

CHAPTER 4

CURRENT SITUATION OF PRIMARY SCHOOLS

4.1 Overview

4.1.1 Academic Year

The academic year of primary education generally starts in June and ends between the end of February and the beginning of March, depending on the school. However, some primary schools that are combined into middle or high school, complete their academic year at the end of February, due to preparation for the entrance examination in middle and high school. The schools usually have a 10 day-vacation in October and another 10 days in December. February is usually a reviewing period, therefore the actual lessons are almost all finished before February.

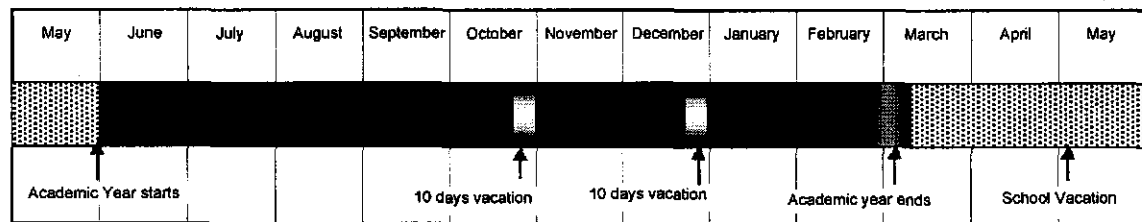


Figure 4-1: Academic Year of Primary Education

4.1.2 Weekly and Annual Number of Classes

According to the Curriculum, the allocated numbers of classes in each subject are as follows.

Table 4-1: Number of Classes in Primary Education

Subject	Lower Primary Level (KG to G2)			Upper Primary Level (G3 to G4)		
	Weekly No.	Annual No.	%	Weekly No.	Annual No.	%
Myanmar	11	396	27.5	8	288	20
English	4	144	10	5	180	12.5
Mathematics	7	252	17.5	7	252	17.5
General Studies	Natural Science	4	144	10	-	-
	Moral & Civics	2	72	5	-	-
	Life Skills	3	108	7.5	-	-
Social Studies	Geography & History	-	-	-	4	144
	Moral & Civics	-	-	-	2	72
	Life Skills	-	-	-	2	72
Basic Science	-	-	-	4	144	10
Art & Music	3	108	7.5	3	108	7.5
Physical Education	4	144	10	4	144	10
Union Spirit	1	36	2.5	-	-	-
Activities in School	1	36	2.5	1	36	2.5
Total	40	1,440	100	40	1,440	100

Note: *Each period lasts 30 minutes in lower primary levels and 35 minutes in upper primary levels.

**Each academic year consists of 36 weeks.

***There are 8 classes a day and 40 classes a week.

Source: DEPT, Syllabus for the Basic Education / Primary Education AY 1998-1999

Table 4-2: Example of Weekly Timetable for Lower Primary Level (KG to G2)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9:15-9:30	Assembly	Assembly	Assembly	Assembly	Assembly		
9:30-10:00	Myanmar	Myanmar	Myanmar	Myanmar	Myanmar		
10:00-10:40	Myanmar	Myanmar	Myanmar	Myanmar	Myanmar		
10:40-10:50							
10:50-11:20	English	English	English	English	Mathematics		
11:20-11:30							
11:30-12:00	Mathematics	Mathematics	Mathematics	Mathematics	Myanmar		
12:00-13:00			Lunch Break				
13:00-13:30	Mathematics	Mathematics	General Studies	General Studies	General Studies		
13:30-13:40							
13:40-14:10	General Studies	General Studies	General Studies	General Studies	General Studies		
14:10-14:20							
14:20-14:50	General Studies	Art & Music	Art & Music	Art & Music	Union Spirit		
14:50-15:00							
15:00-15:30	Physical Education	Physical Education	Physical Education	Physical Education	Activities in School		

Source: DEPT, *Syllabus for the Basic Education / Primary Education AY 1998-1999*

Table 4-3: Example of Weekly Timetable for Upper Primary Level (G3 to G4)

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9:15-9:30	Assembly	Assembly	Assembly	Assembly	Assembly		
9:30-10:05	Myanmar	Myanmar	Myanmar	Myanmar	Myanmar		
10:05-10:40	Myanmar	Myanmar	Myanmar	English	English		
10:40-10:50							
10:50-11:25	English	English	English	Mathematics	Mathematics		
11:25-12:00	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics		
12:00-13:00			Lunch Break				
13:00-13:35	Social Studies	Social Studies	Social Studies	Social Studies	Social Studies		
13:35-14:10	Social Studies	Social Studies	Social Studies	Basic Science	Basic Science		
14:10-14:20							
14:20-14:55	Basic Science	Basic Science	Art & Music	Art & Music	Art & Music		
14:55-15:30	Physical Education	Physical Education	Physical Education	Physical Education	Activities in School		

Source: DEPT, *Syllabus for the Basic Education / Primary Education AY 1998-1999*

4.1.3 Recent Introduction of General Studies, Basic Science, and Social Studies

In AY 1998-99, the Government of Myanmar started a new curriculum for basic education. Notable changes in the curriculum were the introduction of new subjects and new learning approaches. In the lower primary level (KG, G1 and G3), General Studies, Arts, Physical Education and Union Spirits were newly introduced. In the upper primary level (G3 and G4) Social Studies, Basic Science¹, Arts and Physical Education were introduced and School Activities extended to the upper primary level. In addition, new textbooks and teacher's manuals were made.

In General Studies there are three components, which are;

¹ Science was taught until 1981.

1. Natural Science,
2. Morals and Civics, and
3. Life Skills.

In Social Studies, there are four components, which are;

1. Geography,
2. History,
3. Morals and Civics, and
4. Life Skills².

The anticipated outcome from the new textbooks of General Studies, Basic Science and Social Studies is children's acquisition of knowledge and skills through learning activities. This new approach is known as the "Activity Oriented Approach" or the "Child-Centered Approach," which is expected to be more effective than the conventional rote-learning method.

In the preface of the National Curriculum, the aims in designing the curriculum for the Basic Education Primary Level are indicated as follows;

For students to be able to:

- (a) develop in the four language skills (listening, speaking, reading, and writing),
- (b) behave as good citizens,
- (c) adjust to the community's values (social justice to all communities' organizations), and
- (d) develop a healthy, happy, and self-disciplined attitude and behavior that are related to the basic skills – (reality of life).

It is directed towards "real life" oriented learning, which means that the primary education level intends children to learn useful knowledge and skills for real life relevant to their social context.

The curriculum policies for production of teaching/learning materials are shown as follows;

- (a) Relevance to the educational aims of the nation,
- (b) Child-centered learning as the focus of learning activities,
- (c) Application of newly acquired knowledge, outside curriculum activities as required (FLEXIBILITY), and
- (d) Innovation: to develop new ideas based on knowledge acquired (CREATIVITY).

² Before this curriculum change, History and Geography were taught separately in the upper primary level. Morals and Civics and Life Skills are the totally new subjects in the core curriculum.

Table 4-4: Weekly Number of Classes by Subject before and after AY 1998-99

Before AY 1998-99			After AY 1998-99			
Subject	Weekly No. of Classes		Subject	Weekly No. of Classes		
	Lower Level	Upper Level		Lower Level	Upper Level	
Myanmar	12	15	Myanmar	11	8	
English	5	5	English	4	5	
Mathematics	8	8	Mathematics	7	7	
Geography	-	2	General Studies	Natural Science	4	-
History	-	2		Moral & Civics	2	-
Activities in School	10	3		Life Skills	3	-
			Social Studies	Geography & History	-	4
				Moral & Civics	-	2
				Life Skills	-	2
			Basic Science	-	4	
			Art & Music	3	3	
			Physical Education	4	4	
			Union Spirit	1	-	
			Activities in School	1	1	
Total	35	35	Total	40	40	

Source: DEPT, Syllabus for the Basic Education AY 1981-1982, and AY 1998-1999

4.1.4 Current Classroom Lessons

In urban areas, there are usually 60 to 80 students in one class. Two to three students share a desk and a bench. It is physically overcrowded and beyond the capacity of teachers to properly manage the classroom. In some urban schools, two teachers are allocated to one class. In such a class, however, two teachers conduct lessons by turns, rather than both teachers cooperating together to assist children's learning activity. In rural areas, on the contrary, there are many small schools with only two or three teachers where the proper conduct of multi-grade teaching is necessary. Currently such small schools put several grades into one classroom, but do not conduct multi-grade teaching properly.

Most of the lessons are taught according to the conventional "teacher-centered" way. Many teachers usually do not walk around the classroom. They stand in front of the classroom the whole time of the lecture. Learning is more oriented to memorization than to activities, with little opportunity for creativity. The traditional learning style of chanting not only prevents individual thinking but also disturbs the neighboring classes. The Teacher's Manual indicates some child-centered activities, but they are not effectively implemented because most teachers do not understand many of the concepts behind it. Discussion or questions and answers are not encouraged in the classes. Students are rarely given an opportunity to discuss with each other. The teacher asks questions and students answer most of the time, and the students hardly ask questions to the teacher. The shortage of teaching/learning materials is an acute problem. Even when they exist, these are not be effectively used, because most teachers are not well-trained to use them. Teachers sometimes use inappropriate teaching/learning materials in the lessons³.

³ For example, for a topic like "vertebrates/invertebrates" in the "Living Things," many teachers use plastic toys rather real materials. To teach this topic, real materials are better to use.

4.2 General Studies

4.2.1 Objectives of General Studies

General Studies is taught in KG, G1 and G2 under the current curriculum. General Studies consists of three fields of study; Natural Science, Life Skills and Morals and Civics.

The objectives of General Studies for KG, G1 and G2 are to acquire knowledge and skills in the major three fields of study through learning activities, according to the age and the level of learners. According to the syllabus, which complies with the “Basic Education Curriculum, Syllabus and Textbook Committee” organized in 1998, the objectives of General Studies are;

(1) To study and explore the nature of things in the environment in Natural Science, particular objectives of Natural Science at the primary level are;

- a. To take interest in the natural process and develop the habit of studying and observing them,
- b. To be aware of the advantage of natural resources and be able to exploit them for daily living,
- c. To learn to appreciate the environment and safe-guard it as well,
- d. To be able to apply knowledge of personal hygiene and family health procedures to daily activities, and
- e. To be aware of the importance of science in the development of production.

(2) To have a good character and become a polite, dutiful and good citizen,

(3) To adapt themselves to their surroundings and to equip them with the necessary basic skills and good habits,

- a. To provide appropriate knowledge, skills and information for the promotion of sickness prevention,
- b. To live in conformity with the environment and to provide appropriate basic skills for the life-long process, and
- c. To promote the awareness that sickness prevention is more beneficial than curing sickness.

4.2.2 Textbook and Teacher’s Manual

Among three fields of study in General Studies, only Natural Science has a textbook. The other two, Life Skills and Morals and Civics currently do not have textbooks. However, the Teacher’s Manual, prepared by grade, has instructions of all three fields of study.

There are 27 topics in KG; i.e., 15 topics for Natural Science, 7 topics for Morals and Civics, and 5 topics for Life Skills. The number of topics in G1 is 26; i.e., 14 for Natural Science, 7 for Moral and Civics, and 5 for Life Skills. There are also 29 topics in G2; i.e., 15 for Natural Science, 7 for Moral and Civics, and 7 for Life Skills.

Table 4-5: Contents of General Studies for KG, G1 and G2

Contents for KG		Contents for G1		Contents for G2	
Natural Science		Natural Science		Natural Science	
Part 1 Animals 1 Animals present in our environment 2 The need of Living Things 3 The relationship between Animals and their Environment	22	Part 1 Living Things 1 Living Things in our Environment 2 Needs of Creatures 3 Creatures-Environment Relations	22	Part 1 Animate/Living Things 1 Living Things in our Environment 2 Need of Living Things 3 Relationship between Living Things and the Environment 4 Preserving and Protecting the Environment	22
Part 2 Matter 4 Studying the objects in the classroom 5 Comparison of one object with another 6 Size 7 Collection of objects of same shape and size from a mingled lot	28	Part 2 Matter 4 Study of Matter in the Environment 5 Comparison of Matter 6 Grouping Matter	28	Part 2 Matter 5 Studying Liquid in our Environment 6 Studying of Gas in the Air 7 Defining Solids, Liquids and Gas	28
Part 3 Energy 8 Differentiation between Heat and the Cold 9 Listening to Sounds 10 Differentiation between Light and Darkness 11 Magnet and Electricity	24	Part 3 Energy 7 Sources of Heat 8 Classifying Sounds 9 Sources of Light 10 Magnet and Electricity	24	Part 3 Three Energy 8 Obtaining Heat by rubbing Two Objects 9 Emotions caused by Sound 10 Benefits of Light 11 Magnetism and Electricity 12 Different kinds of Motions	24
Part 4 The Earth and the Space 12 Study of the Weather for any particular Day 13 Study of Sources of Water for Household use 14 Study of Living Things / Non Living Things 15 Describing Things One see in the Sky during the Day and at Night	28	Part 4 The Earth and Space 11 Studying Weather Conditions 12 Studying Water from Different Sources 13 Study of Familiarity with Color of Earth from Different Regions 14 Study of the Sun, the Moon and the Stars	28	Part 4 The Earth and Space 13 Weather 14 Comparing Different kinds of Soil 15 The Sun and the Moon	28
Moral & Civics		Moral & Civics		Moral & Civics	
16 Auspicious rhymes 17 National spirit and patriotism 18 Morals (and manners) 19 Cultural traits 20 The dutiful one 21 Admirable cultural practices 22 Stories and fables	56	15 Mingalar Poems 16 National Pride and Patriotic Spirit 17 Self-discipline 18 Culture 19 Responsibility 20 Good Ethical Practices 21 Folktales	56	16 Auspicious poem 17 National Spirit and Patriotism 18 Morals 19 Politeness 20 Duty 21 Polite Habits 22 Stories	56
Life Skills		Life Skills		Life Skills	
23 Personal hygiene 24 Health and diseases 25 Comfortable clothing enhancing healthiness 26 Communication skills 27 Balanced diet	90	22 Personal Hygiene 23 Be rid of Disease, Be Happy 24 Wear Healthy , Economic Clothing 25 To Eat Others Politely 26 Learn Handicraft	90	23 Personal Hygiene 24 To be Healthy - Free from diseases 25 To Use Pocket Money Wisely 26 Myself and My Friends 27 To Obey Rules and Be Happy 28 To Deal Politely 29 To be Skillful	90

Note: The numbers indicate allocated teaching period, not including periods for review session.

Source: The textbooks and The Teacher's Manuals of General Studies

Overview of Textbook and Teacher's Manual

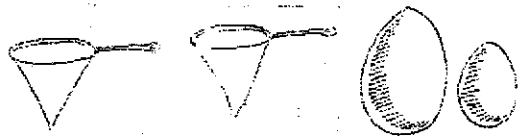
The textbook is composed of "preface," "table of contents," and "explanation of the topic," "figures," and "tasks." The Teacher's Manual contains "note to teachers," "lesson topic," "concept" of the lesson, "learning objectives," "teaching/learning materials" to be used, "learning activities (tasks)" and "assessment."

A typical chapter of the Textbook and the Teacher's Manual in General Studies is shown as follows.

Table 4-6: Example of General Studies Textbook (KG)

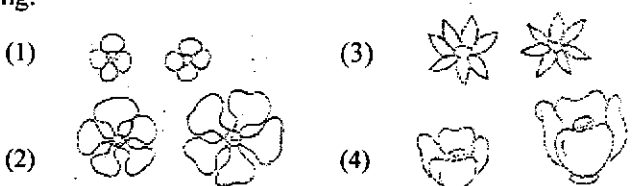
4-8

Chapter 6: Size



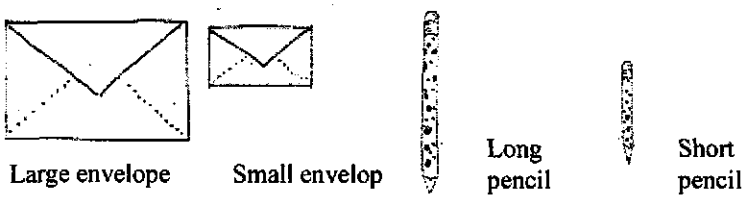
Same size (Water filter) Different size (Egg)

Task (1) Tell the number of the picture with similar size from the following.

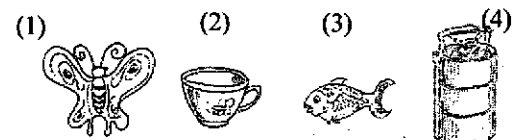


(1) (2) (3) (4)

Among the objects whose shape is same, differentiate one from the other in terms of size (large or small, long or short)

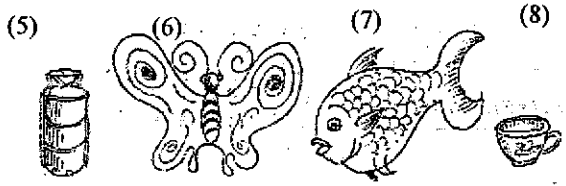


Large envelope Small envelop Long pencil Short pencil



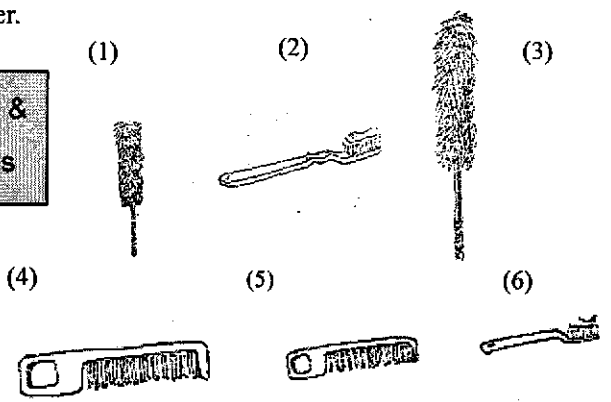
(1) (2) (3) (4)

Task (2) Tell the number of the larger objects among the following objects.

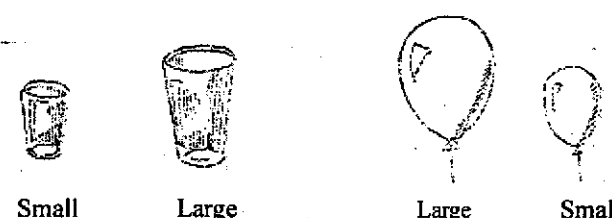


(5) (6) (7) (8)

Task (3) Tell the number of the objects which are shorter than another.



(1) (2) (3) (4) (5) (6)



Small Large Large Small

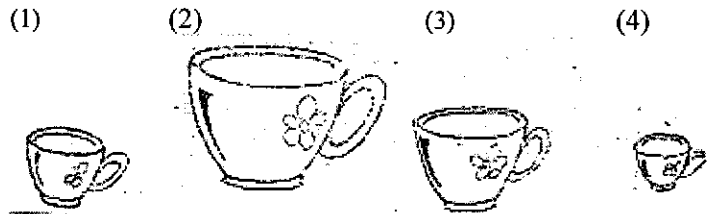
(Glass) (Balloon)

Unclear black & white illustrations

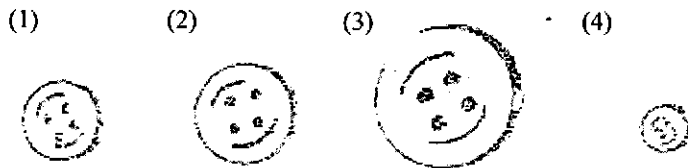
Little consideration of page layout

Table 4-6 (Continued)

Task (4) Tell the number of the following objects in ascending order.



Task (5) Various sizes of buttons are given as follows. Tell the number of the button in descending order.



4-9

Table 4-7: Example of General Studies Teacher's Manual (KG)

Chapter 6: Size

1. Title: Size

2. Concept:

Guessing about objects of similar or different size and be able to differentiate objects one from another

3. Objectives of learning:

To know whether objects provided are similar or different and be able to discriminate the difference

4. Teaching aids:

Pencils, rulers, books, erasers, plastic toys (e.g. balls and dolls), various types of fruits, beads, and sweets that have different flavors

All aids used in the lesson are real objects

5. Teaching procedure:

No creative tasks and evaluation

Task (1) Place sweets which have different sizes. Ask a student to pick two sweets of his/her choice and let him tell his choice whether both are of the same size or they have different size.

Task (2) Form groups consisting five members each. Place an equal number of beads which have different sizes in appropriate containers. Then each group competes to collect beads which have same size as much as possible. After the competition, winner will be announced and congratulated.

6. Testing what they have learnt (Evaluation):

Make the children choose bottles with same size from various sizes of bottles on the table.

4.3 Basic Science

4.3.1 Objectives of Basic Science

Basic Science is taught in G3 and G4 under the current curriculum. According to the syllabus, which complies with the “Basic Education Curriculum, Syllabus and Textbook Committee” organized in 1998, the objectives of Basic Science are;

- (1) To develop interest in the natural processes and form habits of observation,
- (2) To recognize the advantages of natural resources and utilize that knowledge for daily existence,
- (3) To love and appreciate the natural environment, and to maintain and protect it,
- (4) To apply the knowledge of personal and family hygiene, and
- (5) To realize the importance of science in the advancement of production.

4.3.2 Textbook and Teacher’s Manual

There are textbooks and Teacher’s Manuals by respective grade. There are 16 topics for G3 and 13 topics for G4.

Table 4-8: Contents of Basic Science for G3 and G4

Contents for G3		Contents for G4	
Part 1 Living Things		Part 1 Living Things	
1 Different types of Living Things		1 Different types of Living Things	
1.1 Observation		1.1 General observation	
1.2 The skill of comprehension and response to one's environment		1.2 Characteristics of living things	
2 Animals		2 Animals	
2.1 Invertebrates	22	2.1 Animal with long flexible bodies (Molluscs)	
2.2 Vertebrates		2.2 Snails	
2.3 Getting energy and the use of it		2.3 Animals with joints and shells (Crustacean)	
2.4 Obtaining food and use of its nutrition		2.4 Fish	24
2.5 Reproduction		2.5 Amphibiands	
3 Plants		2.6 Reptiles	
3.1 Flowering plants and non-flowering plants		2.7 Birds	
		2.8 Mammals	
		3 Plants	
		3.1 Cultivated plants and natural growths of the region	
		3.2 Edible parts of a plant	
Part 2 Matters (Three states of matters)		Part 2 Matters (Three states of matters)	
4 Matters in environment		4 Different Forms (shapes) of Matter	
4.1 Solid		4.1 Measuring volume of liquids	
4.2 Liquid		4.2 Measuring volume of solids	
4.3 Gas		4.3 Measuring of solids	
5 Properties of Matters	28	5 Pre-heating and Post-heating Condition of Matter	17
5.1 Solid		5.1 Expansion of solids	
5.2 Liquid		5.2 Expansion of liquids	
5.3 Gas		5.3 Expansion of gasses	
6 Transformation of Matters			
7 Solubility of solid in water			
7.1 Some solids which can dissolve in water			
7.2 Some solids which cannot dissolve in water			

<p>Part 3 Energy</p> <p>8 Heat</p> <p>8.1 Essentials for producing heat</p> <p>9 Sounds Produced by Vibration</p> <p>10 Light</p> <p>11 Magnetism and Electricity</p> <p>11.1 Nature of magnet</p> <p>11.2 Lighting up a bulb by batteries</p> <p>12 Movement</p> <p>12.1 Circle movement (revolving)</p> <p>12.2 Curve movement</p> <p>12.3 Irregular movement</p> <p>12.4 Moving things by using wheels</p>	34	<p>Part 3 Energy</p> <p>6 Heat</p> <p>6.1 Use of heat from the Sun</p> <p>6.2 Use of heat from fire</p> <p>7 Sound Transmission and Hearing</p> <p>8 Liner Motion of Light and Shadow Formation</p> <p>8.1 Liner motion of light</p> <p>8.2 Shadow formation</p> <p>9 Magnetism and Electricity</p> <p>9.1 Experiment: Magnetic field</p> <p>9.2 Electrical conductions and insulators</p> <p>10 Motion</p> <p>10.1 Motion by water (Hydro)</p> <p>10.2 Motion by air (Aero)</p> <p>10.3 Motion by heat (Thermal)</p> <p>10.4 Motion by machine (Mechanical)</p> <p>10.5 Motion by gravity (Gravitational)</p> <p>10.6 Motion by electricity (Electrical)</p>	38
<p>Part 4 The Earth and the Space</p> <p>13 Weather</p> <p>13.1 Studying temperature</p> <p>13.2 Studying direction of wind</p> <p>14 Different Kinds of Water</p> <p>14.1 Study of different kinds of water</p> <p>14.2 The relationship between the Earth and water</p> <p>15 Geographical Features of Land</p> <p>16 The Earth, the Moon and the Sun</p>	24	<p>Part 4 The Earth and the Space</p> <p>11 Weather</p> <p>11.1 Observation of clouds</p> <p>11.2 Observation of temperature</p> <p>11.3 Observation of wind speed</p> <p>11.4 Water cycle</p> <p>12 Causes for Soil Erosion</p> <p>13 The Earth, the Moon and the Sun, Orbits of the Earth and the Moon</p>	21

Note: The number on the right column each indicates allocated teaching period, not including periods for review session.

Source: The textbooks and The Teacher's Manuals of Basic Science

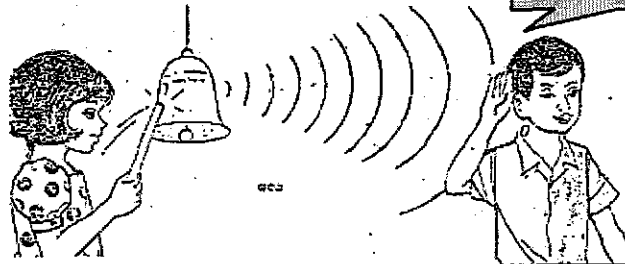
Overview of Textbook and Teacher's Manual

The textbook is composed of "preface," "table of contents," "explanation of the topics," "figures," and "tasks." The figures are all drawn in black and white. The Teacher's Manual contains "concepts of the topic," "learning objectives," "teaching/learning materials" to be used, "learning activities (tasks)" to be held, and the ways of "assessment." Extra information for the topics is scarce in the Teacher's Manual. A typical chapter on the Textbooks and the Teacher's Manual is shown as follows.

Table 4-9: Example of Basic Science Textbook (G4)

Chapter 7 Sound

Transmission of Sound and Hearing



Transmitted sound waves striking ears

Unclear black & white illustration

Difficult explanation about sounds

- When a bell is struck, it vibrates and gives out a ringing sound.
- The vibrating bell causes nearby air to vibrate as well.
- The vibrating air relays the vibration to other air in close vicinity.
- In this way the vibration is transmitted and the sound of the bell spreads to all directions.
- The vibrating air causes the membrane in the ear called ' the eardrum' to vibrate also.
- The sound of the bell becomes audible when the eardrum vibrates.
- Since a bell is heard within the surrounding area, it's clear that the sound spreads to all directions.
- The sound is faint at a distance because the vibration gradually decreases.

Task (1) Tick if the following are true (*) and (-) if false.

- (a) A sound reaches us from the source through vibration of air particles. ()
- (b) A sound of a gong when struck does not spread to all directions. ()
- (c) To hear a xylophone must be air between the xylophone and us. ()
- (d) A sound is louder when the source is nearer. ()

Task (2) Fill each blank below with appropriate words.

- (a) A vibrating bell causes _____ nearby to vibrate.
- (b) A sound is heard because vibrating air makes the _____ in the ear to vibrate.
- (c) A sound of beating a drum is heard from all over the surrounding areas because the sound of the drums _____ all directions.
- (d) A sound grows faint when far from the source because vibration of air particles _____

Task (3) What is needed between a guitar and an ear to be able to hear a sound of the guitar?

Task (4) What sounds do you hear when you go to school? How is that sound transmitted to you?

Task (5) Why is a sound louder when one is near the source and why is it fainter when one is far away from the source.

Lack of scientific explanation about sounds and its transmission

Table 4-10: Example of Basic Science Teacher's Manual (G4)

4-13

Chapter 7 Sound

1. Lesson Title: Transmission of sound and hearing

2. Concept: A Sound travels from its source and becomes audible when it gets to the ears.

3. Learning objectives:
To be able to describe the different stages that a sound goes through from its source until it reaches our ears.

4. Teaching/Learning Materials:
Bell, drums, brass gong, string instruments, bell striker.

5. Learning Activities:
Divide students into small groups and let them do a practical activity to find out the different stages of transmission of sounds from its source by using objects in their choice. Ask questions afterwards. (Beating drums, tolling the bell, beating cymbals, hammering, playing string instruments – choose activity you like).

Task (1) Describe the different stages that sound goes through from its source until it reaches our ears.
Task (2) What medium is needed between a sound source and an ear?
Task (3) Is a sound loud or faint when one is close to the source?
Task (4) Is a sound loud or faint when one is far from the source?

Lack of information about sounds and its transmission

6. Assessment:

(a) Match the followings appropriately:

1. Formation of sound	(a) Eardrum vibration	1. _____
2. Sound transmission	(b) Low vibration of air.	2. _____
3. Hearing sounds	(c) Relaying vibrations	3. _____
4. Faint sound	(d) High vibration of air	4. _____
5. Loud sound	(e) Vibration of objects	5. _____

(b) Do tasks in the prescribed textbook.

(c) Do assessment to suit the environment.

Unclear question and assignment

Lack of clear indication and criteria about assessment

4.4 Social Studies

4.4.1 Objectives of Social Studies

Social Studies is taught in G3 and G4 under the current curriculum. Social Studies consists of four fields of study; i.e., Geography, History, Morals and Civics, and Life Skills. According to the syllabus, which complies with the “Basic Education Curriculum, Syllabus and Textbook Committee” organized in 1998, the objectives of Social Studies are;

- (1) To understand and realize the natural conditions of Myanmar and the livelihood of its indigenous races,
- (2) To strengthen the patriotic spirit, the Union spirits and the spirits to defend and preserve independence,
- (3) To gain moral improvement and create well-behaved and dutiful citizens, and
- (4) To be able to adjust with the surroundings and to gain proper basic skills and habits for the life-long process.

Each objective above corresponds to an objective for each field of study; i.e., the first objective is for Geography, the second for History, the third for Morals and Civics, and the fourth for Life Skills.

4.4.2 Textbook and Teacher’s Manual

Currently the Social Studies textbook, published separately by grade, includes only Geography and History. Morals and Civics, and Life Skills, therefore, do not have textbooks. However, the Teacher’s Manual gives instructions for Moral and Civics and Life Skills as well as Geography and History.

There are 33 topics for G3; i.e., 7 topics for Geography, 12 topics for History, 7 topics for Moral and Civics, and 7 topics for Life Skills. There are 54 topics for G4; i.e., 18 topics for Geography, 14 topics for History, 7 topics for Moral and Civics, and 15 topics for Life Skills.

Overview of Textbook and Teacher’s Manual

The textbook is composed of “preface,” “table of contents,” and “explanation of the topic,” “figures,” “maps” and “tasks.” The Teacher’s Manual contains “note to teachers,” “lesson topic,” “concept” of the lesson, “learning objectives,” “teaching/learning materials” to be used, “learning activities (tasks),” and “assessment.”

A typical chapter of the Textbook and the Teacher’s Manual in Social Studies is shown as follows.

Table 4-11: Contents of Social Studies for G3 and G4

Content for G3		Contents for G4	
Geography Part		Geography & History Part	
Chapter 1 Family and home		Chapter 1 Our country Myanmar	
Chapter 3 Food we eat		Chapter 2 Myanmar national races	
Chapter 4 Clothes we wear		Chapter 3 Mandalay division	
Chapter 6 School environment	72	Chapter 4 Myanmar and the British colonists*	
Chapter 7 Surrounding sceneries		Chapter 5 Kachin state	
Chapter 8 Neighbors in our ward/village and township		Chapter 6 Anti-colonists of the Kachin hills*	
Chapter 10 Pictures, scale models and maps		Chapter 7 Kayah state	
History Part		Chapter 8 Saw La Paw, Patriotic leader*	
Chapter 2 Our family		Chapter 9 Kayin state	
Chapter 5 Our school		Chapter 10 Mahn Ba-khine, Kayin national leader*	
Chapter 9 Our village		Chapter 11 Chin state	
Chapter 11 Map showing historical towns in Myanmar		Chapter 12 Kywam Bi, Chin revolution leader*	
Chapter 12 King Anawrahta		Chapter 13 Mon state	
Chapter 13 King Kyanritar		Chapter 14 U Chit Hlaing, National leader*	
Chapter 14 Rajakumar, the Virtuous son	72	Chapter 15 Rakkhine state	
Chapter 15 King Bayintnaung		Chapter 16 U Shwe Zan Aung*	
Chapter 16 King Alaung min 'tayargyi		Chapter 17 Sagain division	
Chapter 17 General Maha Bandola and the battle of Panwa		Chapter 18 Aung Myat, Great Wun-tho Sawbwa*	
Chapter 18 Bo Myat Tun		Chapter 19 Tanintharyi division	
Chapter 19 King Mindon		Chapter 20 Colonel Ba Htoo*	
Moral & Civics Part		Chapter 21 Bago division	
Chapter 20 Poem on auspiciousness		Chapter 22 Peasants' revolution*	
Chapter 21 National spirit & patriotism		Chapter 23 Magway division	
Chapter 22 Homily by Shin Maha Thilawantha		Chapter 24 General Aung San, National leader*	
Chapter 23 Let's pay homage	72	Chapter 25 Ayeyarwaddy division	
Chapter 24 Let's carry out town sanitation work		Chapter 26 Dee-Doke Uba Cho*	
Chapter 25 Politeness in play		Chapter 27 Shan state	
Chapter 26 Homily by war of paddy stalks		Chapter 28 Union Days*	
Life Skills Part		Chapter 29 Yangon division	
Chapter 27 Personal hygiene maintaining		Chapter 30 Independence day celebration*	
Chapter 28 Sound body (nutrition)		Chapter 31 A study of eight directions and locations	
Chapter 29 Right decision	72	Chapter 32 A study of weather conditions	
Chapter 30 Sick feeling		Moral & Civics Part	
Chapter 31 Leading a harmonious life		Chapter 33 The Mingalar Poems	
Chapter 32 Discipline enhance a pleasant life		Chapter 34 National Pride and Patriotism	
Chapter 33 Teach yourself a handicraft		Chapter 35 If you live in a country, you serve it	
		Chapter 36 Festival of the Kinforks	72
		Chapter 37 Duty / Responsibility	
		Chapter 38 Fine cultural habit	
		Chapter 39 Stories / Fables	
		Life Skills Part	
		Chapter 40 Body to be cleaned	
		Chapter 41 Cleaning the nose	
		Chapter 42 Cleaning the body daily, weekly and monthly	
		Chapter 43 The need to use clean water	
		Chapter 44 Healthy body	
		Chapter 45 Bad consequences of narcotic drugs	
		Chapter 46 AIDS starts from HIV and preventive measures	
		Chapter 47 Priorities	72
		Chapter 48 Helping one another	
		Chapter 49 Unity being success	
		Chapter 50 Emotions	
		Chapter 51 Consolation	
		Chapter 52 Exercise mental fitness	
		Chapter 53 Dress for healthy and economy	
		Chapter 54 Discipline, the joy of living	

Note 1: Asterisk (*) in G4 indicates History-related topics.

Note 2: The numbers in the right columns of the contents indicate allocated teaching periods to complete the respective topics.

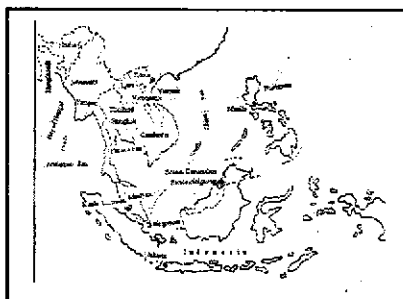
Source: The textbooks and The Teacher's Manuals of Social Studies

Table 4-12: Example of Social Studies Textbook (G4)

4-16

Chapter 1: Our Country Myanmar

Our country, Myanmar, is situated in Southeast Asia. It is a member of the ASEAN (Association of South East Asian Nations). In the north and northeast is the Republic of China, in the east are Laos and Thailand, in the south and southwest is the Indian Ocean, the Gulf of Martaban and the Bay of Bengal, and in the west are Bangladesh and India. The area is over 260,000 square miles.



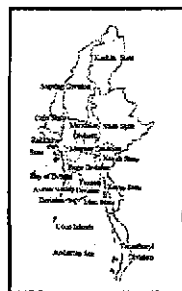
Myanmar and neighboring countries

Unclear black & white illustration

There are very high mountain ranges in the northern part and vast plain in the central region. The Ayeyarwaddy is the greatest important river. Other significant rivers are the Than Lwin, Chindwin and the Sittaung. Igneous rock and metamorphic rock are most commonly found in the eastern plateau whereas sedimentary rock is found in the central valley and the Rakkhine coastal region.

There are three seasons in Myanmar. They are the hot season, the rainy season, and the cold season. The hot season is from March to May, the rainy season is from June to October, and the cold season is from November to February. Myanmar mostly has a hot wet climate. Its natural forests are evergreen, deciduous, dry land, hillside, and tidal forests.

Main text with long sentences



Maps showing States and Divisions of Myanmar

Agriculture is the major productive activity with paddy as the main crop. Wheat, corn, variety of peas, ground nuts, sesame, sunflower, sugarcane, onion, garlic, chilly, potatoes and vegetables are also cultivated. Cotton and rubber are grown as well. Draught cattle and buffaloes are mostly bred for farming and carrying farm products. Deposits of silver, lead, zinc, tungsten, antimony, oil, ruby, sapphire and jade are also found. There are vast natural forests growing extensively in Myanmar. These forests provide hard woods such as valuable teak, Pyne ka doe, Thityar, In, Ingyin, and Paduak. Bamboo and other forest products are also obtained.

In Myanmar, among the industrial sectors, local industries, rice mills, oil mills and sugar mills are most important. As for local arts and crafts there are hand-woven textiles, slippers and hand made baskets and containers.

The major modes of transportation is motorway. Railroads link north and south. As the river route, the Ayeyarwaddy and Chindwin rivers are the most significant rivers in local water way. As international way, there are mostly links with other Asian countries. As air transportation, there are overseas as well as domestic flights.

Tasks requiring only knowledge

- Task (1) Name the neighboring countries of Myanmar.
- Task (2) What are the important rivers in Myanmar?
- Task (3) Name the mineral deposits found in Myanmar.
- Task (4) What kind of climate does the country have in general?

Table 4-13: Example of Social Studies Teacher's Manual (G4)

4-17

Chapter 1

Too many concepts

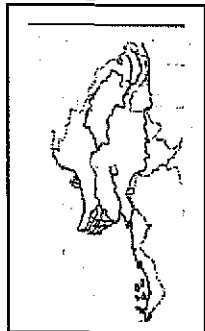
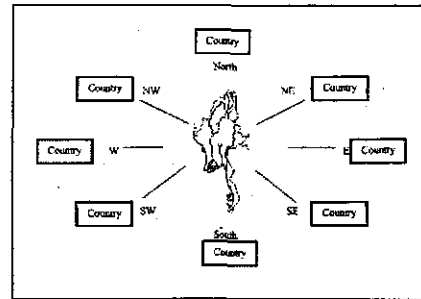
1. Lesson title: Our Country Myanmar
2. Concept: Location, extent, area, plains, mountain ranges, climate, natural growths, production, transport and communication
3. Learning objectives:
 - (i) Be able to describe the location
 - (ii) Be able to state the extent and area
 - (iii) Be able to describe the topographical features
 - (iv) Be able to describe the climate and natural growths
 - (v) Be able to describe the transport and communications
4. Teaching/Leaning materials:

Weather chart, production chart, forest products, agricultural products, Motor/rail/plane routes, information from journals, magazines, posters, postcards and advertisements on Myanmar, world map (ASEAN countries) map of Myanmar

5. Learning Activities:

Task (1) Study map of Myanmar and fill in the neighboring Southeast Asian countries on the map.

Task (2) Study Myanmar's topographical map and fill in the following information.

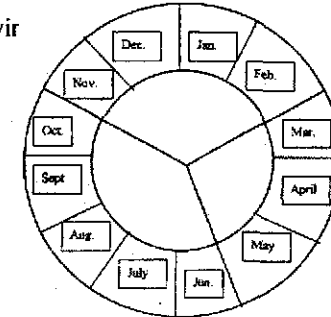


- (a) Mountain ranges (b) Plains (c) Ayerwaddy river, (d) Chindwin river (e) Thanlwin river, (f) Sittaung river, (g) Delta region

Task (3) Copy the following diagram and name months in respective seasons. Count the months, which are dry and wet.

Task (4) Look at map of Myanmar, and guess which part of the country the followir

- Rain forest
- Deciduous forest
- Dry forest
- Hillside forest
- Tidal forest



Task (5) Discuss production activities and complete the table below.

Production	Products/Activities
1. Agriculture	Rice, wheat
2. Minerals extraction	Silver, lead
3. Industry	Rice mills
4. Forestry	Teak
5. Handicrafts	Weaving

Assignment requiring memorization of many facts

6. Assignment:

- (a) Mark the location of Myanmar on a map and write down the names of the neighboring countries.
- (b) Answer Myanmar's country size.
- (c) Which part is higher in the country, the central or the northern regions?
- (d) Name important rivers in the country.
- (e) What kind of climate does Myanmar generally have?
- (f) State major economic activities in your region and describe products.
- (g) What travel routes are the most frequently used from your region to other parts of the country?

4.5 Science Experiments

4.5.1 Curriculum Overview

(1) 1981-1997 Science Curriculum and Experiments

In Myanmar, under the new education promotion program launched in the fiscal year 1998-1999, a Basic Science lesson is conducted twice per week (a 35-minute class) in the third and fourth grades (Grade 3 and 4) in primary schools. However, it should be noted that Basic Science was not an independent subject in the country's primary education over the 17 years from 1981 until 1998. Some topics in the domain of Basic Science were only taught in such subjects as geography and Myanmar language. **Table 4-14** shows several science experiments as topics in those subjects. However, due to the long-term absence of Basic Science in the curricula, there were few or no experiments conducted during the period. Several topics have been included in the current Basic Science textbook (1999 version), as illustrated in **Table 4-14**.

Table 4-14: Topics in the Domain of Basic Science taught in Primary Education in Myanmar (1981-1997 former version)

	Topics	Contents	Grade	Subjects	Types of Experiments
1	The Earth	Three Seasons	2	Myanmar Language	
			3	Geography	
		Weather Conditions	3	Geography	Keep a daily record of the observation of the weather
			3	Geography	
		Temperature	4	Geography	Measure with a thermometer
		Rocks	4	Geography	
2	Space	The Moon	2	Myanmar Language	
		The Sun	3	Myanmar Language	
		Day and Night	3	Geography	Experiment with balls and torches
		The Sun and Shade	3	Geography	Observation
		Heat from the Sun	4	Geography	Observation of two plants in the sun and in the shade
		Four Directions	1	Myanmar Language	Observation
			3	Geography	Observation
		Eight Directions	4	Geography	The way of using a compass
3	Air	Air	1	Myanmar Language	Make paper planes and wind mills
		Wind	4	Geography	Create a wind vane
		Heat of Air	4	Geography	The way of using a thermometer
		Steam	4	Geography	Experiment with two glasses filled with water and ice
4	Water	Clean Water	2	Myanmar Language	
		Water Environment	2	Myanmar Language	
		Rainbow	2	Myanmar Language	Experiment with soap bubble
5	Matters	Geometrical Configuration	1-4	Mathematics	
		Measurement	1-4	Mathematics	
		Salt	3	Myanmar Language	
		Weight	3	Myanmar Language	
6	Trees and Plants	Trees and Plants	1	Myanmar Language	Observation of plants, experiment with different leaves
		Banana Trees	2	Myanmar Language	
7	Animals	Cats, Birds, Chickens	1		
		Bees, Cows, Animals	2		
		Gardens	3	Myanmar Language	The relation with human being
		Fish	4		
		Agriculture	4		
		Wildlife Preservation			
8	Sound	Sound	3	Myanmar Language	Experiment with traditional drums
9	Magnet	Magnet	4	Myanmar Language	Experiment with two magnets and nails
10	Health and Sanitation	Sanitation	1-4	Myanmar Language	
			1-2	Special Activities	
		Environmental Sanitation	1-2	Special Activities	
		Diseases	1-4	Myanmar Language	Experiment with two flowers
			1-2	Special Activities	
		Nutrition	1-2	Myanmar Language	
			1-2	Special Activities	

(2) New Science Curriculum and Experiments

Basic Science was installed back in the curricula for the country's primary education in 1998. However, most primary schools are not ready for the introduction and the experiment-centered learning process of Basic Science has yet replaced the traditional memorization-oriented learning process.

The JICA Study Team conducted a questionnaire survey about the situation of science experiments currently conducted in each topic of the current textbooks in Grade 3 and 4. The survey was conducted by asking teachers to fill out a questionnaire at four Township halls in Yangon. The result of the survey is indicated by the percentage of teachers who have "Conducted" science experiments (top), "Not Conducted" (middle) and "No Answer" (bottom) in the specified columns in **Table 4-15**. According to **Table 4-15**, around 60 per cent of those surveyed confirmed that science experiments were conducted in the Basic Science lessons. This high percentage, however, may be attributed to the teachers' perception that "conducting science experiments" also means "allowing students to copy the chart from their textbook" and "giving a lecture of the topic which contains an experiment (without conducting it)."

For instance, the Grade 3 Plants lesson requires the observation of the germination process of peas. As high as 70 per cent of the teachers surveyed acknowledged that they conducted the observation, although such observation includes "copying the chart from the textbook" and "giving a lecture on the topic containing the observation." In a case of the experiment with bar-type magnets, 66 per cent of those surveyed answered "Conducted," although bar-type magnets are rarely observed in schools. The same applies to experiments with such rarely available materials as iron powder, mercurial thermometers and cylinders. In spite of the high percentage of response about "conducted", teachers appear unaccustomed to the very basic experiments such as using use bar-magnets and weighing materials in the balance.

The problem of teachers' perception about "Conducted," including "allowing pupils to copy from their textbooks" and "giving a lecture of the topic which has an experiment (without conducting it)," is attributed to the lack of teachers' understanding of the concepts or conceptualized terms, such as solubility, observations of plants and movement of materials. The questionnaire used in the survey may have itself caused the discrepancy. It is very plausible that English-Myanmar translation of the questionnaire was not accurate and failed to convey the true meaning of several key concepts.

Basic Science has been included in the new curricula for primary education for three years. However, the fact is that there are few science experiments being conducted and laboratory instruments are rarely found in schools. Furthermore, teachers generally do not understand the necessity of science experiments. Thus, pupils have few opportunities to familiarize themselves with science experiments.

Table 4-15: Result of the Questionnaire Survey about Science Experiments

Note: Number of respondents: 122 (Grade 3), 125 (Grade 4)

Topic		Grade 3 (122)		Grade 4 (125)			
		Experiments	Response	Experiments	Response		
1	Living Organism	Classification of Living Organism, Observation		Observations over the Kinds of Living Organism			
		The World of Plants and Animals		The Difference between Animals and Plants (Cells, Photosynthesis)			
		Plants as Energy Source for Animals		Characteristics of Living Organism			
		Living Organism, Water and Air		The World of Animals (Invertebrates, Fish, Amphibians, Birds, Reptiles)			
		Aquatic Plants and Land Plants		The World of Plants (Cultivated and Edible plants)			
		Animals, Aquatic Animals and Amphibians					
		Human Being's Adaptability to the Environment (Five Sense Organs)					
		Invertebrates and Vertebrates					
		Energy Intake, Consumption (Photosynthesis and Food) and its Use					
		Animals' Obtaining Food (Herbivorous, Carnivorous and Omnivorous Animals)					
		Flowering Plants and Flowerless Plants. Observations of the Germination Process of Seeds	Observation and Experiment of the Germination Process of Seeds	C: 67.2% NC: 9.0% NR: 23.7%			
	Life Cycle of Plants						
2	Matter	Observation of Solid, Liquid and Gas	Experiment of Liquid Gas	C: 72.1% NC: 9.0% NR: 18.8%	The Difference in State of Matter Mass of Water and Stone	Measurement of Mass by Cylinders	C: 53.6% NC: 33.6% NR: 12.8%
		Weight, Mass and Density of Matter	Experiment of Weighing Materials in the Balance	C: 59.0% NC: 24.5% NR: 16.3%	Measuring Mass of Solid and Liquid	Measurement of Mass of Water	C: 51.2% NC: 34.4% NR: 14.4%
		Transformation of State of Matter, from Solid, to Liquid, to Gas (Fusion, Evaporation)			The Nature of Solid (Hygroscopic, Non-hygroscopic)	Hygroscopicity of Solid	C: 51.2% NC: 30.4% NR: 18.4%
		Classification of Matter as Solid and Liquid			The Nature of Solid (Buoyancy, Density, Hardness)	Buoyancy in Water	C: 38.4% NC: 43.2% NR: 18.4%
		Solubility of Solid in Water	Water Solubility	C: 61.4% NC: 8.1% NR: 30.3%			
3	Energy	Sound	Sound Transmission Caused by the Vibration of an Object Experiment with Rubber Cords, Bells and Drums	C: 58.1% NC: 13.9% NR: 27.8%	Sound Transmission through the Air	Experiment with Bells	C: 48.0% NC: 12.0% NR: 40.0%
		Light	Generation of Light Lighting a Candle with the Match	C: 74.5% NC: 11.4% NR: 13.9%	Linear Motion of Light	Shadow Formation by Using a Torch	C: 68.4% NC: 18.4% NR: 15.2%
		Electricity	Electrical Circuit Lighting a Bulb with Batteries	C: 56.5% NC: 27.0% NR: 16.3%	Electrical Circuit: Electrical Conductors and Insulators	Identifying Conductors and Insulators	C: 39.2% NC: 42.4% NR: 18.4%
		Magnetism	The Nature of Magnetism (North and South Poles, Attracting Force); Compass Experiment with Bar-type Magnets and Compasses	C: 54.0% NC: 27.0% NR: 18.8%	Experiment of Magnetic Field	Experiment with Iron Powder	C: 50.4% NC: 32.0% NR: 17.6%
		Heat	Solar Energy; Combustion Heat		Observation of the Use of Heat; Solid and Liquid Expansion due to Heat; the Use of Heat from Fire and the Sun; Mercurial Thermometers	Thermal Expansion of Water and Air; Measurement of Water Temperature by Mercurial Thermometers	C: 33.6% NC: 54.4% NR: 12.0%
		Motion	Circular Motion, Curvilinear Motion, Irregular Motion, Motions Created by Wheels		Motion of Water and Air; the Use of Heat; the Use of Electricity and Machines; Gravity		
4	The Earth and the Space	Weather	Comparison of Temperature Change, Observations of Directions of the Wind Keeping a Record by Using a Graph	C: 28.2% NC: 50.8% NR: 22.9%	Observation of Clouds; Observation of the Wind Speed; Observation of Temperature; Comparison of Temperature in the neighboring countries	Observation of Clouds; Observation of Temperature; Observation of the Wind Speed	C: 43.2% NC: 36.8% NR: 20.0%
		Water	Observations of Water Sample (Muddy, Sandy Water)		Water Circulation		
		Soil	Observations of Soil Sample from Different Areas		Soil Erosion		
		Space	Observations of the Sun, the Moon, and the Earth; Stars in the Daytime and Nighttime; The Sun as a Self-luminous Star; The Earth and the Moon as Non-luminous Planets		The Relation between the Earth, the Moon and the Sun, and their Orbits; Rotation and Orbital Motion of the Earth; Lunar Orbit	Drawing a Sketch of the Relation between the Earth, the Moon and the Sun	C: 60.8% NC: 16.8% NR: 22.4%

Topics are those in the textbooks of Basic Science taught in primary education in Myanmar (The current version)

C: Conducted, NC: Not Conducted, NR: No Response

4.5.2 Current Situation

The current conditions and problems relating to science experiments are analyzed with respect to each field as follows:

(1) Biology Field: Few Experiments and Observations

Grade 3 Biology is the first subject for students to learn about natural science, and requires them to understand a broad range of topics, from energy intake of living organisms to the five sense organs of human beings, helped by their experience based on observations and experiments. However, there are few observations and experiments conducted in Grade 3 Biology. The learning process of Biology classes is less systematic, making it difficult to conduct observations and experiments.

(2) Material Field (Solubility): Inappropriate Instruction of Experiment

The experiment of solubility in water is relatively frequently conducted in Grade 3 Material Field, as it needs only water and salt as experimental materials, both of which are easily available. However, when coupled with the experiment of insolubility of stones and glasses in water, the experiment deviates students from its purpose and confuses them. In the case of a primary school in the suburbs of Yangon, students kept dropping wood chips, scissors and plastic things, as well as salt, together into water, and seemed to find nothing beyond what they had already known from their daily experience. The primary problem is attributable to teachers' little familiarity with the appropriate instructions.

(3) Material Field (Weight, Mass and Density): Inappropriate Teaching Procedure

Grade 3 Material Field (Weight, Mass and Density) aims to found a basis of Physics, and is expected to conduct various experiments. However, its teaching procedures are not in a reasonable order. The three topics are taught in the sequence of 1) Weight, 2) Density and 3) Mass, whereas the reasonable order is 1) Weight, 2) Mass and 3) Density. This does not help pupils have a better understanding of the concepts.

(4) Electricity Field: Most Popular Experiment

Grade 3 Electricity has an experiment with batteries and light bulbs connected in a simple electrical circuit, being a basis of advanced experiments relating to Electricity. With its simplicity and high availability of experimental materials, this experiment is considered as the most familiar and prospective among the country's science experiments.

(5) Magnet Field: Shortage of Materials

The problem of experiments in Magnet Field is that magnets required in the experiments are not available in Myanmar. Bar- and U-type magnets are hardly found even in the capital city, although round-type magnets are available.

4.5.3 Some Exceptional Cases

Although science experiments are rarely conducted in primary schools, some schools do have science experiments conducted in Basic Science classes of Grade 3 and 4. One example is the Yankin Education College Practicing School (YECPS). Partly because of this study, teachers at the school clearly understand why the CCA is appropriate and necessary. Following are some illustrations of science experiments conducted at the school.

(1) Observation of Plants

The Grade 4 Biology lesson observes the relation between plants and sunlight. At the beginning, the teacher raises the question of "What is the most important for plants?" Then, students are given two plant pots to take home, and told to place one in the sun and another in a carton box (shielded from the sun) and observe them separately for two weeks by keeping a daily record of their observations. After the two weeks, the class examines those plants, and finds that plants in the sun are still alive while those shielded from the sun have withered. The class finds the importance of sunlight for plants. In observation of plants, keeping a record of the observations is crucial to helping the class later on. However, as the teacher failed to instruct a proper way of keeping the record, most students just copied the relevant descriptions from their textbook. Teachers need to better understand why students should keep records of this experiment. The above practice is rarely conducted outside YECPS, but is considered significantly valuable for the country.

(2) Model Solar System

The Grade 4 Astronomy class provides hands-on experiences to pupils. It aims at giving students the feeling of being part of the solar system, and encourages them to realize the substantial distance between the sun and the earth by walking a miniature system on the ground. This lesson is also considered very valuable in view of its promotion of students' hands-on experience outside the classroom.

(3) Observations of Weather

The Grade 4 Weather lesson tells students to plot the data on a graph on the temperature of ASEAN countries' capitals. They accomplish the task merrily and actively by making several line graphs on a big chart. This is a good example of the lesson activated through students' hands-on experience. It is also recognized as a prospective and useful observation in science experiments. One thermometer in the classroom might be helpful and desirable for such lessons.

4.6 Issues to be considered

The JICA Study Team found several issues to be severely considered during the first and second phases of the Study. These issues are categorized as follows and explained briefly;

- 1) Common Issues
 - Issues of Education Curriculum
 - Issues of Physical Infrastructure
 - Issues of Classroom Activities
 - Issues of Educational Administration, and
 - Issues of Ethnic Minorities' Education
- 2) Issues of General Studies
- 3) Issues of Basic Science
- 4) Issues of Social Studies, and
- 5) Issues of Science Experiments

4.6.1 Common Issues

Here some issues which appear in educational activities and are common for General Studies, Basic Science and Social Studies, are explained briefly.

(1) Issues of Education Curriculum

- **Need a clear introduction of the new concept of teaching**

Although new subjects (General Studies, Basic Science and Social Studies) and a new concept for teaching ("activity-oriented teaching") were introduced in the 1998 Curriculum, this new concept is not fully articulated in this Curriculum. The word, "activity-oriented teaching," is seen only in the preface of the Curriculum, but there are no clear definitions or directions for its implementation. In addition, this word does not appear in the Teacher's Manual.

- **Need to select contents more carefully**

The curriculum contains too many topics and issues to teach and to learn. For example, in General Studies, there are 27 topics (or chapters) in KG, 26 in G1, and 29 in G2. In Basic Science, there are also 16 and 13 topics in G3 and G4, respectively. In Social Studies, there are 33 and 54 topics in G3 and G4, respectively. The weekly time allocation for General Studies, Basic Science and Social Studies are 9, 4, and 7 periods, respectively. Following the syllabus, it is required that each topic is completed in 2 or 3 periods. In every lesson, too many facts are taught, and too many questions are asked by the teacher. It is difficult for students to explore each topic of the subjects with their deep interests and concerns. At present, most students tend to memorize the facts in the textbooks without thinking and understanding the substance of them. Therefore, it is very necessary to reduce the number of topics and to make lessons with more concrete and visible practices.

- **Need to improve the Textbook**

Reviewing the current textbook is very much needed. Because the current textbooks have

insufficient explanations and inaccurate illustrations in some chapters, teachers can misguide students in their teaching. For example, the chapter of the “Earth Orbit” shows an illustration incorrectly in terms of the relation between the sun and the moon. Some main texts in the Textbook are not comprehensive, nor appropriate in the local context. Some revisions are needed in consideration of the children’s capacity of understanding and regional differences.

● **Need to improve Teacher’s Manual**

In the current Teacher’s Manual, it is difficult to see the linkage between the concepts and activities. Even some of the learning activities are neither clear nor appropriate to the learning concepts. The learning activities should be made in more careful consideration of the learning concepts.

Although the learning objectives of the lesson topic, teaching aids for the topic and learning tasks for assessment are mentioned in the Teacher’s Manual, there are no clear directions about how to teach, how to use these teaching aids, how to assess/evaluate, and no additional information or sources. Therefore, teachers actually cannot have a clear image of lessons to be conducted. This is more obvious in the rural areas. Because of newly introduced subjects of General Studies, Basic Science and Social Studies, most primary teachers are not used to teaching such subjects. Nor have they been given enough instructions through in-service training. The Teacher’s Manual is, therefore, the only source to get information for teaching.

Although the new curriculum intends an “activity-oriented approach,” the Teacher’s Manual is not supportive of the activities written in the textbook. Some learning activities in the textbook, for example, have no follow-up in the Teacher’s Manual. Primary teachers cannot conduct proper activities with solid objectives and purposes.

In the Teacher’s Manual, the different culture and the climate of the regions in Myanmar are not currently taken into consideration. Uniform instruction is used throughout the country irrespective of the great variety of the natural environment and culture creating the unique characteristic of the region. As a result, the children often find it difficult to understand the lessons. The Teaching Manual needs to show the different ways of teaching in each topic and the different teaching materials to be used, based on the characteristics of the regions.

● **Need to change the way of assessment/evaluation**

Assessment/evaluation heavily depend on the forms of questioning and answering (Q & A) and the written test. At present, teachers cannot help doing so, because of the large number of students in the class and parents’ strong expectation to indicate clearly children’s achievement by a score. However, in the primary level of education, it must be rather encouraged to develop a proper attitude and skills for cooperating and communicating with others, and for observing and reporting, than only knowledge of the subjects. The form of the so-called “Chapter-End-Test” needs to be reviewed, because the test may be more like “checking knowledge.” Instead, it should be encouraged to take the “process-oriented” assessment/evaluation, such as children’s interest, attitude, and progress through everyday school-life.

(2) Issues of Physical Infrastructure

● Need to improve the condition of the school infrastructure

The condition of school buildings varies from school to school. There are many schools whose condition is rather bad and dangerous. Many schools do not have regular walls between the classrooms. In such schools, wooden partitions are substituted for walls. However, such partitions cannot shut out the noise from other classrooms. In addition, many schools do not have electricity or running water. These also lack necessary school furniture. For example, a blackboard in classroom is usually small and is not well-maintained. It is often difficult to see the letters on it. In the rural areas, a part of wall with black paint is used as blackboard.

● Need to increase classrooms

In the urban area, particularly Yangon and Mandalay, classrooms are rather crowded with 60 to 80 students. The standard design of the classroom accommodates only 40 students a class. However, quite a few schools are overcrowded because of the shortage of classrooms. This issue is also related to the shortage of teachers.

● Need more flexible classroom arrangement

The child-centered approach often requires various activities and styles of classroom arrangement. For example, the arch style of desk arrangement is appropriate when using story-telling method. The desk arrangement for several groups is better for group discussion. The theater style of desk arrangement is suitable for role-playing method. However, the current desk and bench are normally designed for three students. These are too heavy to move, and too big to make a different arrangement within the limited space.

● Need to improve design and binding of the textbooks

The current textbooks of General Studies, Basic Science and Social Studies are not attractively designed. These use low quality papers, which makes print illegible. There are no color pictures used, which makes illustrations unclear. Such conditions of the textbooks can cause a misdirection of the facts. For example, the topic of "chlorophyll" in Basic Science does not give an accurate image of it to children as well as teachers due to using some unclear black and white pictures in the textbook. In Social Studies, several chapters dealing with the ethnic tribes cannot give a clear difference between one tribe and the others, because of unclear illustrations. Nor do they show the topics of the states and the divisions only small ambiguous maps indicating a particular state or division. Students cannot distinguish where are plateaus, mountains, river and costal lines. In addition, these textbooks are not firmly bound. Poor quality and thin papers are used for the covers of the textbooks. Most students cover the textbook by paper-wrappers to prevent them from wearing out.

● Need more teaching/learning materials

Most schools do not have enough teaching and learning materials. This condition is more obviously seen in rural areas. Because of severe shortage of the budget, it is rather difficult for schools to purchase these teaching/learning materials. Although some teachers individually

create materials, such individual efforts are limited.

(3) Issues of Classroom Activities

● Need proper classroom management

The idea of classroom management is not widely spread in Myanmar. Such an idea, however, is extremely important for the child-centered approach, in order to stimulate children's activities more freely and creatively. One of the biggest problems, as mentioned before, is the overcrowded classroom situation in urban areas. It is extremely difficult to manage the class and to effectively conduct activities like scientific experiments. On the contrary, there are many small schools with a few teachers in the rural areas. The limited number of teachers in such areas, teach different levels of students at the same time, without any knowledge of multi-grade teaching. It is also mentioned that children's background, learning speed and character differ greatly from child to child in Myanmar. Having different types of children in the same classroom makes classroom management more complex.

● Need a greater variety of teaching methods

The one-way (teacher-to-students) method is common in this country. A teacher reads from the textbook and explains it briefly. Then he/she emphasizes some key sentences and words. Students repeat loudly those sentences and words in chorus. At the end of the lesson, teacher usually asks some simple questions to assess how much students remember what they learnt in the lesson. Although such a teaching method is not effective for students to foster their creativity and the faculty of thinking, most teachers believe that there are no alternatives under the condition of the large number of students in one class, no sophisticated teaching materials, and limited time allocation for each subject.

● Need more variety of teacher's behaviors and actions

The scene of the class is almost the same in every school. A teacher stands in the front with a textbook in one hand and a piece of chalk in the other hand, and keeps a one-way talk without facial expressions or eye contact. The teacher does not seem to consider the students as individuals with different personalities, instead, he considers them as a mass, which has a single characteristic without variety. Such attitudes and behaviors of teachers are one of the biggest obstacles for the child-centered approach.

● Need training for the multi-grade teaching approach

In rural areas, only a few teachers are allocated to the primary school, because of the small number of students. It is often seen in such areas that there are less than five primary teachers in school and more than two different grades must be taught by one teacher at the same time. Most rural primary schools face the difficulty of dealing with this situation, because no teachers have been trained particularly for multi-grade teaching. To solve it, training has to be intensively conducted, targeting teachers in such a situation. It is also helpful that the

Teacher's Guide⁴ includes effective teaching methods in the multi-grade condition.

(4) Issues of Educational Administration

- **Need to upgrade the status of primary teachers**

The status of a teacher is clearly defined by what level you teach. Generally speaking, primary assistant teachers are the lowest status, then middle school teachers comes to the second lowest, and then high school teachers. Such an order of status is significantly related to the educational level of teachers. The primary teacher has only one year pedagogical training after completing a high school education. The middle school teacher and high school teacher have at least two years of training. Under the present system, teachers having more training and more experience gain chances to become middle school teacher, high school teacher, or more. Teachers having less training and less experience, however, have to stay in primary schools.

- **Need more consideration of the system of teacher allocation**

After graduating from the Education College, trainees are dispatched to the schools. The allocation of trainees is decided by the government, based on their requests and hometowns. However, it often happens that trainees are ordered to go to remote villages. In such a case, quite a few trainees give up on becoming a teacher. Such a situation may cause a huge loss of human resources.

(5) Issue of the ethnic minorities' education

There are many ethnic minorities in the country. They use their own languages and maintain their own traditions and cultures. Such ethnic minorities face language barriers in school because all lessons must be conducted in the Myanmar language. Many of them do not understand the lessons and do not feel any interest in the subjects, especially in lower primary levels. This may have caused many dropouts and no remedy has been taken up to now.

It is one of the possible solutions to designate teachers and educators who understand local languages. In addition, preparing simple and attractive teaching/learning materials can help to improve the situation.

4.6.2 Issues of General Studies

- **Need textbooks for Morals and Civics and Life Skills**

The absence of the textbooks for Morals and Civics, and Life Skills is the major problem in General Studies. It is very important that such textbooks, even if comprising only a few pages, are available in the lower primary education. The publication of such textbooks is highly needed immediately. Such textbooks should also be carefully designed to be attractive and to be understood easily. It is necessary to include high-quality illustrations and colored

⁴ In this project, the definitions of the Teacher's Manual and the Teacher's Guide is as follows; the Teacher's Manual is the current existing one, and the Teacher's Guide is one the JICA project will make with the cooperation of the Myanmar counterparts.

photographs in the textbooks, in order to draw children's interest into the learning process. (This issue is also applicable to the case of Social Studies.)

- **Need a comprehensive review of the teaching method**

The commonly used repetition and memorization approach does not provide children with a feeling of happiness, joy and achievement. Instead, it may bring children pain and torment. This is a crucial issue, especially in the lower primary education. It is recommended that all the five senses, such as seeing, listening, touching, tasting and smelling, be fully utilized in the learning process of General Studies. Children's thinking ability has to be nurtured through various activities, such as observing, imaging, discovering, expressing and creating. General Studies should be taught to make children feel happiness and joy through their learning.

- **Need to develop teachers' capability**

Teachers should fully comprehend the meaning and nature of General Studies. They should also understand how the innate strength and reasoning power of children can be brought into play. The effective use of audio-visual materials is called for in teaching General Studies. Such materials, if used effectively, can draw children's creativity and self-expression in class. Therefore, it is very necessary to develop such a capability of primary teachers through workshops and seminars.

- **Need field-study outside of the classroom**

It is important for children to observe real things with their own eyes. It is sometimes necessary to go out of the classroom to observe and find something during the learning process. However, the necessity of field-study outside of the classroom is not mentioned in the Teacher's Manual, nor is it encouraged to go out during the lessons. To teach General Studies more effectively and interestingly, such field-study should be promoted and instructed in the Teacher's Manual.

- **Need to use easy wording in the textbook**

Some primary teachers raise an issue that some words in the textbook are difficult for children to understand. This inappropriate wording should be removed and replaced by easy words.

- **Need a clear direction of teaching**

Many teachers are concerned that some concepts in the textbook are difficult to teach. According to primary teachers interviewed, the major difficult concepts to teach are as follows;

- Difference between the color of blue and the color of green,
- Various kinds of sounds, especially a noisy sound,
- Various kinds of smells,
- Color of water,
- Living things, and
- Difference between a circle and ellipse.

- **Need to have a closer relation with the community**

It is necessary to pay attention to the traditional wisdom and technology. Teachers should have closer communication with people in the community and sometimes invite them to talk with children. It would be a good opportunity for children to get to know such people who have wonderful technology, wisdom and stories to tell. In cooperation with such talented people outside the school, General Studies is sure to be enriched.

- **Need to prepare essential teaching/learning materials**

(Refer to "4.6.3 Issues for Basic Science.")

4.6.3 Issues of Basic Science

- **Need a clearer learning frame for Basic Science**

The concepts of the Basic Science curriculum need to be more specific and clear. Some of the concepts need to be reconsidered, according to the 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 of a higher education level, in simplified forms. Primary school children need to be taught, rather, appropriate concepts for their ages than simply simplified concepts. In addition, there is a leap in difficulty of the contents between G2 and G3. It is also useful to restudy the international tendency of science education.

Meanwhile, most children in Myanmar do not get more than a five year-primary education in their lifetime. Therefore, it is necessary to teach students more knowledge and skills within the limited period, which are most useful in their real life. UNICEF is now working on producing the learning framework of Basic Science, which will clarify the concepts systematically⁵. Therefore, it will be useful to apply this framework.

- **Need to reconsider scientific terminology**

The technical terminology used in the Basic Science curriculum is difficult to use in the classroom level. One of the main reasons may come from 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 terminology should be explained more carefully in the curriculum to promote correct usage and understanding.

⁵ The first draft of the learning framework of Basic Science was made at the end of July, 2001. The learning framework consists of the following contents; (Section 1) Curriculum content summary, (Section 2) Key concepts and skills for each grade, (Section 3) Teaching and learning strategies, (Section 4) Learning outcomes, (Section 5) Indicators of achievement, and (Section 6) Basic learning competencies.

- **Need to prepare essential teaching/learning materials**

Some of the essential teaching/learning materials are missing in classrooms. For example, the “microscope” is essential to teach about cells, the “magnet” cannot be replaced by other materials, and a good chart for a topic like “the earth, the moon and the sun” is necessary to teach, because it can not be taught without images. The lack of these materials causes difficulty in teaching and learning Basic Science.

4.6.4 Issues of Social Studies

- **Need textbooks for Morals and Civics, and Life Skills**

(Refer to “4.6.2 Issues for General Studies.”)

- **Need to avoid overlapped contents**

Some topics in the textbook overlap. For example, the content of Chapter 32 on the textbook for G4, “A study of weather conditions,” is also seen in the Basic Science textbook. Although this approach to this topic is different from the one in Basic Science, only a few primary teachers can differentiate such a difference. As a result, the same content is taught by a similar approach.

- **Need to arrange the contents carefully**

DEPT intended to integrate Geography and History into Social Studies. This intension directly reflects the arrangement of the contents in the textbook for G4. In the textbook, geographical topics and historical topics are arranged alternatively. For example, Chapter 5 deals with the geography of the Kachin State and the following chapter with the historical events of the Kachin State. It may be confused in the current arrangement that each historical event in the corresponding state/division is not ordered chronologically. The Chapter 10’s Mahn Ba-khine (Kayin national leader), for instance, appeared much later than U Chit Hlaing (Chapter 14) and U Aung Myat (Chapter 18) in Myanmar history.

- **Need to integrate Geography and History into Social Studies**

As mentioned above, currently Social Studies is taught separately as Geography and History in the actual lessons, in spite of the government’s intention to integrate these two fields of study. In the textbook for G4, the intention of the government is clearly shown in the arrangement of the contents. However, such intention is not realized in the actual teaching practice of the school, partly because of less knowledge of primary teachers and less information in the Teacher’s Manual.

4.6.5 Issues of Science Experiments

As illustrated by the analysis in the above section, little concern exists about Basic Science lessons and few experiments are conducted in the classrooms in the country’s primary education. Due to their limited familiarity with teaching Basic Science, staff of the Ministry of Education for curriculum design and school teachers have been facing difficulty in developing a better

approach to improve Basic Science classes. As suggested in the previous section, in order to make science experiments practical, it is critical to review the descriptions of textbooks and make experimental materials more accessible and affordable.

- **Need teachers training**

The primary problem is teachers' little experience in teaching Basic Science. They are not familiar with science experiments nor do they possess adequate knowledge of the subject itself. In particular, science experiments require relevant knowledge and skills from teachers. In order to make up for the lack of their knowledge and experience, science experiment workshops for teachers should be held regularly as in-service training.

- **Need improvement of teaching methods and textbooks**

In order to proceed in a new direction toward CCA from the traditional memorization-centered teaching method, it is urgently necessary to improve the teaching method, and review the experiments, observations, descriptions and illustrations currently described in the textbooks.

- **Need preparation of materials for experiments**

Practices of experiments are highly dependent upon availability of experimental materials. Therefore, it is crucial to search for local materials, or to develop new experimental materials affordable in the country by conducting research about plants, animals and soil. The JICA Study Team continues investigating such materials suitable for Grade 3 and 4 curricula.

