) in Basic Science

Child Centered Approach is the basic idea to be practiced in Basic Science lessons. Therefore while making lesson plans this is to be basic to selecting the key-concepts and teaching-learning activities/methodologies in each lesson. Teachers should act as facilitators. This means teachers should have attitude towards 'helping children to learn' rather than 'teaching'. This is the very first step to improve science lessons in the field.

(2) Key-concepts selection

This is 'what children need to learn'. For CCA, lessons should be interesting, attractive and useful. Key-concepts in each lesson need to be specific and clear. They need to be carefully selected according to scientific meaning, educational psychology of the Myanmar children and the local environment. In the current curriculum of Basic Science, the topics in the textbook are mainly quoted from the contents in the higher education level, in simplified form. Primary school children need to be taught, rather appropriate concepts for their ages than simply simplified concepts. Teachers as well as curriculum developer should be well aware what is best for children to learn in each context. It is useful to restudy about the international tendency of science education. Basically comprehensive key concepts in Basic Science can be divided as follows;

1) Helping to learn systematically the most basic and universal scientific principals and theories,
2) Helping to develop scientific way of thinking,
3) Helping to learn basic knowledge related to real life, and
4) Helping to learn the role of science related to human society (including scientific history).

Meanwhile Myanmar children's learn under local context, most children in Myanmar do not get more than a five-year primary education in their lifetime. Therefore, it is necessary to teach

children knowledge and skills more selectively within the limited period. For selection of key-concepts in a lesson, it is necessary to come back to these and clarify the foundation of key-concepts.

(3) Selection of fewer prioritized contents in each lesson

In every lesson practice, too many concepts are taught, so it is difficult for children to explore their deep interests and understanding. Presently most children tend to memorize the contents in the textbooks without thinking and understanding the essential meaning of them. Therefore, it was necessary to reduce the number of concepts in a lesson and to develop these fewer concepts more deeply with more meaningful activities for children.

(4) Choice of the activities/methodology

The Teaching/Learning activities/methodology should be selected in order to make children's learning most attractive and interesting. It is determined by the following elements:

1) Curriculum
2) Age of children
3) Size of group
4) Teacher's skill
5) Children's social learning contexts
6) Material available

Even though lecturing and note-taking will be basic, it is always good to think of group work, discussion, demonstrations, experiments, crafts, story telling, self-research, field visits, fisiting resource persons, etc. It is important to think about what helps children learn most effectivly and what is most comfortable and enjoyable for both teachers and children. It is also very important to consider the limitation of local situations.

(5) Preparation for the lesson

Good preparation is crucial for successful lessons, especially for science ones. Some teachers try hard to prepare for lessons under certain limitations like availability of teaching/learning materials. However a lot of teachers think it is too much trouble for them to spend time to prepare for lessons. In fact teachers have to work so hard in classes and schools and it is difficult to find time for preparation.

(6) Maintenance of Teaching/ Learning material

Maintenance of Teaching/ Learning material is very important because it is necessary to share with many children and utilize materials for a long time since resources will be limited. In science lessons, it is even very educational to make children aware importance of 'cleaning up' as well as core activities itself. Children need to know activities finish only after everything is returned in the way it was before the activities and they need to realize that maintenance of materials is to share the same experience as they had with other children. Recently teachers often do not include 'cleaning up' in lessons and they are not well-guided for maintenance of Teaching/Learning materials.

(7) Assessment/evaluation

In the present situation, assessment/evaluation considerably depends on a single written test to check their knowledge. However in science education, it should be combined with daily observation of children's attitude and skills from their activities. Therefore in pilot lessons, learning objectives are set to observe children's activities.

(8) Classroom arrangement

Pilot lessons are focused on CCA and group work as much as possible because it is most effective in science educational activities such as experiments. Therefore children were set in groups for most of the activities.

(9) Classroom management

The idea of classroom management are not widely spread in Myanmar. Classroom management is extremely important for the child-centered approach to develop children's activities more freely and creatively. Presently, children are under control when they are passively learning. When new methods of learning are introduced, it is necessary to find appropriate management skills for teachers in order to stimulate children without getting out of control. Activities like experiments need a certain type of freedom for children but it must not go too far. Excellent observation skills and proper knowledge about subjects/topics is also required to monitor children's learning instantly.

(10) Communication skill

Good lessons require not only good contents or activities but also excellent communication between the teachers and children and among children. Presently many teachers require a quick response from children. They do not wait till children can answer, it looks very active but in fact it gives no time for children to think, therefore, it cannot be said that it is well developed communication. Teachers act like this because a lot of classes have a tight schedule so teachers need to hurry up, but to stimulate children's creative and reflective thinking, it is necessary to let them take their own time.

Communication among children in class is hardly seen. It is very important for children to listen to each other and think by themselves to develop communication skills.

(11) Developing scientific way of thinking

It is very important in science education that children be stimulated to develop scientific thinking. During all the lessons, questions must be given to children to think logically by themselves and predict the phenomenon with a hypothesis. Through this way, children will be able to construct their scientific way of thinking (clarifying cause-result relationship logically) and practice adapting to new science and technology easily in the future. Recently it is not very focused and teachers have little methodological knowledge about it.

(12) Terms in scientific concepts

The technical terms used in the Basic Science curriculum are difficult to use on the classroom level. One of the main reasons may be caused by the linguistic complexity of the Myanmar language. For example, people in Myanmar use two words to describe the phenomenon of "vibration" and clearly distinguish one from the other. One describes "vibration" causing a sound, and another describes "physical vibration." Therefore, it is difficult for primary teachers to link the concept of sound and physical vibration. Scientific terms should be explained more carefully in the curriculum to promote correct usage and understanding.

5.3 Social Studies

5.3.1 Selected Topics

In Social Studies, the following topics were selected for the pilot lessons. The main criteria for the selection of the topics were;

(1) The topics that teachers had felt were difficult to teach,
(2) The topics that can be applied by various new methods,
(3) The same number of topics from both the field of geography and history, and
(4) Politically sensitive topics were not selected.

Table 5-3: Selected Topics of Social Studies

Grade	Topic
Grade 3	Topic 1: Our Family (Chapter 2)
	Topic 2: Clothes We Wear (Chapter 7)
	Topic 3: Our Village (Chapter 9)
Grade 4	Topic 4: Our Country Myanmar (Chapter 1)
	Topic 5: General Aung San, The National Leader (Chapter 24) The Union Day (Chapter 28) The Independence Day Ceremony (Chapter 30)
	Topic 6: The Study of the Eight Major Directions and Location (Chapter 31)

Note: Topic 5 is a combined lesson of the current three chapters.

5.3.2 Current Typical Lessons

Topic 1: Our family

1. Learning Objectives

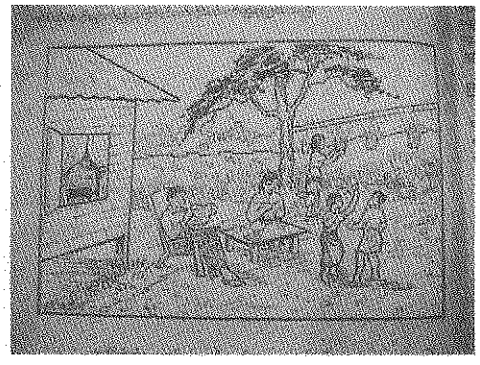
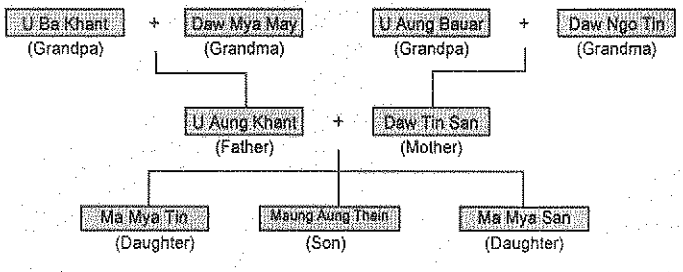
a) To be able to write down the number of family members and their names,
b) To be able to tell what the parents' role is,
c) To be able to write down the educational qualification of siblings,
d) To be able to recite one's daily house chores, and
e) To be able to write about how happy and pleasant one's family is.

2. Teaching/Learning Materials

Family photos or paintings[1]

[1] Most schools located in the urban areas have used photos and paintings. However, most schools in the rural areas have never used these.

3. Learning Activities and Points to be improved

Learning Activities	Points to be improved
● The teacher explains today's objectives, such as "we should be able to write down the names of family members" or "we should be able to explain parents' occupations."	● The objectives do not have to be explained at the beginning of the lesson. During the lesson, the teacher tries to let students know step by step.
● The teacher and students read the textbook.	● Based on the idea that the textbook is one of the references, reading the textbook is not required in the lesson.
● The teacher explains U Aung Khant's family in the textbook. 	● The family of U Aung Khant can be dealt with as a reference. So, the teacher does not have to necessarily explain it during the lesson.
● The teacher copies a family tree of U Aung Khant's family on the board. 	
● Students replace the names of U Aung Khant's family to their own family members and write it in their notebooks. ● The teacher lets students make the following table and lets them fill in the blanks.	
	● A more attractive and understandable way should be used, instead of this kind of table.
● The teacher explains when the family members are happy and pleasant by referring to the family of U Aung Khant in the textbook.	

Name of Family Members	Occupation	Educational Qualification	Daily Chores

● As a conclusion, the teacher picks out some students and lets them tell the class about their family members and daily chores. ● The teacher also lets students write about how their family is happy and pleasant in their notebooks.	● These kinds of activities are conducted during the lesson, not at the end of the lesson.

Topic 2: Clothes We Wear

1. Learning Objectives

a) To be able to describe clothes according to climate and
b) To be able to identify different types of clothes

2. Teaching/Learning Materials

Pieces of clothing material, ready-made clothes, or clothes wthe students are wearing

3. Learning Activities and Points to be improved

Learning Activities	Points to be improved
● The teacher prepares pictures for various kinds of clothes or real clothes. Then the teacher explains that these clothes are made of plants, animals, or artificial materials. The teacher or students try/tries to divide these into three groups, clothes made of plants, clothes made of animals, and clothes made of artificial materials.	● The current lesson's logic does not seem to be appropriate for students, from the CCA point of view. The current logic: **Materials -> When we wear**, can be changed to the new logic: **When we wear -> Why -> Each clothes' function -> Materials**
● The teacher draws the following table on the board and lets students fill it in. **Clothes we wear** | **Climate**	
● Then the teacher draws another table as follows and lets students fill it in again. **Persons wearing uniform** | **Colors of clothes**	● In this part of the lesson, the educational effect can be rather different between the method of using various pictures of uniforms and the method of not using these. The teacher tries to use the visual aids as much as possible.
At the end of the lesson, the teacher asks students how much they remember. Examples of questions are (1) Why do you wear clothes? (2) (*showing a picture or real clothes*) What material is it made of? (3) What clothes do you bring of you are going to a very cold and hilly region? (4) What clothes are man-made?	● It is better that these questions be conducted during the lesson, not at the end of the lesson.

Topic 3: Our Village

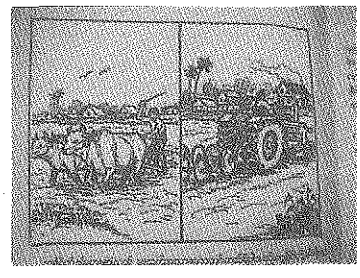
1. Learning Objectives

a) To be able to write down the location of the village and its main economic activities,
b) To be able to explain the difference in communicational condition of the village,
c) To be able to write down the social activities like education and health of the village, and
d) To be able to explain how you will work for the development of your village.

2. Teaching/Learning Materials

Picture of the village and Map of the village depicting a certain difference between then and now)[2]

3. Learning Activities and Points to be improved

Learning Activities	Points to be improved
● The teacher explains a village in the textbook, its location, commercial activities, the situation of communication, education, and health, and social activities. 	● It is good enough that the content of the textbook in this chapter is only referred to by the teacher to help students understand their own village/township. The teacher does not have to explain the content in detail.
● Then the teacher lets students think about their village/township. Referring to the village in the textbook, the location of their village/township and its commercial activities are explained mainly by the teacher. ● In addition, the teacher explains the change of the situations of communication, education, and health systems. ● Then the teacher deals with social activities and picks some students to let them tell about what kinds of social activities they have joined before. For example, planting trees, flowers, gardening, and greening local areas.	● This is the main part ofn this chapter. The current typical lesson of this part has tended to be conducted in a lecture style. The teacher explains most of the issues about their village/ township. The pilot lesson plan proposed to let students act more in this part. For example, **observation** of the village/ township, **interviewing** elder persons about the situation of their village/township, and **making an illustration map** of their living area.

[2] These teaching/learning materials are suggested in the current teacher's manual. However, most schools have not used these.

Topic 4: Our Country Myanmar

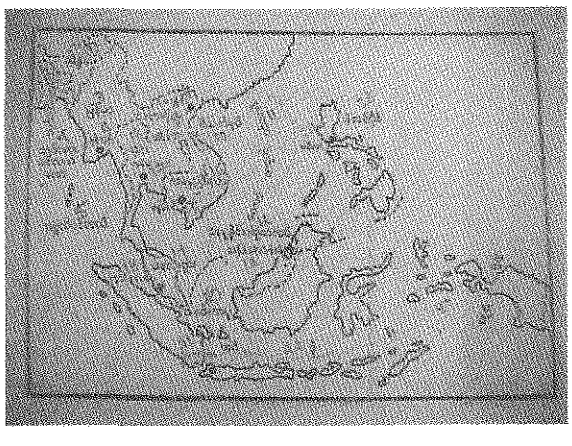
1. Learning Objectives

a) To be able to describe the location,
b) To be able to state the extent and area,
c) To be able to describe the topographical features,
d) To be able to describe the climate and natural growths, and
e) To be able to describe the transport and communications.

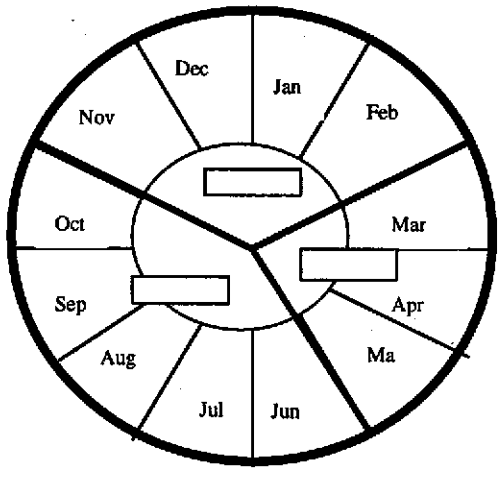
2. Teaching/Learning Materials

Weather chart, production chart, forest products, gricultural products, motor/rail/plane routes, information from journals, magazines, posters, postcards and advertisements, a World map, an ASEAN map, and a Myanmar map (Topographical features)[3]

3. Learning Activities and Points to be improved

Learning Activities	Points to be improved
● The typical lesson usually starts from the question of, "Where do you live?" (Name of township -> Name of state/division -> Name of country)	
● **(Location and size)** The teacher then explains that Myanmar is located in Southeast Asia, its size is more than 260,000 square miles, it is a member of ASEAN, and it is surrounded by China in the North and Northeast, Laos and Thailand in the East, Bangladesh and India in the West. 	● The teacher tended to explain only facts (location, size, ASEAN, and the neighboring countries). The pilot lesson plan proposed more interesting ways of teaching and a method to promote students' deep understanding. For example, finding the location of Myanmar on the world map, instead of a map of Southeast Asia, comparing the neighboring countries by size and population, and showing various products exported from Myanmar and ones imported from the neighboring countries.
● **(Topographical features)** The teacher draws a map of Myanmar on the board, and lets students add (a) Mountain	● It is significantly difficult for students to understand

[3] These teaching/learning materials are recommended in the current teacher's manual. However, only a world map, an ASEAN map and a Myanmar map are observed to use in most primary schools.

ranges, (b) Plains, (c) Ayerwaddy river, (d) Chindwin river, (e) Than Lwin river, (f) Sittaung river, and (g) Delta region.	the topographical features in Myanmar. In the current typical lesson, the teacher usually draws a blank map on the board. For effective teaching, a topographical features map of Myanmar should be created. (*During the preparation of the pilot lesson, a topographical features map was produced by the working group members.*)
● **(Climate and natural forests)** The teacher lets students copy a diagram from the textbook, and lets them fill in the blanks. 	● Some confusion between the concept of "**climate**" and "**seasons,**" can be seen in the textbook and during the implementation of the lesson. In this part, the issue of "climate" should be taught with the distribution of the various natural forests.
● Then the teacher explains natural forest in different regions on the map; (a) Rain forest, (b) Deciduous forest, (c) Dry forest, (d) Hillside forest, and (e) Tidal forest.	
● **(Agricultural Products)** The teacher lets students bring some agricultural products to the school. The teacher lets students complete the following table.	
● **(Transport and communication)** The teacher explains Myanmar's main transportation; buses, cars, trains, ships and airplanes.	● The teacher tended to teach only different kinds of transportation and communication. In this teaching practice, the issue of why transportation system had been developed in particular areas is lacking. The

Production	Products/Activities
1. Agriculture	Rice, Wheat, ...
2. Minerals Extraction	Silver, Lead, ...
3. Industry	Rice mills, ...
4. Forestry	Teak, ...
5. Handicrafts	Weaving, ...

	areas, is lacking. The economic issues, demographic issues, and geographical issues should be considereded in this part.
● As an assessment, the teacher gives students questions; e.g. "What countries are Myanmar's neighboring countries?" "What is the size of Myanmar (square miles)?" "What are the famous rivers in Myanmar?" "What kinds of climates does Myanmar have?" and "Which travel routes are the most frequently used in traveling from your region to the other parts of the country?"	● These issues should be achieved during the lesson process.

Topic 5: ***General Aung San, The National Leader***
The Union Day
The Independence Day Ceremony

1. Learning Objectives

<General Aung San, The National Leader>

a) To be able to write about General Aung San's admirable character,
b) To be able to describe General Aung San's courage and self-confidence, and
c) To be able to write about General Aung San's words of goodwill toward the nation.

<The Union Day>

a) To be able to tell the class about the convention of Aung San Atley signed by the leadership of
General Aung San,
b) To be able to explain the success gained from the mutual endeavors in obtaining independence to Pinlon convention,
c) To be able to explain to get independence through the force of union national solidarity, and
d) To be able to tell the objectives of the observance of Union Day annually.

<The Independence Day Ceremony>

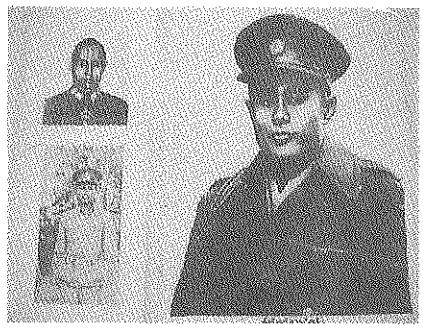
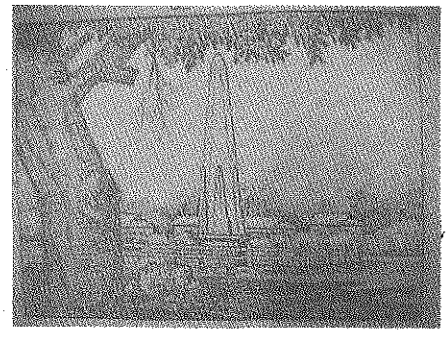
a) To be able to describe how the celebration of the Independence Day Ceremony is held and
b) To be able to tell what to do to preserve the Independence everlastingly.

2. Teaching/Learning Materials

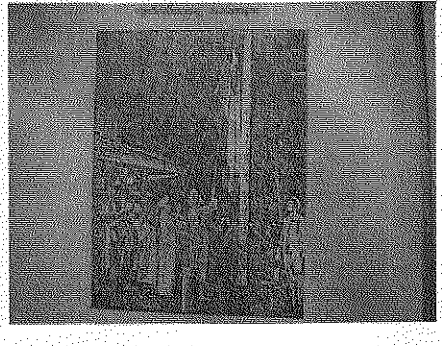
Picture of General Aung San, Picture of the Martyrs, Pictures of General Aung San and Etley, Picture of the Pinlon monument, and Picture illustrating the Independence Day flag-hoisting ceremony[4]

[4] Most schools have used only a picture of General Aung San. However, some advanced schools like

3. Learning Activities and Points to be improved

Learning Activities	Points to be improved
● **(General Aung San, The National Leader)** The teacher shows a picture of General Aung San and tells a story about him. Then the teacher explains General Aung San's nature and morals.  ● The teacher writes a famous speech of General Aung San on the board and lets all students read. ● As a conclusion, the teacher emphasizes that General Aung San made a great effort to gain the independence of Myanmar. ● At the end of the lesson, the teacher asks students questions; e.g. "What kind of spiritual character did General Aung San possess?" "By which word did General Aung San bravely express his courage and self-confidence?" and "Quote the General Aung San's words of goodwill for the nation."	● In the study of historical persons, the teacher should tell not only the facts about what the person did, but also their personal stories such as their childhoods and episodes to get students interested in the persons. ● In addition, it is very important and interesting in the study of history, to think and imagine if you had been General Aung San or were living at his time, what would you have done or would have wanted to do. (*This idea is a fundamental for the study of history.*)
● **(The Union Day)** In this chapter, most teachers usually give a lecture to students. Most teachers start from the "Aung San-Attley Treaty" and the "Pinlon Treaty", to the activities of the "Union Day."  ● To explain that unity is important, some schools practiced telling the following story; "If you have only one branch of a tree, it is easy to break into two. However, if you tie	● The teacher should let students think and imagine if they had been General Aung San or Attley, and what would they have done. To help students think about this question, the teacher should also give enough background information of the historical situation in that era prior to the question.

the Education College Practicing Schools have used various materials made by trainees and trainers in the Education Colleges.

up several branches in a bundle, it is very difficult to break into two. The unity of many different people makes the nation stronger."	
● Some teachers try to let students make scrapbooks regarding the events/activities.	● This idea is good for promotion of students' motivation.
● At the end of the lesson, the teacher asks questions to students; e.g. "What kind of day is the Union Day?" "What is the Aung San-Attley Treaty?" "How would the situation of Myanmar have changed, if the deliberate dissension of the British among the union nationals had succeeded?	● This knowledge should be achieved during the lesson.
● **(The Independence Day Ceremony)** At the beginning of the lesson, all students read the textbook following the teacher. Then the teacher asks students about the Independence Day celebration in 1948. *(All students usually loudly answer in chorus.)* The teacher picks out several students and asks the same question again. 	
● The teacher explains about what meaning the celebration of the Independence Day ceremony has in the reins of the current government.	● The teacher should let students think about this issue (the meaning of the celebration of the Independence Day ceremony) by starting from familiar events for students.
● The teacher lets students compare the 1948's celebration and the current cerebration. *(But it is rather common that the teacher gives the answer.)*	
● As a conclusion, the teacher explains what we should do to preserve Independence eternally.	● This issue should also be sincerely thought about by students themselves.

Topic 6: The Study of the Eight Major Directions and Location

1. Learning Objectives

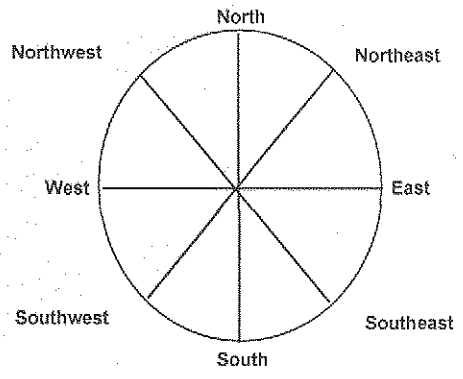
a) To be able to name the eight major directions,
b) To be able to describe the methods of finding the eight major directions,
c) To be able to distinguish the location and direction of things in one's environment, and
d) To be able to find the locations and directions on simple scale models and maps.

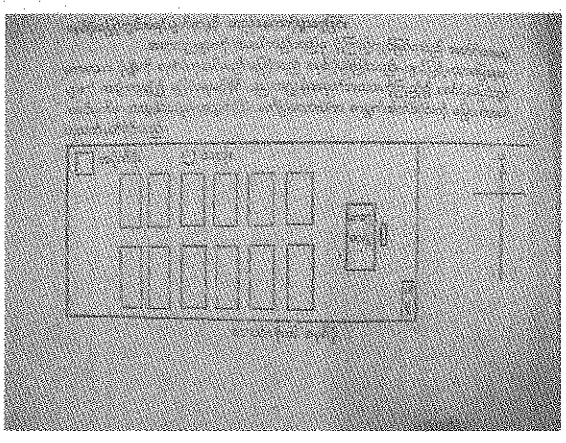
2. Teaching/Learning Materials

Actual conditions of the classroom in one's environment, school compound, living quarters, dcale models of these, maps showing the location of Myanmar, and maps illustrating states and divisions

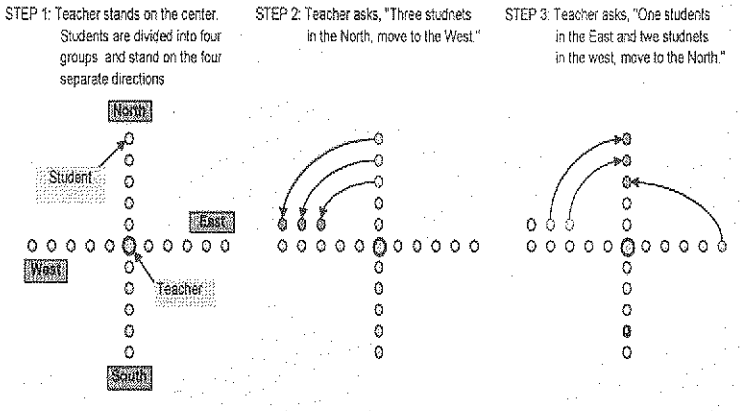
3. Learning Activities and Points to be improved

Learning Activities	Points to be improved
● At the beginning of the lesson, the teacher recalls students' knowledge of four directions by singing the poem of the "Four Directions." (*This poem is usually taught in Grade 1.)* 	● This kind of traditional teaching method should be preserved.
● The teacher lets students tell about the persons or objects on the right, left, front and back sides. Then the teacher draws a scale model on the board and shows four directions (E, W, N and S) first and another four directions (NE, NW, SE, and SW) next.	● This teaching method is not appropriate to teach directions. Because it does not match everyday life. We cannot use cardinal directions in that way, i.e., "there is a desk in the North."





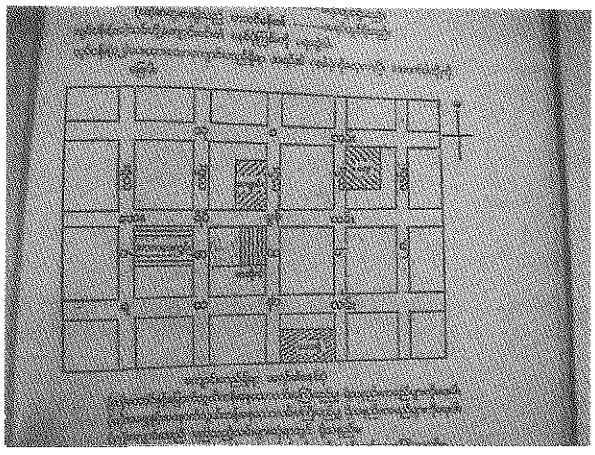
- To confirm the students' understanding of the eight directions, the teacher tries to do the following activity in the classroom.

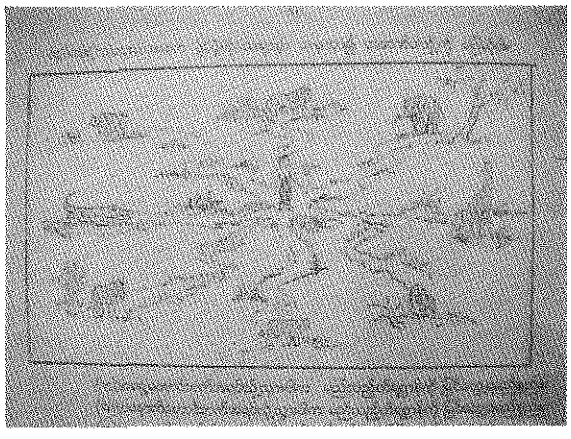


- To confirm whether or not students understand the directions, the teacher asks questions by using a map in the textbook.

- This activity seems to be interesting for both students and the teacher. However, we should review it more whether or not this activity can promote students' understanding of directions. *(This seems to be only a physical exercise.)*

- To teach directions, using maps is inevitable.





5.3.3 Major Points to be Improved

During the preparation for the pilot lessons, the members of the working group of Social Studies reviewed the problems found in the first phase, and took the following issues into consideration.

Issues related to "Teaching Methods"

(1) Clear direction of teaching

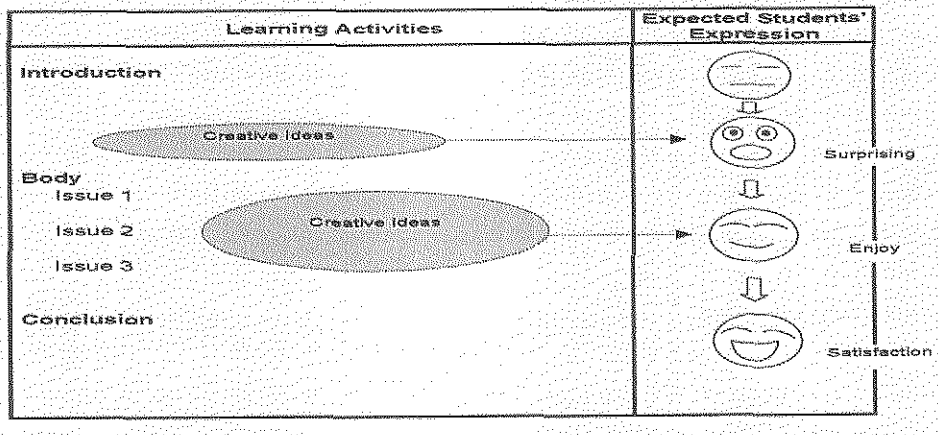
In conventional teaching, there has always been more than two objectives in one lesson period. This situation has made students' understanding of the contents difficult and sometimes students are confused. The pilot lessons of Social Studies were prepared to try to achieve one objective or at most two objectives in one lesson.

(2) Use of familiar issues in students' daily life

At the beginning of the lesson, it is better that the teacher tries to start talking about some issues, events and things, which are very familiar for students in order to stimulate their interests and to motivate them to study continuously. In addition, it was also carefully considered that the knowledge gained during the lesson should be applicable to the real life and society.

(3) Promotion of creative ideas

To make the pilot lessons more interesting, various unique ideas and activities were prepared and implemented during the lessons. Especially, both parts of the "introduction" and the "body" were carefully prepared through intensive discussion among the working group members. Referring to the following table, the working group members tried to make different expression of students during the lesson. To motivate students to study, creative and unique ideas were inserted in the introduction. To increase students' interest for the lesson, another unique idea was also put in the body of the lesson.



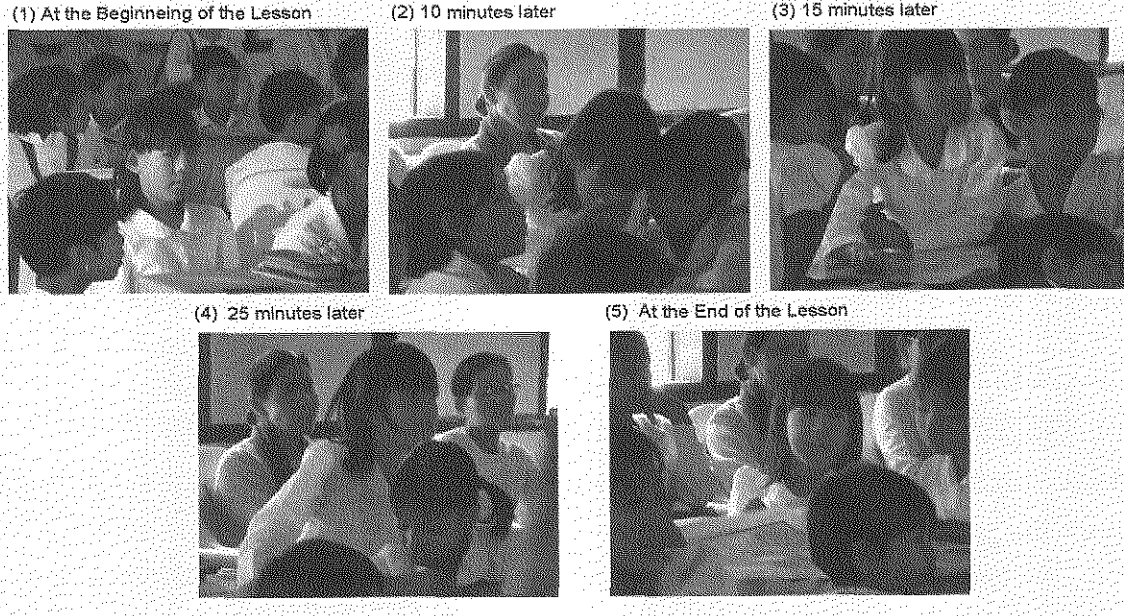


Figure 5-1: CCA Lesson Procedure

(4) Active participation of students

It is significantly important that the teacher creates an atmosphere for students' active participation in the lesson. The pilot lessons were produced in sincere consideration of this point. To promote students' active participation, various activities such as **group discussion**, **quizzes**, **game**, **drawing maps**, and **presentations**, were prepared in the

lessons. These activities would require students to "**feel**", "**think**", "**imagine**", "**find**" and "**express**," which are important learning processes for students.

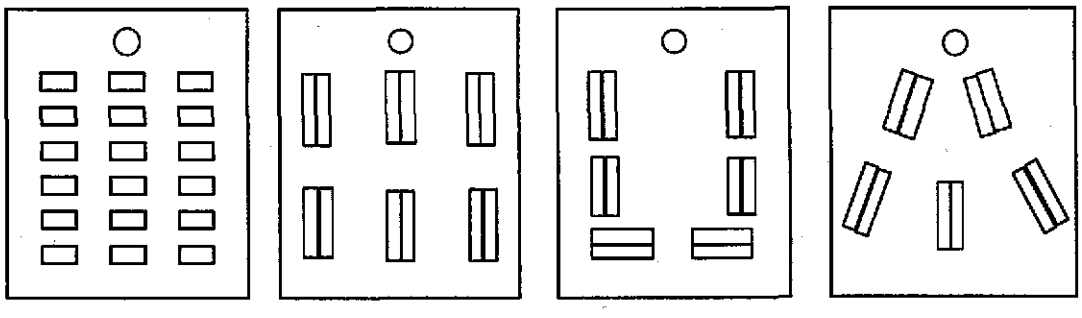
(5) Effective use of teaching/learning materials

According to the observation of the lessons in the primary schools, some teachers had not used any teaching/learning materials and the others had brought many materials but could not use them effectively. For example, in the case of the lesson for the agricultural products in Myanmar, the teacher prepared many vegetables and grains. First, the teacher showed these vegetables to students and let students answer the names. After this, the teacher moved the issue to the main agricultural areas and their products. After this, the teacher did not use the vegetables and grains he brought any more. The pilot lessons were prepared in consideration of effective use of teaching/learning materials. The working group members chose teaching/learning materials carefully and the materials were neither too many nor too few. In addition, to stimulate students' active participation, it was significantly concerned that each group can have at least one learning material, if possible.

(6) Classroom arrangement

CCA requires various activities of students during the lessons. The sitting arrangement, therefore, is important to promote the activities. Depending on students' activities, different sitting arrangements were prepared. For example, "lecture style", "group making", "U shape" and "center to outside spread style" were considered as appropriate sitting arrangements.

A: Lecture style B: Group making C: U shape D: Center to outside spread



Issues related to "Teaching Contents"

(7) Review of the contents

CCA aims that students deeply understand the concept of the topic. To achieve this aim, the teacher should give more information on the topic. During the preparation of the pilot lessons, the working group members carefully reviewed the contents of the textbook in each topic and added some new information in the lesson plans if needed. In addition, each field of study, "geography", "history", "life skills", and "moral and civics," should be integrated in the subject of "social study." Therefore, various issues from the above four fields' point of view, were prepared to teach during the lesson. For example, in the case of the topic, "Our Family," the working group members considered the following issues from the different fields of study.

Table 5-4: Example of Integration of Different Field of Study in the Topic

Objectives	Geography	History	Life Skills	Moral & Civics
(1) Family Member	Where live	Where lived		
(2) Parents' Occupation	Where work	Where worked	Why work	How work
(3) Educational Qualification			How useful	How important
(4) Daily Chores			Why do	How do
(5) Happiness			How create happiness	Why important

Note: The objectives above are ones that are written in the current teacher's manual.

Issues related to "Preparation for Teaching / Learning Materials"

(8) Locally available materials

Teaching/Learning materials are one of the most important things for CCA. During the preparation of the pilot lessons, various teaching/learning materials were produced and used in the lessons. The working group thought that these materials should have been locally available and ones that can be produced easily by teachers. In addition, low-cost materials are also another key issue.

(9) Attractive materials

If locally available and low cost materials cannot attract students' interests, these teaching/learning materials are not worth using. The working group members carefully reviewed a variety of the current teaching/learning materials and chose several materials that are good enough to use. The working group members also produced new materials.

Issues related to "Improvement of Teachers' Capability"

(10) Teachers' behavior and attitude

In conventional teaching, the teacher seems to be a master and his/her power is enormous in the class. In some primary schools, it was observed that the teacher holds a bamboo stick with a scary face and forces students to do things. In the CCA, on the other hand, the teacher should be a facilitator, supporting students' understanding of the contents and helping the performance of students. The working group members carefully took the teacher's attitude into consideration. For example, the teacher should deal with students like their elder brother or sister in the classroom, even though discipline is sometimes needed. The teacher should make a variety of facial expressions and gestures during the lesson. Such an attitude is significantly important in the CCA in order to promote students' positive and active participation and to give students the pleasure of studying.