# A Study of the Reading Proficiency of Grade Eleven Students

Moe Moe Khine [1] and Naing Naing Maw [2]

## Abstract

This study deals with a survey research type to examine reading proficiency in Myanmar Language. The purpose of this study is to assess reading proficiency of Grade-11 students in Myanmar prose and their capacities to apply knowledge and skills to reading. In this study, 580 Grade-11 students from Yangon and Bago divisions were assessed. Students taking part in this study were required to read a variety of written texts and answer the related questions based on them. Specifically, they were assessed on their capacity to retrieve specified information, on whether they could interpret what they read, and on how well they could reflect on it, relating on their existing knowledge. For each of these three aspects of reading, students were given scores based on the difficulty level of the tasks that they could perform.

The results showed that subjects could be identified into three groups: high group (18.3%), moderate group (63.5%), and low group (18.3%). Concerning three aspects, Grade-11 students in this study are very good in retrieving information. Regarding two text formats, mean score for continuous text is comparatively higher than the one for non-continuous text. Concerning gender, reading proficiency of the male students in this study is not lower than that of females. Moreover, different regions pointed out different performance in reading. To be specific, apart from retrieving information, the students from Yangon performed better than that of Bago in the other two aspects and two text formats. By comparing the high achievement schools indicated by Matriculation passed rate(%), what can be found is that the students from Dagon are lower in reading performance than those of Mingalardon. Students from Bago revealed less proficient in reading than those of Kamayut, Mingalardon, and South-Okhalapa at 0.01level and 0.001level respectively.

**Key words:** reading proficiency, retrieving information, interpreting text, reflecting, continuous text, non-continuous text

## Introduction

In a rapidly changing information age, we cannot live on what we were taught in our school days. We have to continue to learn for life in

1. Tutor, Department of Educational Psychology, Yangon Institute of Education
2. Dr., Assistant Lecturer, Department of Educational Psychology, Yangon Institute of Education

order to keep up with the new situation in the world and so as to be active participants of society (Nu Nu Wai, 2001). In other words, today's world calls for individuals to become life-long learners. To meet this goal, one of the requirements is reading efficiently. Ability to locate information, to interpret what is read and to reflect more widely on its meaning is essential for meeting the demands of reading in modern education.

"How well do young people and adults read? The answer to this seemingly simple question is central to modern societies" (OECD, 2002b, p.2). Since 2000, Organization for Economic Co-operation and Development (OECD) has conducted an international assessment programme measuring how well young adults near the end of compulsory (i.e., secondary) schooling are prepared to meet the challenges of today's knowledge societies. "The OECD Programme for International Student Assessment (PISA) has for the first time established on explicit framework for examining the extent to which students from around the world have these foundation reading literacy skills at 15 , on the eve of their completion of compulsory [secondary] education" (OECD, 2002b). There have been a number of international studies on reading literacy so far in term of age limit from preschooler to adult.

In Myanmar, there have been a number of investigations on the nature of Myanmar Language so far: such as the development of Myanmar Literature in terms of decade or century, the study on the novels, selected short stories, etc. As a result, it is found out that more priority is given to the branch of literature dealing with knowledge and catering to aesthetic enjoyment rather than the skills that is needed for young adults to know not only how to read but how to apply their knowledge and skills in everyday settings. Therefore, it is evident that few studies have explored reading proficiency in secondary education. In addition, though many teachers in Myanmar consider reading as an elementary skill they do not focus on it in higher grades.

Therefore, it shows the necessity to explore how well young adults near the end of secondary schooling of Myanmar are prepared with regard to foundation of reading proficiency to meet the challenges of today's knowledge world? How good are they at retrieving information? How good are they at interpreting text? How good are they at reflection and evaluation? How good are they at reading different kinds of texts?

Based on earlier studies and current situation of education in Myanmar, this study primarily focuses to examine the reading proficiency of Myanmar students of grade 11 students. Today it is the most crucial time for the educators in Myanmar to be aware of the need to conduct such study for the above questions. Hence, it shows the urgent need to conduct a study that measures whether the students possess the ability to locate main facts or ideas concerning with what they have read, to interpret what is read, and to reflect more widely on its meaning in Myanmar Language.

## Purpose of the Study

The main purpose of this study is to examine reading proficiency of the high school students in Yangon and Bago Divisions, concerning with Myanmar Language both within and beyond an educational context in terms of three aspects (retrieving information, interpreting texts and reflecting) and two text formats (continuous texts and non-continuous texts). It also tried to point out which aspect and text format do the students favor and which are dominant in Grade-11 in Myanmar.

## Scope and Procedure

This study aims to assess the reading proficiency of high school students (Grade-11) by the use of teacher made test. A total of 580 students from 12 schools of Yangon Division and 4schools of Bago Division participated in this study.

## Definition of Key Terms

*Reading Proficiency* is defined as retrieving, interpreting, and reflecting the written texts: Continuous and Non-continuous, concerning Myanmar Prose.

*Retrieving Information* is defined as locating one or more pieces of information in a text (OECD, 2002).

*Interpreting Text* is defined as constructing meaning and drawing inferences from one or more parts of a text (OECD, 2002).

*Reflecting* is defined as relating a text to one's experiences, knowledge and ideas (OECD, 2002).

*Continuous Texts* are all in a standard "prose" form and typically composed of sentences that are, in turn, organized into paragraphs (OECD, 2002).

*Non-continuous Texts* are not prose laid out sentences or paragraphs (OECD, 2002).

## Theoretical Framework

### Three Aspects Used in PISA

OECD/PISA assesses students' ability to perform a variety of reading tasks. It aims to simulate the kinds of task encountered in "authentic" reading situations – i.e. in real life. To this end, the assessment measures following five aspects of understanding a text. Examinees are expected to demonstrate their proficiency in all these processes: retrieving information, forming a broad general understanding, developing an interpretation, reflecting on and evaluating the content of a text, and reflecting on and evaluating the form of a text.

The full understanding of texts involves all of these processes. It is expected that all readers, irrespective of their overall proficiency, will be able to demonstrate some level of competency in each of them (Langer, 1995, cited in OECD, 2003).
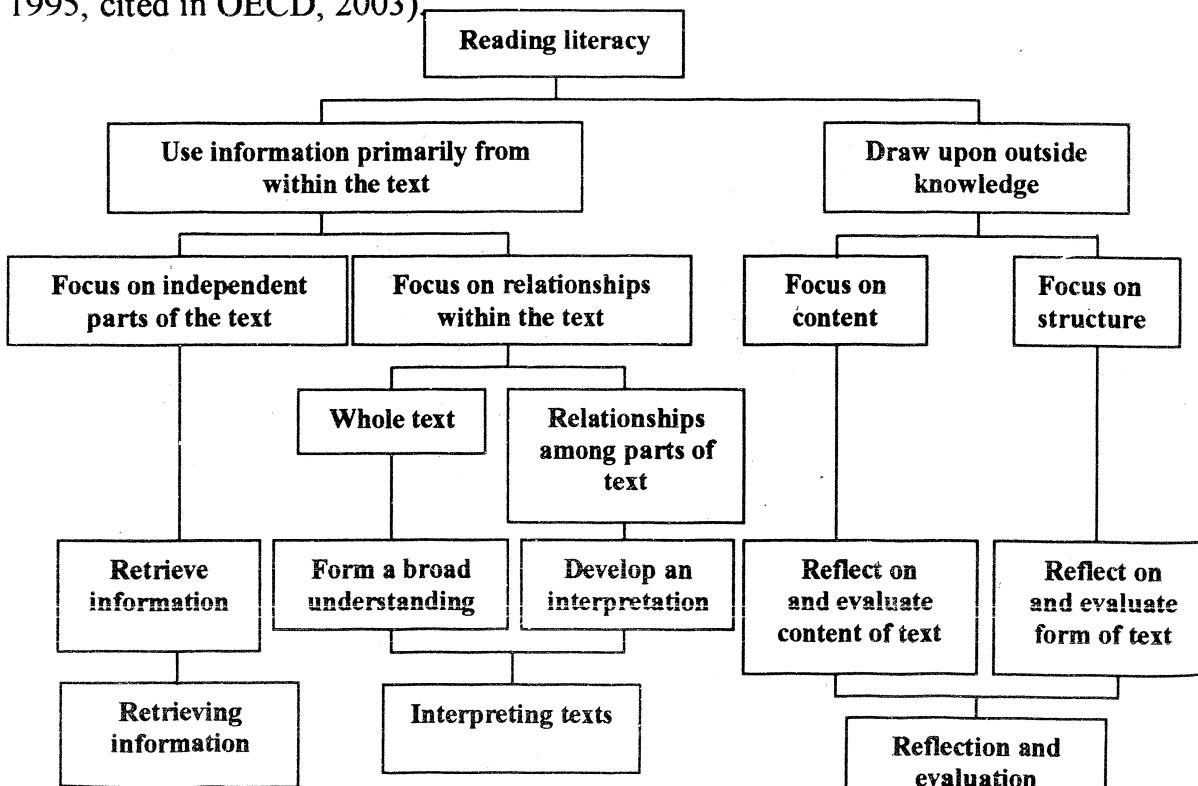


Figure 1. Relationship between the reading literacy framework and the process (aspect) subscales

Figure 1 identifies the key distinguishing characteristcs of the five processes of reading measured in OECD/PISA. While this figure necessarily oversimplifies each process, it provides a useful scheme for organizing and remembering the relationships between them. As depicted in this figure, the five processes can be distinguished in terms of four characteristics. The first deals with the extent to which the reader is expected to use information primarily from within the text or to draw also upon outside knowledge. A second characteristic involves the extent to which the reader is asked to focus on independent parts of the text or on the relationships within the information contained in the text. Sometimes readers are expected to retrieve independent pieces of information while at other times they are asked to demonstrate their understanding of the relationships between parts of the text. Focusing on either the whole text or on the relationships between parts of the text is the third distinguishing characteristc. The fourth characteristic relates to whether the reader is asked to deal with the content or substance of the text rather than its form or structure. The five aspects of reading are represented before the last line and three aspects of reading in the last line of Figure 1 at the ends of the various branches. By starting at the top of the figure and following each branch one can see which characteristics are associated with each aspect.

Finally, reading literacy tasks can be summarised into three aspects. Forming a broad understanding and Developing an interpretation have been grouped together in an interpreting texts because information provided in the text is processed by the reader in some way in both: in the case of broad understanding, the whole text is required and in the case of developing an interpretation, one part of the text in relation to another is necessary. Reflecting on and evaluating the content of a text and reflecting on and evaluating the form of a text have been collapsed into a single reflection and evaluation scale because the distinction between reflecting on and evaluating the content and reflecting on and evaluating the form , in practice, was found to be somewhat arbitrary.

## Two Text Formats Used in PISA

A key distinction made between texts that is at the heart of the PISA assessment is their classification into continuous and non-continuous texts. Continuous texts are all in a standard "prose" form and typically composed of sentences that are, in turn, organized into paragraphs. They are classified according to the author's purpose. These may fit into even larger structures such as sections, chapters and books. Non-continuous

texts, or documents as they are known in some approaches, present information in a variety of different ways, such as forms, graphs and maps.

Figure 2 summarises the various text types and associated tasks along the two format scales.
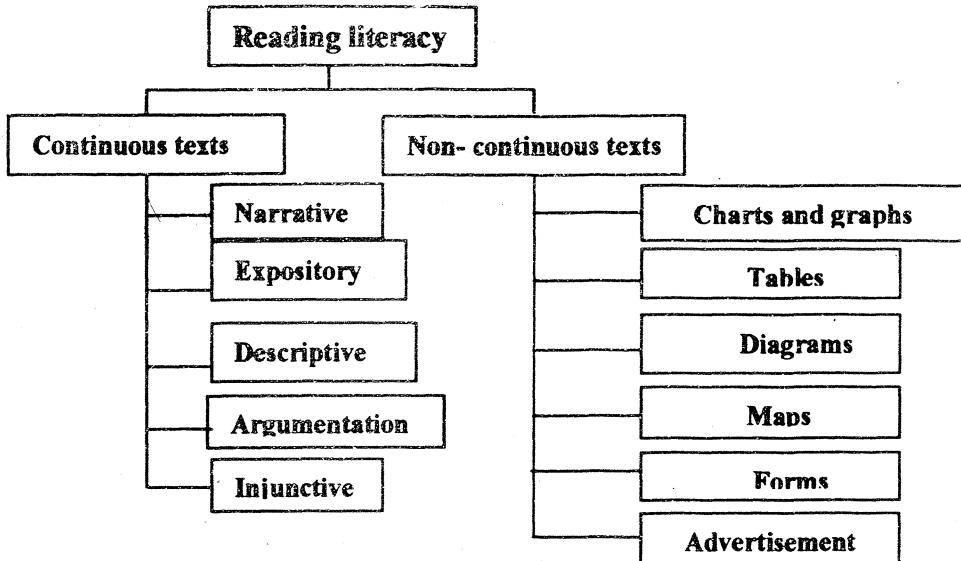


Figure 2. Relationship between the reading literacy framework and the text format subscales

## Method and Procedures

### Subjects for Survey Study

By using multi stage equal number of random sampling technique, townships, schools and subjects were selected from Yangon City Development Area (YCDA) and Bago Division (BD). Firstly, 3 townships were randomly selected on the basis of 2007 Matriculation passed rate (high, medium, low groups) in each stratum and 4 townships from Bago Division were also selected as Yangon. Altogether 16 townships were selected both from Yangon and from Bago Divisions. Secondly, 3 schools from each stratum were randomly selected on the basis of 2007 Matriculation passed rate and 4 schools from Bago Division were also selected and therefore totally 16 schools were finally selected. In total, 580 students, 300 from Yangon and 280 from Bago, participated in this study.

**Instrument for Student Reading Proficiency (Texts and Tasks)**

To assess students' reading proficiency, all the items in the instrument (Texts and Tasks) were prepared in Myanmar Language on the basis of "the OECD PISA reading literacy assessment Instrument (Texts and Tasks)"(OECD, 2002a).

After preparing the draft instrument, experts' reviews were conducted for face validity and content validity by 8-exprets who have special knowledge and close relationship with this study area, in the field of Myanmar Language. Then based on the experts' suggestions, certain items were left out from the measure since they were not in accordance with the aims of this study. Next, revisions in item length, and the wording of items were done and checked and pilot study was done with a sample of 75 students from Yangon Division in terms of passed rate. Then, the modified instrument for reading proficiency test was finally developed.

To sum up, the instrument (Texts and Tasks) includes six- texts, 4 continuous texts and 2 non-continuous texts. Table 1 below summarizes the text structures, types of text and number of items.

Table 1. Number of Items by Text Structure and by Text Type

| Text Structure | No | Text Type | Selected Prose Title | No.of Items |
|---|---|---|---|---|
| Continuous | 1. | Expository | ခွန်အားရှိသောစာ | 13 |
|  | 2. | Argument | တွေးတောတတ်၊ စဉ်းစားတတ်သည့် လူငယ်များ ဖြစ်လာစေရန် | 9 |
|  | 3. | Narrative | မိခင့်သောက | 12 |
|  | 4. | Descriptive | ယခုအခါသိပ္ပံဘာသာသည်မည် ကဲ့သို့ ဖြစ်နေသနည်း | 7 |
| Non-continuous | 5. | Diagram | လုပ်သားအင်အားဖွဲ့စည်းပုံ | 3 |
|  | 6. | Picture | အကြီးမားဆုံးအမှား | 2 |
| Total |  |  |  | 46 |

## Analysis and Results

### Results of Reading Proficiency (RP) Test

After conducting the survey procedure with 580 students (300 students from Yangon Division and 280 students from Bago Division), data obtained from the RP test were analysed. To be specific, differences between gender, between Yangon and Bago Divisions, and among the types of school were statistically analysed.

**Levels of Reading Proficiency of High School Students:** By using the descriptive procedure with the data obtained from RP test, levels of reading proficiency of high school students in Myanmar can be determined. Descriptive analysis revealed that the mean and standard deviation for the whole sample are 61.17 and 12.18 (see Figure 3).



Mean=61.17
Std. Dev.=12.179
N=580
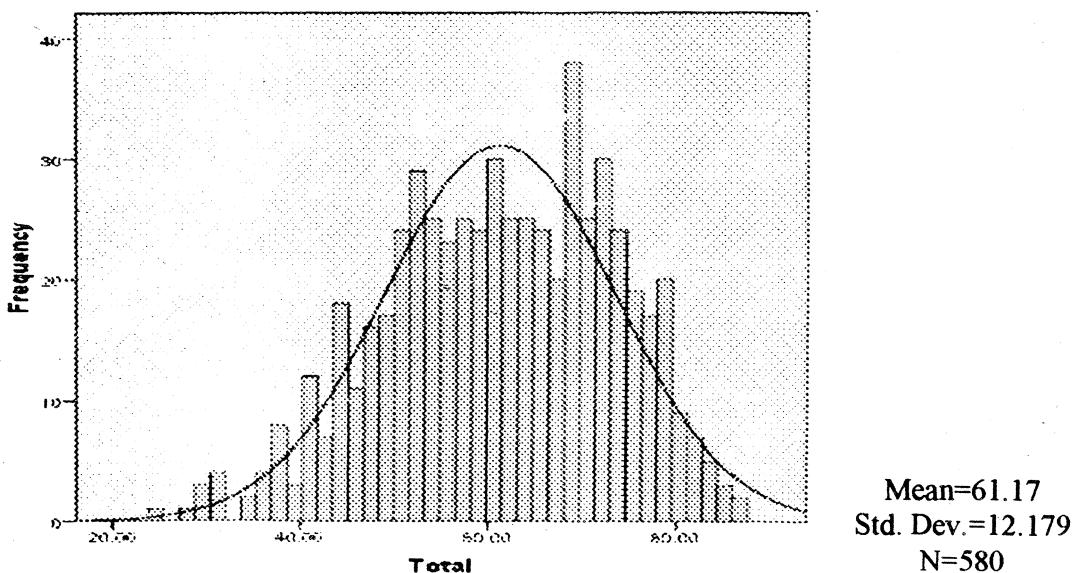
Figure 3. Frequency Distribution of Mean Scores of RP Test

Based on descriptive analysis, subjects in this study can be identified into three groups: 18.3% of students with scores one standard deviation above the sample mean were considered good at reading and they were identified as ones in the high group; 63.5% of students with scores equal to the sample mean were grouped into fair or moderate ones; the remaining students of 18.3% who scored one standard deviation lower than sample mean were identified as poor numbers (see Figure 4).
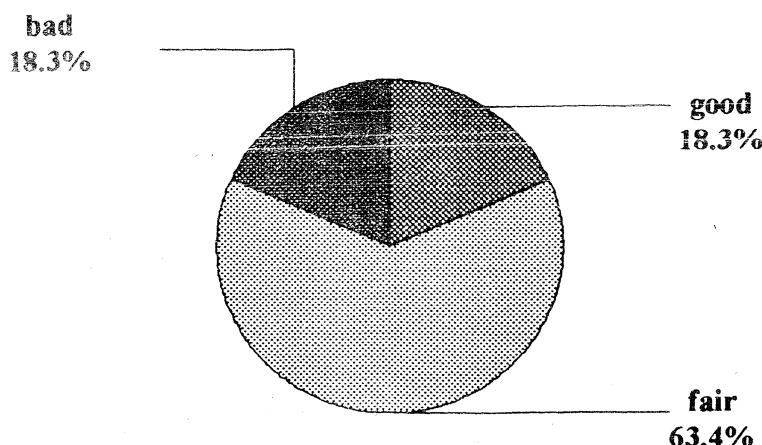
Figure 4. Three Different Groups of Reading Proficiency of Grade-11 Students

Despite the low percentage of poor group, it should not be ignored, if its later consequences are taken into consideration. Nevertheless, according to this histogram, students' overall reading proficiency is not so bad.

**Mean Comparison by Three Aspects and Two Text Formats**

As already discussed above, reading proficiency of Grade-11 students was categorized into three aspects (retrieving information, interpreting text, and reflection) and two text formats (continuous and non-continuous). Descriptive analyses for RP test by three aspects and two text formats are shown in the following table 2 to figure out obviously the level of strength of children's reading proficiency.

Table 2. Descriptive Statistics for the RP Test by Three Aspects and Two Text Formats

|  | N | Minimum | Maximum | Mean | S D |
|---|---|---|---|---|---|
| Total | 580 | 24.59 | 86.89 | 61.17 | 12.18 |
| Retrieving | 580 | 39.39 | 100.00 | 78.76 | 10.68 |
| Interpreting | 580 | .00 | 88.24 | 35.40 | 18.80 |
| Reflecting | 580 | .00 | 100.00 | 48.75 | 22.31 |
| Continuous | 580 | 28.85 | 90.38 | 64.78 | 12.03 |
| Non-continuous | 580 | .00 | 100.00 | 47.20 | 24.95 |

Based on the descriptive statistics shown in table 2, the mean score for retrieving information is the highest whereas that of interpreting is the lowest. It can be said that retrieving information is more dominant than the others, interpreting and reflection. So it is apparent that Grade-11 students in this study are very good in retrieving information. In other words, high school students of Myanmar possess the ability to locate one or more discrete facts or ideas in the text.

The mean score of reflection stands between retrieving information and interpreting text. It can be meaningfully interpreted that students are not so poor in reflective thinking though their mean score is not very satisfactory. In other words, it can be said that students' ability to relate a text to their experience, knowledge and ideas is fairly good.

The mean score of interpreting text stands third, so it points out that the subjects are poorest in interpreting text compared with the other two aspects. In other words, most of the Myanmar high school students are rarely able to construct meaning and draw inferences for the text they read.

Regarding two text formats, mean score for continuous text is higher than that for non-continuous text. It can be said that since reading has traditionally been identified mainly with prose: language instruction and systems have concentrated on reading prose.

## Mean Comparison by Gender

Gender is undoubtedly a vital variable. Since it is assumed that there might be differences in reading proficiency with regard to gender, analyses were again conducted to confirm this assumption. But descriptive analysis revealed that there is no difference in means and standard deviations of RP test between gender with respect to three aspects and two text formats respectively (see Table 3).

Table 3. Mean Comparison for Three Aspects and Two Text Formats of RP Test by Gender

|            | Gender | N   | Mean  | SD    |
|------------|--------|-----|-------|-------|
| Total      | male   | 290 | 61.06 | 13.11 |
|            | female | 290 | 61.28 | 11.20 |
| Retrieving | male   | 290 | 78.63 | 11.34 |
|            | female | 290 | 78.89 | 10.00 |

|  | Gender | N | Mean | SD |
|---|---|---|---|---|
| Interpreting | male | 290 | 35.76 | 19.67 |
|  | female | 290 | 35.03 | 17.91 |
| Reflecting | male | 290 | 47.62 | 23.05 |
|  | female | 290 | 49.87 | 21.51 |
| Continuous | male | 290 | 64.58 | 12.97 |
|  | female | 290 | 64.98 | 11.03 |
| Non-continuous | male | 290 | 47.24 | 26.73 |
|  | female | 290 | 47.16 | 23.09 |

To obtain more detailed information of particular aspect and text format, the independent sample t test was used again (see table 4). The results of t test by gender also revealed that there were no differences in reading performance among boys and girls. Specifically, performance of the girls was not better than that of the boys. This finding seems to be contrary to the findings of previous research conducted by OECD/PISA. PISA (2000) showed that females, in all countries, are on average better than males. The most striking gender differences revealed by PISA 2000 is that females consistently outperform males in reading literacy.

From the point of views of geneticist, "the left hemisphere of the female brain is more heterogeneous, more neurologically complex than the males and it contains the language centers, so the women are better than the men to retain their ability to speak and to understand language (Restak, R, cited in Department of Educational Psychology, 2001). But, for most people, the left brain seems to spcialize in language skills (e.g., understanding and producing speech) while the right deals with visual-spatial skills (e.g., drawing, perceiving patterns, using maps). However, some evidence of gender differences revealed that linguistically males show more left-hemisphere dominance; woman show more bilaterial, symmetrical patterns of function (Kimura, 1987, cited in Benson & Groue, 1998, p-117).

Therefore, it is satisfactorily interpreted that reading proficiency of the male students in this study is not lower than that of females. On average, boys not only tend to spend more time in reading but they also read as many different types of materials as girls.

Table 4. The Results of t-test for Each Aspect and Text Format of RP Test by Gender

|  | t | df | Sig. (2-tailed) | MD |
|---|---|---|---|---|
| Total | -.218 | 578 | .828 | -.220 |
| Retrieving | -.294 | 578 | .769 | -.261 |
| Interpreting | .467 | 578 | .640 | .730 |
| Reflecting | -1.219 | 578 | .223 | -2.257 |
| Continuous | -.405 | 578 | .686 | -.405 |
| Non-continuous | .037 | 578 | .971 | .077 |

## Mean Comparison for RP Test by Divisions

The subjects were selected from the same grade level. However, different regions pointed out different per͡rmance in reading. So, division wise analysis was executed since it is     ımed that such analysis is meaningful. Descriptive analysis revealed the differences in means and standard deviations of RP test between Yangon and Bago Divisions (see Table 5).

Next, this study also tried to observe clearly the students' reading proficiency between Yangon and Bago Divisions. The result of t-test showed that for the whole scale reading proficiency test, there was a significant difference at 0.001 level (see Table 6). It can easily be seen that students from Yangon Division performed significantly better than those of Bago Division in reading proficiency.

And then, as already discussed above, since student reading proficiency was observed according to three aspects and two text formats, further detail analysis and computation were undertaken. Descriptive analysis revealed the differences in means and standard deviations of three aspects and two text formats between Yangon and Bago Divisions (see Table 5). According to this table, apart from retrieving information, the mean scores of Yangon are higher than that of Bago regarding the other two aspects; interpreting text and reflection, and also concerning two text formats.

Table 5. Means and Standard Deviations for Each Aspect and Format by Divisions

|  | Division | N | Mean | SD |
|---|---|---|---|---|
| Total | Yangon | 300 | 64.01 | 12.48 |
|  | Bago | 280 | 58.14 | 11.09 |
| Retrieving | Yangon | 300 | 79.43 | 11.24 |
|  | Bago | 280 | 78.04 | 10.03 |
| Interpreting | Yangon | 300 | 39.71 | 18.40 |
|  | Bago | 280 | 30.78 | 18.15 |
| Reflecting | Yangon | 300 | 54.45 | 21.47 |
|  | Bago | 280 | 42.63 | 21.60 |
| Continuous | Yangon | 300 | 66.93 | 12.36 |
|  | Bago | 280 | 62.47 | 11.25 |
| Non-continuous | Yangon | 300 | 53.00 | 23.50 |
|  | Bago | 280 | 41.99 | 25.01 |

So, the independent sample t test was applied to confirm whether these differences are significant or not (see Table 6).

Table 6. The Result of t- test for Each Aspect and Text Format of RP Test by Divisions

|  | t | df | Sig. (2-tailed) | MD |
|---|---|---|---|---|
| Total | 5.97 | 578 | .000 | 5.87 |
| Retrieving | 1.57 | 578 | .117 | 1.39 |
| Interpreting | 5.88 | 578 | .000 | 8.93 |
| Reflecting | 6.61 | 578 | .000 | 11.82 |
| Continuous | 4.53 | 578 | .000 | 4.46 |
| Non-continuous | 5.96 | 578 | .000 | 12.01 |

The result of the t-test for each aspect and text format of RP test confirmed that there are significantly different in interpreting text and reflection and two text formats by divisions at 0.001 level (see Table 6). However, concerning retrieving information, significant differences are not found at any level. Not surprisingly, it is acceptable that students from Yangon consistently outperform than that of Bago. It is assumed that students in Yangon Division may have the most favourable supporting environment in order to promote reading proficiency. Next, students' family background and engagement in reading need to be explored to clarify the causes and effects of these differences.

## Mean Comparison by Passed Rate Level of Schools

The subjects of this study were selected from three types of school based on 2007 Matriculation passed rate (High, Medium and Low). So, the mean differences of RP test among the types of school were statistically analysed. Not surprisingly, it was found that regarding reading proficiency, the students from high passed rate schools performed much more better than those of middle and low passed rate schools. First, the means and standard deviations for high groups are mentioned in the following Table 7.

Table 7. Means and Standard Deviations for RP Test by High Achievement Groups

| H.School | Dagon | Kamayut | Mingalardon | S.Okhalapa | Bago |
|---|---|---|---|---|---|
| Total | 42.12 (5.73) | 43.24 (4.63) | 46.72 (2.92) | 43.44 (5.04) | 39.01 (6.11) |

Note: Numbers in parentheses are Standard Deviations

Descriptive analysis revealed the differences and so one way analysis of variance (ANOVA) was executed to confirm these differences between the high achievement groups, regarding the RP of Grade-11 students. ANOVA results show that for the whole scales RP test, there is a significant difference at 0.001 level within the high achievement groups (see Table 8).

Table 8. ANOVA Table of Mean Comparison for RP Test by High Achievement Groups

|  | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 1269.020 | 4 | 317.255 | 11.158 | .000 |
| Within Groups | 4691.386 | 165 | 28.433 |  |  |
| Total | 5960.406 | 169 |  |  |  |

To obtain more detailed information of particular school included in high groups had the differences; Post-Hoc Test was conducted by Tukey HSD method and it becomes apparent that students from Dagon differed significantly from those of Mingalardon at 0.05 level. To say specifically, the students of Dagon were significantly lower than those of Mingalardon in reading proficiency. To be specific, the mean score of the students of Dagon is surprisingly less than that of other three schools in Yangon; Kamayut, Mingalardon, and South-Okhalarpa, although all these five schools were grouped as high passed rate. It was found that the students from Dagon are good at only retrieving information but not at interpreting texts and reflecting. Students from Bago revealed less performance than those of Kamayut, Mingalardon, and South-Okhalarpa at 0.01 level and 0.001 level (see Table 9).

Table 9. The Results of Tukey HSD Multiple Comparison

| (I) High | (J) High | Mean Difference (I-J) | Sig. |
|---|---|---|---|
| Dagon | Kamayut | -1.120 | .946 |
|  | Mingalardon | -4.600* | .022 |
|  | S.Okhalarpa | -1.320 | .906 |
|  | Bago | 3.106 | .096 |
| Bago | Dagon | -3.106 | .096 |
|  | Kamayut | -4.226** | .007 |
|  | Mingalardon | -7.706*** | .000 |
|  | S.Okhalarpa | -4.426** | .004 |

Note: * The mean difference is significant at the .05 level.

** The mean difference is significant at the .01 level.

*** The mean difference is significant at the .001 level.

Second, the means and standard deviations for medium achievement groups are described in the following Table 10.

Table 10. Means and Standard Deviations for RP Test by Medium Achievement Groups

| M.School | Lanmadaw | Tamwe | Thuwunna | Thaketa | Okhpho | Pya |
|---|---|---|---|---|---|---|
| Total | 39.44 (5.49) | 43.92 (4.88) | 41.76 (3.78) | 36.84 (5.30) | 36.53 (6.95) | 34. (5.6 |

Note: Numbers in parentheses are Standard Deviations

So as to obtain more detailed information, one way analysis of variance (ANOVA) was conducted to find out the differences between the medium groups, regarding the RP of Grade-11 students. ANOVA results show that for the whole scales RP test, there is a significant difference at 0.001 level within the medium groups (see Table 11).

Table 11. ANOVA Table of Mean Comparison for RP Test by Medium Achievement Groups

|  | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 2198.833 | 5 | 439.767 | 13.109 | .000 |
| Within Groups | 7850.063 | 234 | 33.547 |  |  |
| Total | 10048.896 | 239 |  |  |  |

To find which particular school had the greatest difference, Tukey HSD test was calculated and it becomes apparent that students from Tamwe differed significantly from those of Thaketa, Okhpho, and Pyay. And the similar result was found for Thuwunna. Significant differences were not found between Tamwe and Thuwunna. This finding reflects that there is no difference in reading performance between males and females since all the subjects of Tamwe are males and those of Thuwunna are females (see Table 12).

Table 12. The Results of Tukey HSD Multiple Comparison

| (I) Middle | (J) Middle | Mean Difference (I-J) | Sig. |
|---|---|---|---|
| Tamwe | Lanmadaw | 4.480 | .072 |
| | Thuwunna | 2.160 | .775 |
| | Thaketa | 7.080*** | .000 |
| | Okhpho | 7.391*** | .000 |
| | Pyay | 9.220*** | .000 |
| Thuwunna | Lanmadaw | 2.320 | .717 |
| | Tamwe | -2.160 | .775 |
| | Thaketa | 4.920* | .035 |
| | Okhpho | 5.231** | .002 |
| | Pyay | 7.060*** | .000 |

Note: * The mean difference is significant at the .05 level.

** The mean difference is significant at the .01 level.

*** The mean difference is significant at the .001 level.

Third, the means and standard deviations for low achievement groups are described in the following Table 13.

Table 13. Means and Standard Deviations for RP Test by Low Achievement Groups

| L.School | Panbedon | Kyeemyindaing | Dawpon | Seikgyi Kanaungto | Penwegon |
|---|---|---|---|---|---|
| Total | 28.04 (6.29) | 33.56 (7.17) | 36.60 (6.53) | 32.84 (7.27) | 31.61 (6.16) |

Note: Numbers in parentheses are Standard Deviations

Next, to obtain more detailed information, one way analysis of variance (ANOVA) was calculated to find out the differences between the low groups, regarding the RP of Grade-11 students. ANOVA results show that for the whole scales RP test, there is a significant difference at 0.001 level within the low groups (see Table 14).

Table 14. ANOVA Table of Mean Comparison for RP Test by Low Achievement Groups

|  | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 995.811 | 4 | 248.953 | 5.791 | .000 |
| Within Groups | 7093.066 | 165 | 42.988 |  |  |
| Total | 8088.876 | 169 |  |  |  |

Hence, it showed the necessity to find out the particular school showing the highest and lowest mean values of RP. For making mean comparisons among the schools, Tukey HSD comparison procedure was again employed. From this result, it can be seen that students from Panbedon are significantly different from those of Kyeemyindaing and Dawpon in reading proficiency. Then, significant difference was found between Penwegon and Dawpon at 0.05 level. Suprisingly, the mean score of Panbedon is the lowest compared with the remaining schools, although all these five schools were grouped as low passed rate ones (see Table 15).

Table 15. the Results of Tukey HSD Multiple Comparison

| (I) Low | (J) Low | Mean Difference (I-J) | Sig. |
|---|---|---|---|
| Panbedon | Kyeemyindaing | -5.520* | .027 |
|  | Dawpon | -8.560*** | .000 |
|  | Seikgyi Kanaungto | -4.800 | .077 |
|  | Penwegon | -3.574 | .138 |
| Penwegon | Panbedon | 3.574 | .138 |
|  | Kyeemyindaing | -1.946 | .708 |

| | | | |
|---|---|---|---|
| | Dawpon | -4.986* | .012 |
| | Seikgyi Kanaungto | -1.226 | .930 |

Note: * The mean difference is significant at the .05 level.

*** The mean difference is significant at the .001 level.

Consequently, it shows the necessity to consider students' engagement in reading and family background so as to clarify these results.

## Conclusion

Reading proficiency, as defined in this study, focuses on the knowledge and skills required to apply "reading for learning" rather than on the technical skills acquired in "learning to read". In line with most contemporary views about reading, this study focuses on measuring the extent to which individuals are able to construct, expend and reflect on the meaning of what they have read in the common written texts both within and outside school.

The primary purpose of this study is to assess reading proficiency of Grade-11 students in Myanmar prose and their capacities to apply knowledge and skills to reading. Based on the results of reading proficiency, the subjects could be identified into three groups: high group (18.3%), moderate group (63.5%), and low group (18.3%). Concerning with three aspects and two text formats, Grade-11 students in this study are very good in retrieving information and continuous text. With regards to gender, significant differences are not found in reading performance among the boys and the girls. Moreover, different regions pointed out different performance in reading. To be specific, apart from retrieving information, the students from Yangon performed better than that of Bago in the other two aspects and two text formats. By comparing the high achievement schools indicated by Matriculation passed rate (%), what can be found is that the students from Dagon are lower in reading performance than that of Mingalardon while the students from Bago are less proficient in reading than that of Kamayut, Mingalardon, and South-Okhalapa. Out of the medium passed rate schools, what can be found is that the students from Tamwe are better than that of Thaketa, Okhpho, and Pyay and the same result was found for Thuwunna. Out of the low passed rate schools, the students from Pabedon are lower than that of Kyeemyindaing and Dawpon, and the students from Penwegon are lower than that of Dawpon

in reading proficiency.

Knowledge of these results will assist the educators to better understand factors that can impact on learning and to target learning strategies. In other wards, these results seem to be a warning to the school administrators, educators and parents in our society to prepare our children to enable to meet the challenges of today's knowledge world.

In order to do so, they must be able to manage their own learning, rather than solely relying on teachers. This means that students must, on the one hand, be interested and engaged in reading much more than before and have strategies for learning effectively. Reading therefore is not merely a goal; it is also an important tool in education and individual development, both within school and in the future life. It is recognized that reading skills play a central role in an individual's learning at school;

> "The ability to read and understand instructions and text is a basic requirement of success in all school subjects. The importance of literacy skills does not, however, come to an end when children leave school. Such skills are key to all areas of education and beyond, facilitating participation in the wider context of lifelong learning and contributing to individuals' social integration and personal development." (The European Commission 2001, cited in OECD, 2002a).

It can be concluded that the ability to read and understand complicated information is important to achieve success in tertiary education, in the workplace, and in everyday life. Achievement in reading literacy is therefore arguably not only a foundation for achievement in other subject areas within the education system, but also a prerequisite for successful participation in most areas of adult life. It is now generally acknowledged that learning in school is not enough. But in order for students to become lifelong learners, their education must have prepared them to handle print adequately and comfortably, in whatever form it comes to them (OECD, 2002a). So far, as it has become clear that reading proficiency is the royal road to knowledge, it is essential to achieve success in all academic subjects and in children's later academic performance.

## References

Benson, N.C & Grove, S. (1998). *Psychology for Beginners*. Australia; Allen & Unwin Pty. Ltd.

Chapman, L.J and Czerniewska, P. (1978). *Reading from Process to Practice*. Landon: Routledge & Kegan Paul Ltd.

Nu Nu Wai & Yukiko Hirakawa (2001). *Teachers' Conceptualization and Actual Practce in the Student Evaluation Process at the Upper Secondary School Level in Japan, Focusing on Problem Solving Skills*. Study in Educational Evaluation 27 (2001) 175-198.

Organization for Economic Co-operation and Development. (2001a). *Knowledge and Skills for life*. Retireved February 29, 2008, from http://www.pisa.oecd.org/ dataoecd/ 44/53/33691596.pdf.

Organization for Economic Co-operation and Development. (2001b). *EXECUTIVE SUMMARY-Knowledge and Skills for life*. Retireved February 3, 2008, from http://www.pisa.oecd.org/ dataoecd/ 44/32/33691620.pdf.

Organization for Economic Co-operation and Development.. (2002). *Sample Tasks from the PISA 2000 Assessment of Reading, Mathematic, and Scientific Literacy*. Retireved February 3, 2008, from http://www.pisa.oecd.org/ dataoecd/ 44/62/33692744.pdf.

Organization for Economic Co-operation and Development. (2002a). *READING FOR CHANGE: Performance and Engagement Across Countries (Result from PISA 2000)*. Retrieved September 16, 2005, from http://www.pisa.oecd. org/ dataoecd/ 43/ 54/ 33690904. pdf.

Organization for Economic Co-operation and Development. (2002b). *EXECUTIVE SUMMARY-READING FOR CHANGE: Performance and Engagement Across Countries (Result from PISA 2000)*. Retrieved October 11, 2005, from http://www.pisa.oecd.org/ dataoecd/ 43/ 54/ 33690986. pdf.

Organization for Economic Co-operation and Development. (2003). *The PISA 2003 Assessment Framework – Mathematics, Reading, Science and Problem Solving Knowledge and Skills*. Retireved September 3, 2005, from http://www.pisa.oecd.org/ dataoecd/

The National Capital Language Resource Center. (2004). *The Essentials of Language Teaching*. Retrieved August 14, 2007, from http://www.nclrc.org/ essentials/ reading/ assessread.htm.

Yangon Institute of Education (2001) *Educational Psychology*, Yangon; Department of Educational Psychology.

# Appendix
## အခြေခံပညာအထက်တန်းအဆင့်စာဖတ်စွမ်းရည်ကျွမ်းကျင်တတ်မြောက်မှုစစ်ဆေးလွှာ
## ဒသမတန်း (Grade-11)
## "ခွန်အားရှိသောစာ" (ကောက်နုတ်ချက်)

ဤလက်ထက်၌ များစွာသောစာရေးဆရာတို့သည် "ခွန်အားရှိသောစာ" (Forceful Language) ဟူသည်မှာ ဘာကိုဆိုလိုသည်ဟု နားလည်ရှာကြပုံမရချေ။

အချို့လူများသည် အကြောင်းအရာတစ်ခုကို ကောင်းစွာနားမလည်ပါဘဲလျက် ကိုယ့်ဟာကိုယ် နားလည်ပြီအထင်နှင့် ရေးချင်ပြောချင်တတ်ကြ၏။ သာမန် ကလျှုံကမျှလောက် သိထားခြင်းကို တကယ် သိထင်ကြ၍ ဖြန်းသန်းကာ ရေးတတ်ပြောတတ်ကြ၏။ မိမိတို့ ကိုယ်၌က "ပိုးတိုးဝါးတား" ဖြစ်နေသေးသော အသိမျိုးကိုပင် အဟုတ်သိထင်ပြီး မပိုင်နိုင်ဘဲလျက်နှင့် ပိုင်နိုင် လေဟန် ရေးတတ်ပြောတတ်ကြ၏။ ထိုအခြေမျှလောက်နှင့် ရေးထားသည့်စာမျိုးသည် "ခွန်အားရှိသောစာ" သို့မဟုတ် စဉ်းစားတတ်သော စာဖတ် ပရိသတ်အား ကျေနပ်စေလောက်သည့်စာမျိုး ဖြစ်မလာနိုင်ချေ။

သူ့နေရာနှင့်သူ တိကျမှန်ကန်သောစကားလုံး ရွေးချယ်သုံးနှုန်းတတ်ခြင်းသည် အချက်ကျအောင်ရေး တတ်ခြင်းပင်ဖြစ်၍ "ခွန်အားရှိသောစာ" မျိုးဖြစ်လာနိုင်၏။ ဤ၌ပညာမှာ လွယ်ကူသည်မဟုတ် စာကောင်း များများကြီးဖတ်ထားပြီး စကားလုံးတော်တော်များများ တတ်ထားသည့်ပြင် ရွေးချယ်တတ်သောအသိဉာဏ် မျိုးလည်း ရှိရန်လို၏။ အဘိဓာန်ကဲ့သို့ စကားလုံးများ တတ်ထားသော်လည်း အရွေးမတတ်လျှင် ခွန်အားရှိ သောစာမျိုး ရေးတတ်သေးသည် မဟုတ်ချေ။

ကြံ့နိုင်ကျစ်လျစ်သောဝါကျမျိုး တည်ဆောက်တတ်ခြင်းသည်လည်း "ခွန်အားရှိသောစာ" မျိုးအ တွက်အရေးကြီးသည်။ စကားလုံးပြောင်လျှင် "ခွန်အားရှိသောစာ" မျိုးဖြစ်လာတတ်သော်လည်း ဝါကျတည် ဆောက်ပုံ ပွစိစိချည့်နဲ့နဲ့ လျှော့ရဲရဲနှင့် ခနော်ခနဲ့ဖြစ်နေသည်ဆိုလျှင် စကားလုံး "ပြောင်" ခြင်းကြောင့် "နား" ကိုထိခိုက်သော်လည်း စာဖတ်သူ၏ဦးနှောက်နှင့်နလုံးသို့ မထိခိုက်ဘဲရှိနေတတ်သည်။ "ဝါကျလက်သမား" ၏အလုပ်မှာ စကားလုံးများကို သူ့နေရာနှင့်သူ အစီအစဉ်ပြုလုပ်ရခြင်းပင်ဖြစ်၏။ ဤ၏အလုပ်ကို နားလည် ရန်မှာ ဆရာနှင့်သင်ပြ၍ ဖြစ်သည်မဟုတ်။ "လက်သမား" ကောင်းများ စာပေတို့ကို ကြိုက်တတ်အောင် လေ့လာပြီး ဝိတိနှင့်တကွ အထပ်ထပ်ဖတ်ရှူရခြင်းပင် ဖြစ်ပေသည်။

စာချောအောင် ရေးတတ်ချင်လျှင် ဝိဘတ်များကိုလည်း တစ်လှည့်စီသုံးတတ်ရန် အလေ့အကျင့် ပြုလုပ်သင့်၏။ "ကို" ဟူသော ဝိဘတ်အစား "အား" ဟူသော ဝိဘတ်ကို ထပ်ခါထပ်ခါ သုံးကြသော အလေ့အကျင့်တစ်ခု ဖြစ်ပေါ်နေ၏။ တစ်လုံးစီကြည့်လိုက်လျှင် "ကို" ဟူသောဝိဘတ်သည် "အား" ဟူသော ဝိဘတ်ထက် အဓိပ္ပာယ်ထိရောက်၍ တိုက်ရိုက်သဘောမျိုးလည်းပါရှိရာ၏။ သို့နှင့်လည်း "ကို" ကို ဖယ်ထားပြီး "အား" ကို သဘောကျသည့်လက္ခဏာနှင့် အထပ်ထပ်သုံးကြခြင်းကို တွေ့ရ၏။ ဝိဘတ်နှစ်ခု သည် အဓိပ္ပာယ်တူသယောင်ထင်ကြသော်လည်း ခြားနားခြင်းရှိ၏။ ဥဒါဟရဏ်ကား "မောင်ဘသည် စာတစ်အုပ်ကို ကျွန်ုပ်အား ပေး၏" ဟုရေးသင့်ပါလျက် "မောင်ဘသည် စာတစ်အုပ်အား ကျွန်ုပ်ကိုပေး၏" ဟုရေးပါမူ မှားသည်ဟုဆို သင့်သည်။ "မောင်ဘသည် စာတစ်အုပ်အား ကျွန်ုပ်အားပေးသည်ဟု ရေးပါမူကား မှားရုံသာမက (ကျွန်ုပ်အဖို့) နားကလောလုသည်။ မြန်မာဘာသာ၌ အဓိပ္ပာယ်ခပ်ဆင်ဆင်ရှိသည့် ဝိဘတ် မျိုးရှိလေရာ "၍၊ မှာ၊ တွင်၊ ဝယ်" တည်းဟူသောဝိဘတ်များကို ထပ်လည်းမထပ် အသုံးလည်းတတ်အောင် လေ့ကျင့်ထားခြင်းသည် အဆင်ပြေသောစာမျိုး ရေးလိုသူများ အတွက် လိုအပ်လှပေသည်။

<div align="right">
ရွှေဥဒေါင်း<br>
(လွတ်လပ်ရေးခေတ်)
</div>

၁။ အောက်ပါဝါကျများမှ (မှား)/(မှန်) ရွေးချယ်ပါ။
   အဖြေရေးရန်

(က) ယနေ့.ခေတ်၌ စာရေးဆရာတို့.သည် "ခွန်အားရှိသောစာ" ဟူသည်ကို ကောင်းစွာ     (က) --------

     နားလည်ကြသည်။

(ခ) "ခွန်အားရှိသောစာ" မျိုး ရေးတတ်ရန်မှာ လွယ်ကူသည်မဟုတ်။                      (ခ) --------

(ဂ) အဘိဓာန်ကဲ့သို့. စကားလုံးများတတ်ထားသော်လည်း ရွေးချယ်မသုံးတတ်လျှင်       (ဂ) --------

     ခွန်အားရှိသောစာမျိုး မရေးတတ်သေးပေ။

(ဃ) "ဝါကျလက်သမားကောင်းတစ်ဦး" ဖြစ်ရန် စာအုပ်စာပေများကို ပီတိနှင့် အထပ်      (ဃ) --------

     ထပ်ဖတ်ရသည်။

(င) "အား" ဟူသောဝိဘတ်သည် "ကို" ဟူသောဝိဘတ်ထက် အမိပ္ပါယ် ထိရောက်        (င) ---------

     သည်။

၂။ အောက်ပါပေးထားသောကော်လံ (၂) ခုမှတူရာကိုယှဉ်တွဲပါ။
   အဖြေရေးရန်

(က) ခနော်ခနဲ့.              ၁။ မသဲမကွဲ။                                    (က) --------
(ခ)  ဝါကျလက်သမား          ၂။ စဉ်းစားတတ်သောစာဖတ်ပရိသတ်အား             (ခ) --------

                         ကျေနပ်စေလောက်သည့်စာ။
(ဂ) ဥဒါဟရဏ်              ၃။ တောင့်တင်းခိုင်မာခြင်းမရှိ။                     (ဂ) --------

(ဃ) ခွန်အားရှိသောစာ         ၄။ သိသာထင်ရှားစေရန်ပြသောပုံစံ၊ ပြယုဂ်။          (ဃ) --------
(င) ဝိုးတိုးဝါးတား           ၅။ စကားလုံးများကိုသူ.နေရာနှင့်သူအစီအစဉ်          (င) --------

                         ပြုလုပ်ရသူ။

၃။      အောက်ပါမေးခွန်းများ၏အဖြေကို လိုရင်းသာ ဖြေဆိုပေးပါ။
(က) ဤစကားပြေတွင် စာရေးဆရာက မည်သည့်အချက်ကို အသိပေးလိုပါသနည်း။ ထိုအချက်ကို သိစေရန်
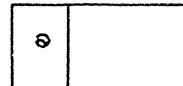     အရေးကြီးသည်ဟု ယူဆရသောအချက်သုံးချက်ကို ဖော်ပြပါ။
     ----------------------------------------------------------------

     ၁။ ----------------------------------------------------------

၂။ ------------------------------------------------------------

၃။ ------------------------------------------------------------

(ခ) အထက်ပါအဖြေသုံးခုအနက်မှ ၍စကားပြေအတွက် အဓိကအကျဆုံး ဖြစ်သည်
    ဟုယူဆရသောအချက်တစ်ချက်ကို ရွေးချယ်ပြီး နံပါတ်ကို လက်ယာဘက်ရှိ
    အကွက်ထဲတွင် ရေးဖြည့်ပေးပါ။

    | ဓ | |

(ဂ) ဝိဘတ် အရေးပါပုံကို စကားပြေပါသာဓကအတိုင်း ကိုယ်ပိုင်သာဓကတစ်ခုဖြင့် ရှင်းပြပါ။

    ------------------------------------------------------------

    ------------------------------------------------------------

အောက်ပါ **Tree Diagram** သည် နိုင်ငံတစ်နိုင်ငံ၏ လုပ်သားအင်အား (သို့မဟုတ်)
အလုပ်လုပ်နိုင်သော လူဦးရေဖွဲ့စည်းပုံအဆင့်ဆင့်ကို ဖော်ပြထားခြင်း ဖြစ်ပါသည်။ ၁၉၉၅ ခုနှစ်တွင် နိုင်ငံ၏
စုစုပေါင်းလူဦးရေမှာ (၃.၄)သန်းခန့်ရှိသည်။

လုပ်သားအင်အားဖွဲ့စည်းပုံ ၁၉၉၅ ခုနှစ်၊ မတ်လ၊ (၃၁)ရက် (000,)°

                    ┌──────────────────────────┐
                    │   အလုပ်လုပ်နိုင်သောလူဦးရေ²   │
                    │        ၂၆၅၄.၅            │
                    └──────────────────────────┘

        ┌───────────────────────┐          ┌────────────────────────────┐
        │    လုပ်သားအင်အား        │          │  လုပ်သားအင်အားတွင်မပါဝင်သူများ²  │
        │  ၁၇၀၆.၅   ၆၄.၂%        │          │     ၉၄၈.၈    ၃၅.၈%          │
        └───────────────────────┘          └────────────────────────────┘

    ┌───────────────────────┐              ┌───────────────────────┐
    │    အလုပ်သမားများ        │              │    အလုပ်လက်မဲ့များ        │
    │  ၁၅၇၈.၄   ၉၂.၅%        │              │  ၁၂၈.၁   ၇.၅%          │
    └───────────────────────┘              └───────────────────────┘

 ┌──────────────────────┐   ┌──────────────────────┐
 │ အချိန်ပြည့်အလုပ်သမား     │   │ အချိန်ပိုင်းအလုပ်သမား     │
 │  ၁၂၃၇.၁   ၇၈.၄%       │   │  ၃၄၁.၃   ၂၁.၆%       │
 └──────────────────────┘   └──────────────────────┘

                    ┌──────────────────────┐   ┌──────────────────────┐
                    │ အချိန်ပြည့်အလုပ်ရှာသူ    │   │ အချိန်ပိုင်းအလုပ်ရှာသူ    │
                    │  ၁၀၁.၆   ၇၉.၃%       │   │  ၂၆.၅   ၂၀.၇%       │
                    └──────────────────────┘   └──────────────────────┘

 ┌──────────────────────┐   ┌──────────────────────┐
 │ အချိန်ပြည့်အလုပ်ရှာသူ    │   │ အချိန်ပြည့်အလုပ်မရှာသူ    │
 │  ၂၃.၂   ၆.၈%         │   │  ၃၁၈.၁   ၉၃.၂%       │
 └──────────────────────┘   └──────────────────────┘

၂။ ------------------------------------------------------------------
—

၃။ ------------------------------------------------------------------
—

(ခ)     အထက်ပါအဖြေသုံးခုအနက်မှ ၍စကားပြေအတွက် အဓိကအကျဆုံး ဖြစ်သည်
        ဟုယူဆရသောအချက်တစ်ချက်ကို ရွေးချယ်ပြီး နံပါတ်ကို လက်ယာဘက်ရှိ
        အကွက်ထဲတွင် ရေးဖြည့်ပေးပါ။

| ခ | |
|---|---|

(ဂ)     ဝိဘတ် အရေးပါပုံကို စကားပြေပါသာဓကအတိုင်း ကိုယ်ပိုင်သာဓကတစ်ခုဖြင့် ရှင်းပြပါ။

------------------------------------------------------------------
------------------------------------------------------------------

အောက်ပါ **Tree Diagram** သည် နိုင်ငံတစ်နိုင်ငံ၏ လုပ်သားအင်အား (သို့မဟုတ်)
အလုပ်လုပ်နိုင်သော လူဦးရေဖွဲ့စည်းပုံအဆင့်ဆင့်ကို ဖော်ပြထားခြင်း ဖြစ်ပါသည်။ ၁၉၉၅ ခုနှစ်တွင် နိုင်ငံ၏
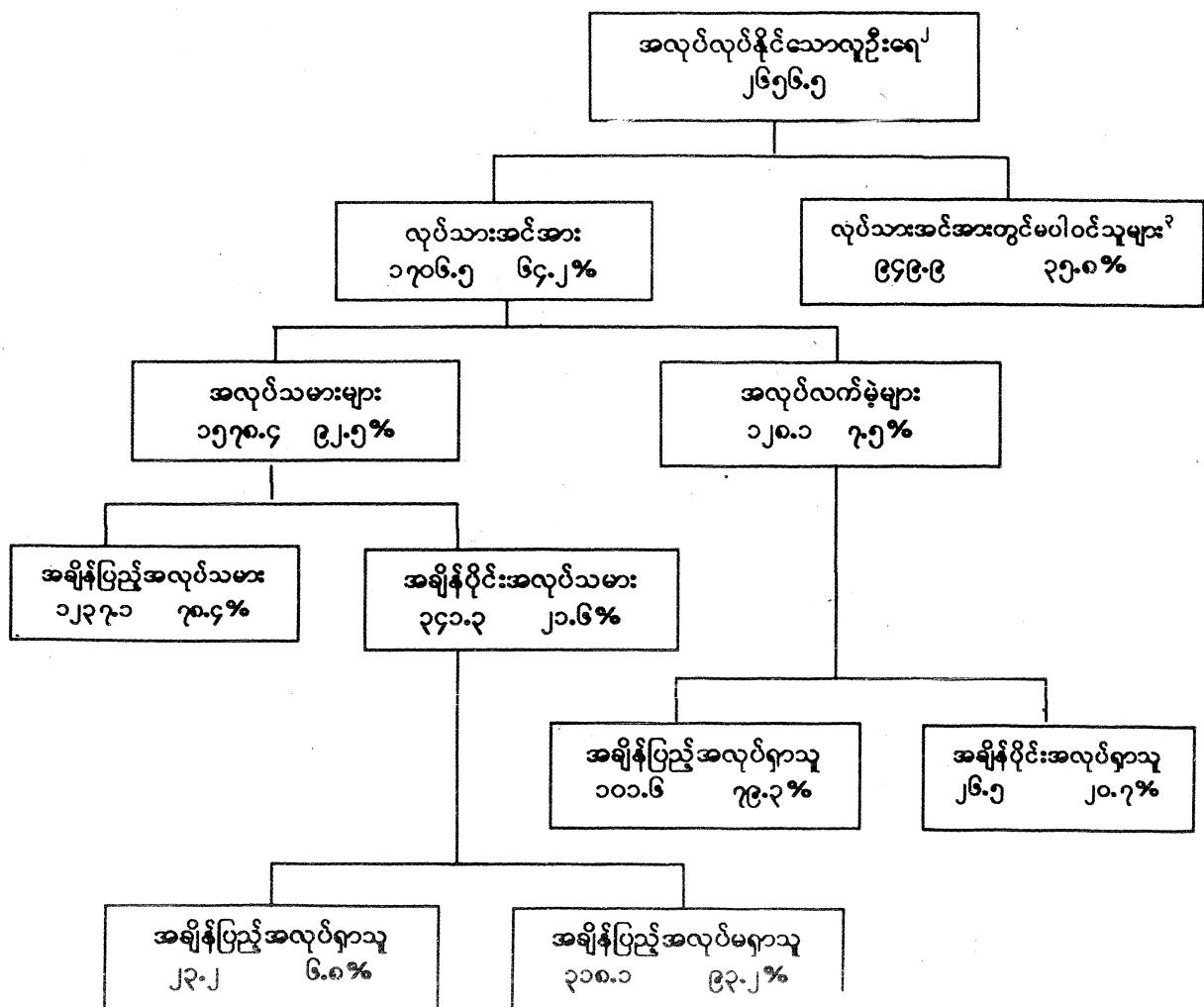စုစုပေါင်းလူဦးရေမှာ (၃.၄)သန်းခန့်ရှိသည်။

လုပ်သားအင်အားဖွဲ့စည်းပုံ ၁၉၉၅ ခုနှစ်၊ မတ်လ၊ (၃၁)ရက် **(000,)** ၁
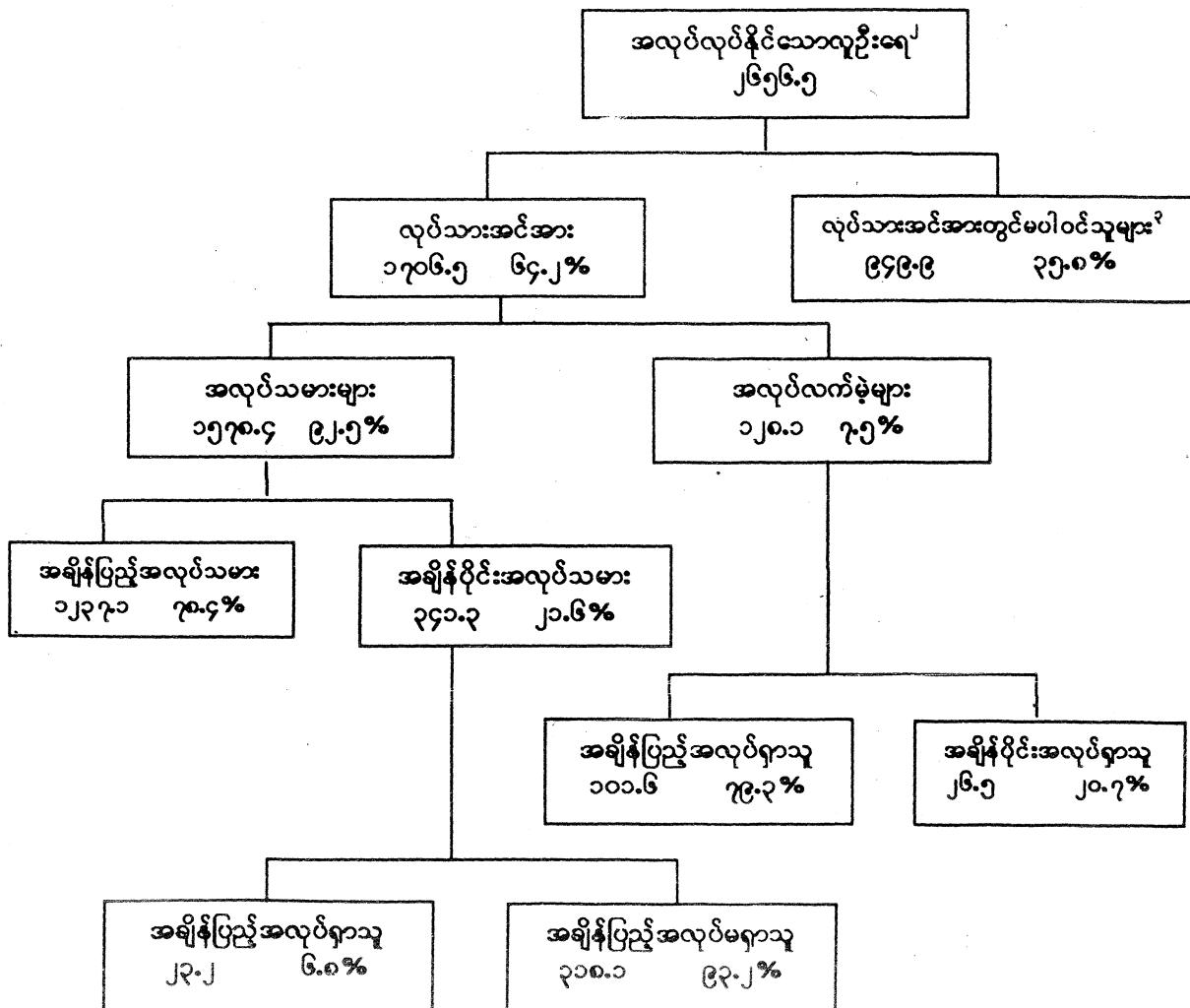
၁။ လူဦးရေအရေအတွက်များကို **(000s)** ထောင်ဂဏန်းပေးထားပါသည်။

၂။ အလုပ်လုပ်နိုင်သောလူဦးရေကို အသက် (၁၅)နှစ် မှ (၆၅)နှစ် အတွင်းသတ်မှတ်ပါသည်။

၃။ လုပ်သားအင်အားတွင် မပါဝင်သောလူများသည် အလုပ်ကိုအားတက်သရောမရှာသူများနှင့်

အလုပ်မရနိုင်သေးသောသူများ ဖြစ်ကြပါသည်။

Source: D. Miller, From 6 Economics, ESA Publications, Box 9453, Newmaker, Auckland, NZ, p.64. (cited in OECD, 2002a).

၁။ အောက်ပါမေးခွန်းများ၏အဖြေကို လိုရင်းသာ ဖြေဆိုပေးပါ။

(က) လုပ်သားအင်အားစုတွင် မပါဝင်သော အလုပ်လုပ်နိုင်သည့်လူဦးရေအရေအတွက် မည်မျှရှိသနည်း။ (လူဦးရေအရေအတွက်သာရေးပြပါ။ ရာခိုင်နှုန်းဖော်ပြရန်မလိုပါ)။

----------------------------------------------------------------

(ခ) အောက်ပါဇယားတွင် စာရင်းပြုစုထားသော လူတစ်ဦးစီသည် **Tree Diagram** ၏မည်သည့် အခန်းကဏ္ဍတွင် ပါဝင်သနည်း။

အဖြေကို ယောက်ရှိအကွက်တွင် နံပါတ်(၁)ပုံစံအတိုင်း အမှန်ခြစ် (✔)ပြပါ။

| | အလုပ်လက်ရှိ လုပ်သားအင် အား | အလုပ်လက်မဲ့ လုပ်သားအင် အား | လုပ်သားအင် အား မဟုတ်သူ | မည်သည့်အမျိုး အစားတွင်မှ မပါဝင်သူ |
|---|---|---|---|---|
| ၁။ အချိန်ပိုင်းစားပွဲထိုး၊ အသက် ၃၅ နှစ် | ✔ | | | |
| ၂။ တစ်ပတ်လျှင် နာရီပေါင်း(၆၀) အလုပ် လုပ်သော စီးပွားရေးလုပ်ငန်းရှင်အမျိုးသမီး၊ အသက် ၄၃နှစ် | | | | |
| ၃။ အချိန်ပြည့် ကျောင်းသား၊ အသက် ၂၁ နှစ် | | | | |
| ၄။ လက်ရှိသူ၏ဈေးဆိုင်တွင် ဈေးရောင်း၍ အလုပ်ရှာ နေသူအမျိုးသား၊ အသက် ၂၈ နှစ် | | | | |
| ၅။ အလုပ်မလုပ်ခဲ့ဖူးသူ (သို့မဟုတ်) အိမ်အပြင်၌ အလုပ်လုပ်ချင်သူအမျိုးသမီး၊ အသက် ၅၅နှစ် | | | | |
| ၆။ မိသားစုဈေးဆိုင်လေး၌ တစ်နေ့လျှင်နာရီ အနည်း ငယ် အလုပ်လုပ်နေဆဲအဖွား၊ အသက် ၈၀ နှစ် | | | | |

(ဂ) **Tree Diagram** တွင် ဖော်ပြထားသောလုပ်သားအင်အားနှင့် ပတ်သက်သည့်အချက်အလက်များ ကို နှစ်တိုင်းဤကဲ့သို့ယူဆပါ။ အောက်တွင်စာရင်းပြုစုထားသည်မှာ **Tree Diagram** ၏အချက် (၄) ချက်ဖြစ်ပါသည်။ ဤအချက်များသည် တစ်နှစ်နှင့်တစ်နှစ် ပြောင်းလဲမှုရှိ/မရှိ ဖော်ပြပါ။ အဖြေကို ပြောင်းလဲမှုရှိသည် (သို့မဟုတ်) ပြောင်းလဲမှုမရှိပါ စသည်ဖြင့် နံပါတ် (၁) ပုံစံအတိုင်း အမှန်ခြစ် (✔) ဖြင့်ပြပါ။

| **Tree Diagram** ၏အချက်များ | ပြောင်းလဲမှုရှိသည် | ပြောင်းလဲမှုမရှိပါ |
|---|---|---|
| ၁။ **box** တစ်ခုစီရှိ အမည် (ဥပမာ –လုပ်သားအင်အား) | | ✔ |
| ၂။ ရာခိုင်နှုန်း (ဥပမာ – ၆၄.၂%) | | |
| ၃။ အရေအတွက် (ဥပမာ – ၂၆၆.၅) | | |
| ၄။ **Tree Diagram** အောက်ရှ မက်စ | | |