

THE CHARACTERISTICS OF A SINGAPOREAN SCIENCE TEXTBOOK WRITTEN IN ENGLISH FOR PRIMARY THREE AND FOUR

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Abstract: *Textbooks play an important role in teaching learning process. Teachers and students can be well-equipped with the textbooks as the sources of knowledge, guidance and activities. As Indonesia has been aware of the use of imported books to upgrade their curriculum to be international standardized, the primary students are one of the subjects to use these books, especially those who study at International, International Standardized and Immersion program in National Schools. The generic structure and the physical characteristics of the textbooks build special attractiveness and images to the readers, in this case young learners in Indonesia in the science class. This paper discusses the presentation of the Singaporean science textbooks written in English and the appropriateness of the books for for Indonesian students.*

Key words: *generic structure, physical characteristics, science, imported textbook, young learners, ESL, EFL classroom, curriculum*

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INTRODUCTION

The existence of globalisation era in the world has given much alteration in many aspects of human being's life. One of the impacts is shown in the language development, as the basic communication media in people's daily life. The global language used by common people to unite all the people from different countries in the world is English. It has become an international language, as used in some countries. In certain countries, English is neither their mother tongue nor their second language. It still has its own position as a foreign language. Yet, nowadays, those countries have shown their concern by using English as the media to teach lessons in their formal education. This happens because of the importance of English in this globalisation era as stated by Harmer (1985: 22 – 23).

Some people within the society consider the importance of the inter-language these days as stated by Fasold (1990:299). By seeing this phenomenon, the education in Indonesia has been developed to go towards globalization era and upgrade their curriculum to prepare the young generations facing the globalization era. Therefore, there are a lot of schools in Indonesia nowadays where English is used as a media to teach other subjects, such as mathematics and science. Those schools are International schools, RSBI/SBI (International – Standardized Schools), and Immersion programs in several national schools. This phenomenon is derived from the Law of National Educational System (*Undang-Undang Sistem Pendidikan Nasional*) number 20, year 2003. One of the sections of the law is section 50 article 3 that central and/or district government is to organize at least a unit of education in every level of education, and it should be developed an international education level.

Hence, the upgraded curriculum, based on the Decrees of Minister of National Education Number 22 Year 2006 concerning

the Standard of Contents and Number 23 Year 2006 concerning the Standard of Graduate Competence, opens the opportunities for schools to use and enhance their own materials used for achieving the international standard. This phenomenon widens the chance of the international and/or foreign publishers to come and promote the imported books, for instance, Singaporean Science textbooks.

THE YOUNG LEARNERS

Harmer (1985:82) stated that the characteristics of young children especially those up to the ages of nine to ten, learn differently from older children, adolescents and adults in the following ways: Their understanding comes not just from explanation, but also from what they see and hear and crucially have a chance to touch and interact with, they generally display an enthusiasm for learning and a curiosity about the world around them.

According to Brown (2001:90) children are good at sensing language that is not authentic. However, this kind of sensing may not be found among Indonesian children who are learning English. Again, this is caused by the fact that English is a foreign language. What is important is the ability to adjust with the condition in Indonesia. What they need are opportunities for repetition but it needs to be done in an interesting and meaningful way. The next question that may arise is how to make the lesson interesting because if a teacher asks a student to repeat all the time the students may be bored and lose their spirit and enthusiasm to learn English and this is quite fatal. The following is suggested by Brown (2001) to make the material interesting, lively and fun:

1. Activities should be designed to capture their immediate interested because children are focused on the immediate here and now.

2. A lesson needs a variety of activities to keep interest and attention alive.
3. Children have a lot of natural curiosity. He/she must make sure that he/ she tap into that curiosity whenever possible, and he will thereby help to maintain attention and focus.

The following are some general characteristics of the children of that group according to Wendy Scott (1990:2 – 4):

1. They are competent users of mother tongue.
2. They can tell the differences between fact and fiction.
3. They love to play and learn best when they enjoy themselves seriously and like to think that what they are doing in real work.
4. They are enthusiastic and positive about learning.
5. They rely on the spoken world as well as the physical world convey and understand meaning.
6. They are able to work with others and learn from others.
7. Their own understanding comes through eyes, hands and ears. The physical world is dominant at all times.
8. They have very short attention and concentration span.

In Indonesia, the characteristics of elementary school students are not far from those in general. However, there are several characteristics that can be added (*Tim Pengembangan MKDK IKIP Semarang*, 1998). They are:

1. The elementary school students are the children at the age between 7 to 12 years old.
2. They are in the smart age. It means that they often show what they know from school and they are really proud of it.

3. There is strong correlation between the physical condition and school achievement
4. They intend to praise themselves
5. At the end of this phase, they begin to have an interest in special subjects.

From the explanation above, it can be concluded that the elementary school students still need a specific guide from their teacher and people around them especially their parents in order to follow the lesson well. In addition, they get bored easily during the class activity so teachers should make the class interesting. Additionally, the roles of audio visual aids are quite important. As the students get bored easily, they also need something interesting and attractive. One of the visual aids is a textbook. The textbook should have several characteristics that should fulfill the students' needs. The administrative de-emphasis of the teacher in the second language classroom would suggest that teachers must learn how to integrate and organize content of a textbook to make learning an interactive and meaningful experience, as opposed to an act that can be completed alone by self-directed study with a textbook. The strategy behind this technique is to eliminate unsatisfactory textbooks at each stage of analysis so that only the most appropriate is left at the end, making the choice clear and manageable. Parrish (2004) states that one of the benefits of using a textbook is that it can meet a learner's needs or expectations of having something concrete to work from and take home for further study.

TEACHING CHILDREN IN INDONESIA

English in Indonesia is a foreign language. Therefore, some considerations should be taken before starting teaching children in the foreign language context. So far there are many books provided

as the bases of teaching other lessons using English as the media specially designed for children based on Indonesian context.

However, children have common characteristics in certain cases, for example: Children are still in an intellectual stage which is called concrete operations (Piaget 1972, as cited by Brown 2001:88). Another fact stated by Brown (2001:90) is that children are good at sensing language that is not authentic. However, this is not true for Indonesian children who are having English as a foreign language. Children may not have any good sense to feel that the language is authentic or not.

Teaching elementary school students is not the same as teaching adults, because they have different characteristics as stated by Helaly:

Unlike adults, children are not self motivated and do not have an immediate need to learn English. They are not concerned with job or university degree that requires knowledge of English. Their world is their daily games, events of interest to them, new knowledge that their inquisition minds may ask (Helaly 1987: 49).

TEACHING MATERIAL

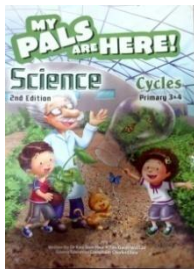
Most books are available to be used to teach English to children; however, there are only a few books that are suitable for Indonesian young learners. Most books are intended to teach children where English is a first language and/or second language. However, some language institutions use books which are published by Singapore where English is a second language. In Indonesia English is not a second language but a foreign language. Therefore, the material published for teaching the lessons should have easy sentence structures, easy vocabularies/terminologies and

several other supporting factors that make the students enjoy and easy to learn.

Harmer (1991:161-170) proposes another theory to teach children in understanding meaning of lexis. He has theorized that in the reality people can see that not all vocabulary can be learnt through interaction. This means that the material used should contain vocabulary which is in real context. In this case the use of the easy vocabularies can help students learn Science and/or other lessons better.

MY PALS ARE HERE! SCIENCE TEXTBOOK FOR PRIMARY THREE AND FOUR: THE PHYSICAL CHARACTERISTICS

The writer uses Science 2nd Edition *My Pals Are Here! Cycles for Primary 3 & 4* which is written by Dr Kwa Siew Hwa and Teo-Gwan Wai Lan. It is edited by Gerald Koh and team, designed by Cephass Chew and team, illustrate by Anuar Abdul Rahim and team. The Science Education Consultan for this book is Charles Chew. It is published by Marshal Cavendish Education Pte. Ltd., Singapore, under the approval of Ministry of Education, Singapore for academic year 2008 – 2012. It was published in 2001 and the second edition was in 2008. It was reprinted in 2009 by Times Printers, Singapore.



Opening a book to an especially beautiful or interesting picture and placing it in a holder by the bookshelf often entices children to that area (Hendrick 1986). The Singaporean Science textbook written in English thick, colourful and glossy paper as the cover and illustrated attractively with special characters used, this textbook attracts children, especially for Primary 3 and 4 students. This statement is also supported by Hendrick (1986). He identifies that good books for young children generally have brief texts, beautiful pictures, and subject matter that is interesting for children and presented in good taste:

Excellent books also have that extra note of originality combined with quality writing and a good story that enshrines them in the hearts of children forever (Hendrick 1986: 260).

In this case, the Science textbook, published by Marshall Cavendish, Singapore presents several images for the young learners to attract and motivate them to understand the lesson. Byrd in Celce – Murcia (2001) stated that the variety of graphical elements is including print size and style and white space as well as illustrations. In this case, illustration and the setting of the textbook are also important. The design plays an important role for the students' reading convenience as it is appropriate for their level. Additionally, the mix between print and white space is balanced so that the readability is enhanced and appropriate.



The pages inside are also colorful and arranged in an interesting layout (non-linear), full colors, pictures and graphs to make the students understand more about the contents of the book. The font used for the content is *Arial*, font size is 14 – 16, and highlighted and printed bold for important information. For the title in every unit, it uses *First Grader*, printed bold and in green colour. The green colour is used based on the thematic colour as it is about the *Cycles*.

The pictures used in this book are cartoons, special characters, models and real objects or places. The pictures are scattered here and there so that it will give a different concept for the students to study Science. Several pictures are zoomed in to provide more details of the picture as the means of visualization. The total page is forty pages.

THE CONTENT AND THE GENERIC STRUCTURE

The contents or explanation should be likely to be of interest of use to the students. Furthermore, the textbooks should help learners to understand what they need in order to learn. In this Science book, there are a lot of features to support students, especially in the ESL/EFL classrooms. There are several aspects that contribute the use of the textbook in the classroom. The function of the textbook as the major resource of a lesson is clearly stated by Crookes – Chaudron in Celce-Murcia (2001). The textbook should stand for a syllabus and training program, as well as the aid of the lesson. Byrd in Celce-Murcia (2001) provided several guided questions to analyze the selection and implementation of the textbooks, more on the thematic content. They are:

What topics are used in each unit?

What topics recur throughout the whole book?

What connections can I make between these topics and the backgrounds/interests of my students?

How can I make enriched use of these themes?

By the thematic content, the MPH Science book is divided into several chapters. This book only comprises of one theme with five units for Primary 3 and 4. The other books are DIVERSITY, SYSTEMS, ENERGY and INTERACTIONS. The contents are as follows:

Theme: CYCLES which has 5 UNITS:

1. Life Cycles
2. Life Cycles of Some Animals
3. Life Cycles of Plants
4. What is Matter?
5. Three State of Matter

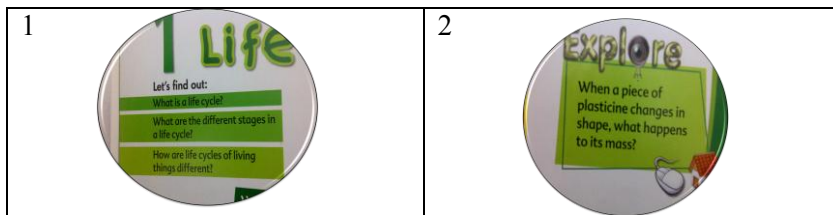
It is developed based on the latest Primary Science syllabus set by the Ministry of Education, Singapore. It is adopting the ***inquiry – based approach*** to the learning of Science. It aims to spark curiosity and awaken young minds to the world around them. It is using special emphasis for helping pupils acquire skills and processes. It uses fascinating pictures and vibrant illustrations to stimulate young minds. Concrete examples from daily life are used widely to help pupils relate well to concept taught.

A variety of questions are used to engage and guide the pupils in the inquiry process as concepts are developed. This enables to shape the pupils to be independent learners and cultivates in them an inquisitive attitude for the effective learning Science. Concepts learnt are constantly reinforced throughout the chapter, while the-end-of-chapter summaries and thematic overviews aid easy recall, helping pupils grasp key concepts for assessment.

Each unit is organized and contains several special features. The special features inside the book are:

1. **Let's find out** - Questions are placed at the start of every chapter to highlight briefly the gist of what students will be learning.
2. **Highlighted questions** - Questions that facilitate the development of concepts are highlighted to help pupils focus on what they are learning.
3. **Explore** - This section is inquiry-based activities that pupils can carry out to gain an appreciation and a deeper understanding of the concepts learnt.
4. **Building block** - It comprises questions that reinforce the understanding of concepts learnt and inculcate thinking skills.
5. **Xtra** - Xtra contains interesting and intriguing facts that excite pupils and broaden their scientific knowledge.
6. **Activity Book link** - This section contains cross – reference to a corresponding activity in the Activity Book for pupils to further their learning.
7. **Self-check** - Pupils can use these checklists to help them revise the key learning outcomes of a chapter.
8. **Science words** - This section is a list of important words related to key concepts in the chapter.

The following are sample pages of those 8 sections:





Frodesen in Celce – Murcia (2001) identifies several points as guidelines to choose texts and grammatical points for analysis. The grammatical features should be appropriate for students' developmental stages. Additionally, he stated that the lessons should generally be kept brief, especially for less advanced writers, in this case young learners.

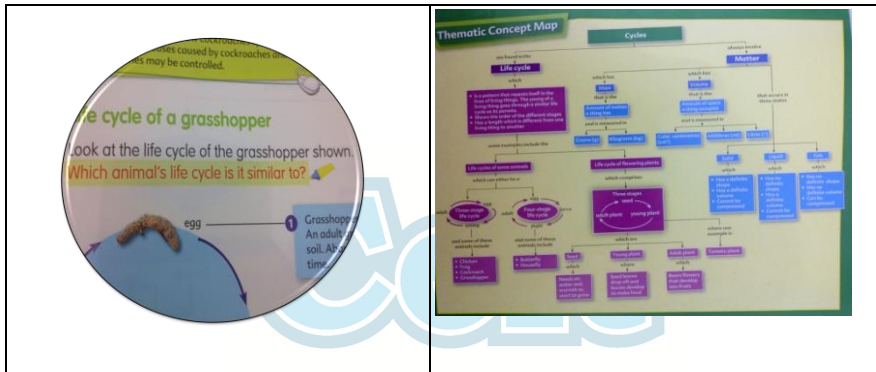
Grabe and Stoller in Celce – Murcia (2001: 23) stated that graphic representation of text information plays an important role to provide students with the clear visual representatives of the text.

The most effective way to carry out reading instruction that focuses on careful reading comprehension and discourse organization is through the use of graphic organizers (i.e. visual representations of text information). The main goal of graphic representations is to assist

students in comprehending difficult texts. By using graphic organizers, students are able to see the key information in a text, the organization of text information, the ways that information is structured, and relationships among ideas presented in a text or a portion of a text.

Graphic organizers are sometimes generic. There are several kinds of graphic organizers:

1. The use of cycle diagram to show processes described in the text.



2. The use of Venn diagram to highlight differences and similarities between characters, places, events, or issues in a text.
3. The use of a flowchart to trace events or steps in a process highlighted in a text.

In this book, we can also find the graphic organizers, such as the flowchart and circle with arrows flowing in a circular direction. These features help children grab the materials and understand them better. Each unit, there is a feature, “*At A Glance*”. It comprises a concept map that summarizes and links all the concepts learnt in a chapter. This also represents the whole one unit that the students have learnt.



The special feature that this book has is *Concept Map*. It comprises a map of the chapters they have learnt and the linking lines to show the students the connections of each chapter to another. They are:

National Education

It is information about the nation (Singapore) so that the students have national awareness. Yet this is not appropriate for the students who are learning in Indonesia. The background information cannot provide students with straight-to-the-point knowledge. Thus, this is not really appropriate for the students in Indonesia.

Super Scientist

A comic strips section to provide students with the fun side of Science. It is telling about the life of a Scientist on the last page of the book

THE GENERIC STRUCTURES OF UNITS 1 AND 2

Textbook are for the students. Thus, the elements---the content/explanation, the examples and the exercises or tasks---should suitable with the students. Before unit 1 starts, there are introductory pages. They contain the core of the lesson, in this case cycles in general. It is written in narrative stories with special characters of the book.



Here are the generic structures of Unit 1 and 2 as the samples:

UNIT 1: Life Cycle

1. Let's find out
2. Comic strips (introduction to the topic)
3. Definition
4. Building block
5. Explore
6. Activity book link
7. Sub – topic (highlighted questions)
8. Figures/pictures/graphs with caption
9. At a glance
10. Self-check
11. Science words

UNIT 2: Life Cycles of Some Animals

1. Let's find out
2. Graphs with labels & captions
3. Explore
4. Building block
5. Comic strips
6. Xtra
7. At a glance
8. Self – check
9. Science words

The features of the two units presented above are almost the same. Both of them have the same features to end each unit: At a glance, self – check and science words. The genre of the texts used in this textbook are narrative as it can be found on the introductory pages and several comic strips to start each unit, exposition to present the scientific materials: theory, examples and definition of terminologies, descriptive texts accompanied by pictures and graphs, and also discussion to show the comparison. Those genres support the learning process of the students. Narrative is used to introduce the lesson, as it will attract the students to read more and more. The lexico-grammatical features are also supporting the young learners in Indonesia. It comprises several aspects as follows:

1. Technical terms: science terminologies (e.g. pattern, reproduce, stages, life cycle, nymph, seeds, seed leaves, emerge, matter, mass, volume, space, solid, liquid, gas)
2. Contains more common words
3. Questions (inquiry-based approach), imperative (instructions), statements
4. Simple Present Tense
5. Dominant part of speech: nouns & adjectives
6. Simple sentences: approximately, 1 sentence consists of 10-14 words.
7. Type of voice: Active voice

CONCLUSION

This science textbook is a comprehensive package developed based on the latest syllabus, set by the Ministry of Education Singapore. The adoption of inquiry-based approach to the learning of Science contributes the progress of Science learning, by triggering young's minds with questions. Additionally, to make it

attractive, the use of real pictures and amusing illustrations enhances the learning. These make learning Science real and relevant.

The content of the book uses thematic-based approach that will make the students understand better, as they can see in one scope at one time before linking their thinking to another theme. The lexicogrammatical features and several special features that build this book are appropriate for the Indonesian students in those levels.

On the other hand, some information, under the *National Education* is not really appropriate to the students in Indonesia as it is de-contextualized. It only provides the students about Singapore national and cultural knowledge. Moreover, the features of the book enhance the learning by giving systematic structures to the students and help the teachers to explore more about the topic taught.

At the end, the students should be able to link the topics they have learnt previously in a systematic order, in the form of concept map. This helps the students to develop their critical thinking and connecting-lines from one to another. This book is appropriate for the Indonesian young learners as it is supported with special features that make the students easy to understand the lessons. The graphical features, the layout and the design are also suitable for their level.

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