

The comparison of students' use of metacognitive reading strategies between reading in Bahasa Indonesia and in English

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This article reports an investigation into the students' use of metacognitive reading strategies that involve the use of analytic and pragmatic reading strategies when reading in the two languages: English and Bahasa Indonesia. One-hundred and one students from the English Study Program within the Faculty of Teacher Training and Education of Sriwijaya University in Palembang, South Sumatera, Indonesia, completed the Metacognitive Reading Strategies questionnaire (MRSQ) both in Bahasa Indonesia and in English. The good values of indicators of internal consistency are shown by both the English and the Bahasa versions of the MRSQ. A paired sample t-test shows that some significant differences are found between the students' use of particular metacognitive reading strategies for reading in English and in Bahasa. On average, the students reported using some of the analytic reading strategies more frequently when reading in Bahasa. However, they used the pragmatic reading strategies more frequently when reading in English.

Metacognitive reading strategies, analytic reading strategies, pragmatic reading strategies

INTRODUCTION

In relation to the reading at secondary and college levels, Anderson and Armbruster (1984) pointed out that the purpose was often to learn specific information in order to perform some criterion task. Initially, this type of reading, or studying, involved a number of complex activities such as understanding and remembering task demands, identifying and selectively attending to important information, using appropriate study strategies for remembering that information, monitoring comprehension and learning, and taking corrective action when necessary (Baker & Brown, 1984; Brown, 1980). As Wright (1987, p.25) emphasized, the reading processes for academic purposes also involved concern with metacognitive processes, that was to say, the emphasis was on strategy selection rather than on the micro processes of reading (e.g., word decoding).

During the past two decades, studies on reading strategies have reflected a shift in attention from a focus on the product of reading (e.g., a score on a reading comprehension test) to process-oriented research which emphasized determining the strategies that readers actually used while they were reading. Many studies (e.g., Lengkanawati, 2004; Phakiti, 2003; Yeung & Wong, 2004) have given an emphasis to the metacognitive strategies students use when they read. This paper addresses the issue of the use of the metacognitive reading strategies used by university students in Indonesia when they read academic material in their first language, Bahasa Indonesia, and in English.

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METACOGNITIVE READING STRATEGIES

O'Malley, Chamot, Stewner-Mazaneres, Russo, and Kupper (1985, p.506) stated that "metacognitive strategies involve thinking about the learning process, planning for learning, monitoring of comprehension or production while it is taking place, and self-evaluation of learning after the language activity is completed". Metacognitive strategies also involved readers' deliberate mental behaviors for directing and controlling their cognitive strategy processing for successful performance (Phakiti, 2003).

Oxford (1990, p.26) listed metacognitive reading strategy as one of the six strategies within the broader context of reading strategies that could be referred to as sub-strategies. Oxford considered metacognitive strategies to be behaviours undertaken by the learners to plan, arrange, and assess their own learning. These strategies included directed attention and self-assessment, organization, setting goals and objectives, and seeking opportunities for practice. In the context of reading, self-monitoring and correction of errors were further examples of these strategies. Additionally, Brown (1980) proposed the significant examples of metacognitive strategies involved in reading comprehension as follows: (a) clarifying the purposes of reading; (b) identifying the important aspects of a message; (c) monitoring ongoing activities to determine whether comprehension was occurring; (d) engaging in self-questioning to determine whether goals were being achieved; and (e) taking corrective action when failures in comprehension were detected.

Taraban, Rynearson, and Kerr (2004) who developed the Metacognitive Reading Strategy Questionnaire (MRSQ), found that the metacognitive reading strategies within the questionnaire comprised an *analytic-cognitive* component aimed at reading comprehension, and a *pragmatic-behavioural* component aimed at studying and academic performance. The analytic-cognitive component particularly assessed students' efforts to comprehend a text. The strategies such as evaluating reading goals and inferring information were the examples of the analytic-cognitive components. The pragmatic-behavioural components involved the physical actions and included strategies such as underlining and highlighting. Taraban et al (2004) pointed out that the analytic-cognitive and pragmatic-behavioural were consistent with the existing literature and research on reading strategies that students read to comprehend and to remember.

STUDIES ON METACOGNITIVE READING STRATEGIES

Studies on reading strategies have focused on metacognition, emphasizing how readers control, monitor, and assess the reading process. Wong, Chang, and Hong (2004), who carried out a study with ESL students, reported that the good and the poor readers did not use metacognitive strategies differently although they differed in terms of their awareness and knowledge of metacognition. In her study, Lengkanawati (2004) found that there was a slight difference, but not significant, in the use of metacognitive strategies by the Indonesian students who studied English as a foreign language (EFL) and the Australian students who studied Bahasa Indonesia as a foreign language (IFL) in which the EFL students' intensity in the use of these strategies was higher than the IFL students'. Phakiti (2003) reported the metacognitive reading strategies used by the EFL students and the results suggested that the students who reported using significantly higher metacognitive strategies showed better reading test performance. Taraban et al (2004) also found that the use of metacognitive analytic reading strategies (e.g., evaluating reading goals and inferring) in reading school-related materials was associated with higher grade expectations, but that the use of metacognitive pragmatic reading strategies (e.g. such as underlining and highlighting) was not.

Importantly, as Phakiti (2003) argued, the different settings in which the study occurred (e.g. English as a Second Language setting or English as a Foreign Language setting) was one of the factors that had to be taken into consideration since it might affect the findings. According to Kelly (1994), the term 'foreign language' serves as the general descriptor for languages other than the mother tongue. In this study, the term 'English as a Foreign Language' (EFL) indicates that it is learned largely in the classroom and is not spoken in the society where the teaching takes place (Palembang, South Sumatera, Indonesia). Additionally, Taraban et al (2004) suggested that future study on the metacognitive reading strategies might be carried out with participants who were more diverse with regard to ethnicity, age, occupation and geographical location. Since there has been very little information in the literature about the use of metacognitive reading strategies by students from Indonesia, considerable interest existed for seeking the answer to the use of the metacognitive reading strategies in Bahasa Indonesia (L1) and in English (as a Foreign Language) reading. Specifically, this study tries to investigate whether students use the same metacognitive reading strategies when reading in Bahasa Indonesia and in English. In this study, a group of students from the English Study Program within the Faculty of Teacher Training and Education at Sriwijaya University, South Sumatera, Indonesia., are selected to involve in this study. In this English Study Program, English is considered as a foreign language and reading in English is a requirement as it is the students' major subject of study. However, there are also some subjects that use Bahasa Indonesia as the medium of instruction. Thus, the students learn from both English and Bahasa Indonesia academic texts.

METHOD

Participants

One-hundred and one students from the second, the fourth, and the sixth semesters of the English Study Program within the Faculty of Teacher Training and Education of Sriwijaya University, the major state university in Palembang, South Sumatera, Indonesia, participated in this study. The participants were made up of 19 males (18%) and 82 females (82%). The data were gathered during the first and second weeks of the beginning of the second semester, in February 2006. However, there were some students who did not provide their responses to either the English or Bahasa Indonesia versions of the MRSQ or to both of them. There were also a few missing answers for single items found in the reading tests. Therefore, the number of the cases used for the paired t-tests for the analytic reading strategies were between 81 and 83 and the number of the cases used for the paired t-tests for the pragmatic reading strategies were 81.

Measurements

The Metacognitive Reading Strategies Questionnaire

Taraban et al (2004) developed the Metacognitive Reading Strategies Questionnaire (MRSQ) to measure metacognitive reading strategies of English speaking students (see Appendix A). The MRSQ measures two constructs: (a) *analytic cognition* aimed at reading comprehension, and (b) *pragmatic behaviours* aimed at studying and academic performance. The MRSQ consists of 22 items, each of which uses a 5-point Likert scale ranging from 1 (“I never do this”) to 5 (“I always do this”). This instrument was also translated by the writer into Bahasa Indonesia for use in this study. As shown in Table 1, within the current data set, the reliability indices for the two subscales of the English version and the Bahasa Indonesia versions of the MRSQ showed good estimates of a scale’s internal consistency.

Table 1. Cronbach Alphas for the Analytic and Pragmatic Subscales of the MRSQ for Bahasa Indonesia and English

| | Items | Alpha |
|--------------------|-------|-------|
| Analytic - Bahasa | 16 | 0.827 |
| Analytic - English | 16 | 0.875 |
| Pragmatic -Bahasa | 6 | 0.817 |
| Pragmatic English | 6 | 0.783 |

The Reading Tests

Two reading tests, one in Bahasa Indonesia and one in English, were administered in order to investigate the students’ use of the metacognitive reading strategies when reading in Bahasa Indonesia and in English (see Appendix B). Bahasa Indonesia reading test consisted of 12 items with a reliability of 0.63, and the English reading test consisted of 11 items with a reliability of 0.59. Even though these tests had reliabilities below a recommended value of 0.70, the estimated reliabilities were modest and adequate to undertake the calculation of correlations (Nunnally, 1967, p.226)

Procedures

The administration of the reading tests (Bahasa Indonesia and English), and the two versions of the MRSQ (Bahasa Indonesia and English) were done over a period of two weeks: the first week for the English reading test and the English version of the MRSQ and the second week for Bahasa Indonesia reading test and Bahasa Indonesia version of the MRSQ. First of all, the students did the reading tests and they then provided responses to the MRSQ. In giving their responses to the MRSQ, the students were asked to read each statement carefully and circle the number that applied to them, indicating the frequency with which they used the reading strategy implied in the statement.

RESULTS AND DISCUSSIONS

The Average Usage of the Analytic Reading Strategies for Bahasa Indonesia and English

The data collection for Bahasa Indonesia and English that was done at different times caused some missing cases. Therefore, the mean values were reported only for the students who responded for both parts of the Bahasa Indonesia reading test/Bahasa Indonesia version of the MRSQ and the English reading test/English version of the MRSQ. Table 2 shows the average usage of the analytic reading strategies for Bahasa Indonesia and English reading.

Table 2. Mean, Standard Deviation and Standard Error of Mean for All the Analytic Reading Strategies

| | | Mean English | Mean Bahasa | Std. Error Mean English | Std. Error Mean Bahasa |
|---------|------------------------|-----------------|----------------|----------------------------|---------------------------|
| Pair 1 | Evaluate | 3.37 | 3.79 | 0.093 | 0.104 |
| Pair 2 | Anticipate | 3.13 | 3.22 | 0.090 | 0.101 |
| Pair 3 | Draw | 3.45 | 3.39 | 0.093 | 0.101 |
| Pair 4 | Back | 3.17 | 3.55 | 0.086 | 0.106 |
| Pair 5 | Revise | 2.93 | 3.59 | 0.098 | 0.097 |
| Pair 6 | Consider | 3.11 | 3.42 | 0.092 | 0.106 |
| Pair 7 | Distinguish | 3.38 | 3.38 | 0.105 | 0.115 |
| Pair 8 | Infer | 3.27 | 3.84 | 0.088 | 0.079 |
| Pair 9 | Reading goals | 3.33 | 3.42 | 0.094 | 0.128 |
| Pair 10 | Search | 3.24 | 3.73 | 0.101 | 0.123 |
| Pair 11 | Present later | 3.08 | 3.34 | 0.100 | 0.114 |
| Pair 12 | Meaning | 3.69 | 3.77 | 0.098 | 0.107 |
| Pair 13 | Current information | 3.05 | 3.16 | 0.091 | 0.118 |
| Pair 14 | Strengths | 3.42 | 3.60 | 0.093 | 0.117 |
| Pair 15 | Visualize descriptions | 3.38 | 3.25 | 0.089 | 0.115 |
| Pair 16 | Hard | 3.11 | 3.91 | 0.107 | 0.093 |

On average the students used all the 16 analytic reading strategies at least on some occasions for Bahasa Indonesia and also for English. The least frequently used analytic reading strategies for Bahasa Indonesia were *Current information*, *Anticipate* and *Visualize descriptions* with mean values of 3.16, 3.22 and 3.25, respectively, while the most used analytic reading strategies were *Hard* (3.91), *Infer* (3.84) and *Evaluate* (3.79). The strategy in which the students noted how hard or easy a text was to read (*Hard*) appeared to be different when the MRSQ for English reading was involved. The students perceived this analytic reading strategy (*Hard*) as the most frequently used strategy when reading in Bahasa Indonesia, while it was the fifth least often used strategy when reading in English. It was also worth mentioning that although reading strategy *Visualize descriptions* was one of the least frequently used analytic reading strategies for Bahasa Indonesia; it appeared to be the fourth in importance when the reading strategies for English were concerned. This was consistent with the growing body of knowledge that recognizes the importance of visual description techniques for learning a foreign language.

Generally, the results of the comparison of the students' average attitude towards the analytic reading strategies for Bahasa Indonesia and English indicated the existence of different frequency in using the analytic reading strategies when reading in Bahasa Indonesia and English were concerned. In particular, the results shown in Table 2 suggest that the students reported more frequent use of the analytic reading strategies when reading in Bahasa. This result was rather predictable and an explanation for this might be due to the nature of the analytic reading strategies that required more cognitive skills. In the case of reading in English as a foreign language, the students might have problems with understanding the text to start with rather than reading in their first language, Bahasa Indonesia. Therefore, the students were less likely to use the analytic reading strategies.

Paired Samples T-tests of the Analytic Reading Strategies for Bahasa Indonesia and English

Paired samples t-tests were conducted in order to assess whether the differences use of the analytic reading strategies reported by the students were significant. The results were reported in Table 3.

Table 3 shows that the following analytic reading strategies: *Evaluate*, *Back*, *Revise*, *Consider*, *Infer*, *Search*, *Present later*, and *Hard* were reported by the Indonesian students as significantly more frequently used in Bahasa reading than in English reading.

Table 3. Paired Sample T-tests of the Analytic Reading Strategies

| | Mean | Std. | Std. Error | t | df | Sig. |
|--|------|------|------------|---|----|------|
|--|------|------|------------|---|----|------|

| | | | Deviation | Mean | (2-tailed) | | |
|---------|----------------------------------|-------|-----------|-------|------------|----|-------|
| Pair 1 | Evaluate (E1/B1) | -0.43 | 1.007 | 0.111 | -3.840 | 81 | 0.000 |
| Pair 2 | Anticipate (E2/B2) | -0.08 | .872 | 0.096 | -0.881 | 82 | 0.381 |
| Pair 3 | Draw (E3/B3) | 0.06 | 1.141 | 0.125 | .481 | 82 | 0.632 |
| Pair 4 | Back (E4/B4) | -0.38 | 1.038 | 0.115 | -3.298 | 81 | 0.001 |
| Pair 5 | Revise (E5/B5) | -0.66 | 1.129 | 0.124 | -5.346 | 82 | 0.000 |
| Pair 6 | Consider (E6/B6) | -0.31 | 1.047 | 0.115 | -2.726 | 82 | 0.008 |
| Pair 7 | Distinguish (E7/B7) | 0.00 | 1.237 | 0.137 | 0.000 | 81 | 1.000 |
| Pair 8 | Infer (E8/B8) | -0.58 | 1.014 | 0.111 | -5.198 | 82 | 0.000 |
| Pair 9 | Reading goals (E9/B9) | -0.10 | 1.175 | 0.129 | -0.747 | 82 | 0.457 |
| Pair 10 | Search (E10/B10) | -0.49 | 1.240 | 0.137 | -3.563 | 81 | 0.001 |
| Pair 11 | Present later (E11/B11) | -0.25 | 1.157 | 0.127 | -1.993 | 82 | 0.050 |
| Pair 12 | Meaning (E12/B12) | -0.08 | 1.095 | 0.120 | -0.701 | 82 | 0.485 |
| Pair 13 | Current information (E13/B13) | -0.11 | 1.220 | 0.134 | -0.810 | 82 | 0.420 |
| Pair 14 | Strengths (E14/B14) | -0.19 | 1.163 | 0.129 | -1.433 | 80 | 0.156 |
| Pair 15 | Visualize descriptions (E15/B15) | 0.14 | 1.191 | 0.132 | 1.026 | 80 | 0.308 |
| Pair 16 | Hard (E16/B16) | -0.80 | 1.279 | 0.142 | -5.647 | 80 | 0.000 |

Note: *E* stands for English and *B* stands for Bahasa Indonesia

In order to provide the magnitude of the differences, the eta squared statistics were also calculated using the formula:

$$\text{Eta squared} = \frac{t^2}{t^2 + N - 1} \quad (\text{Pallant, 2001, p. 184}).$$

The calculation of the effect sizes for the analytic reading strategies *Evaluate*, *Back*, *Revise*, *Consider*, *Infer*, *Search*, *Present later* and *Hard*, for both Bahasa and English, was presented in Table 4.

The results show that for almost all the strategies with significantly different mean values (except one reading strategy - *Present later*), at least moderate effect sizes were recorded. The cut points for a moderate and large effects were taken as 0.06 and 0.14, respectively (see Cohen, 1990).

Table 4. The Effect Sizes for Paired Sample t-test of the Analytic Reading Strategies

| <i>df</i> = 80, 81, 82 | | Eta squared |
|------------------------|-------------------------|-------------|
| Pair 1 | Evaluate (E1/B1) | 0.154** |
| Pair 4 | Back (E4/B4) | 0.118* |
| Pair 5 | Revise (E5/B5) | 0.258** |
| Pair 6 | Consider (E6/B6) | 0.083* |
| Pair 8 | Infer (E8/B8) | 0.248** |
| Pair 10 | Search (E10/B10) | 0.136* |
| Pair 11 | Present later (E11/B11) | 0.046 |
| Pair 16 | Hard (E16/B16) | 0.285** |

Note: *E* stands for English and *B* stands for Bahasa Indonesia

The Average Usage of the Pragmatic Reading Strategies for Bahasa Indonesia and English

Similar to the examination of the analytic reading strategies, the mean values for the pragmatic reading strategies were also calculated only for those students who were present on both occasions. The results of the analysis showed that the most frequently used strategy out of all the six pragmatic reading strategies for English reading was *Re-read*, while the least frequently used was *Margin* (Table 5). The same pragmatic reading strategies were also found most and least frequently used in Bahasa Indonesia reading although the mean values were lower and higher, respectively, than those for English reading.

Table 5. Mean, Standard Deviation and Standard Error of Mean for All the Pragmatic Reading Strategies

| | | Mean English | Mean Bahasa | Std. Error Mean English | Std. Error Mean Bahasa |
|---------|-----------|--------------|-------------|-------------------------|------------------------|
| Pair 17 | Note | 3.31 | 3.02 | .106 | .133 |
| Pair 18 | Highlight | 3.57 | 3.47 | .120 | .133 |

| | | | | | |
|---------|-----------|------|------|------|------|
| Pair 19 | Margin | 2.70 | 2.49 | .102 | .122 |
| Pair 20 | Underline | 3.57 | 3.53 | .115 | .135 |
| Pair 21 | Read more | 3.81 | 4.02 | .100 | .090 |
| Pair 22 | Re-read | 3.96 | 4.32 | .090 | .074 |

In addition, Table 5 also shows that the students reported using the first four pragmatic reading strategies –*Note*, *Highlight*, *Margin*, and *Underline*– more frequently when reading in English than in Bahasa Indonesia. This was contrary to the situation with the analytic reading strategies in which the students expressed a tendency to use the analytic reading strategies more often in their first language. A possible explanation why the first four pragmatic reading strategies were used more frequently for English reading might result from the students' lack of understanding of certain words or sentences that they came across when reading the English texts. Logically, the sensible thing to do when facing a situation like this was underlining or highlighting the words or the sentences. Another thing that might be done was writing notes or questions related to the words or the sentences that were not understood. These actions not only helped the students to remember and to comprehend the information better, but also to locate the information more easily for later use.

However, the students reported using the last two pragmatic reading strategies, namely *Read more* and *Re-read*, more frequently when reading Bahasa Indonesia text. This outcome was surprising, but it was possible that the Indonesian students concentrated more and read slower from the beginning when reading the English text so that they were not likely to re-read the text. In both reading cases, either the students' better understanding of the English text after the first reading was due to their diligence or the students' lack of understanding of the English text after the first reading was due to limited vocabulary, reading more of the same text again might not seem to give immediate benefit. Therefore, this might be the reason why the pragmatic reading strategies *Read more* and *Re-read* were not used frequently when reading in English.

Paired Samples T-tests of the Pragmatic Reading Strategies for Bahasa Indonesia and English

Additional information about whether the difference use of the pragmatic reading strategies in Bahasa Indonesia and English reading were significant was produced by employing paired samples t-tests and the results were displayed in Table 6.

Table 6 shows that making notes when reading in order to remember the information (*Note*) was found to be used significantly more frequently in English reading. In addition, the pragmatic reading strategies *Read more* and *Re-read* were also found significantly different ($t = 1,999, p < 0.05$; $t = 3.479, p < 0.05$) between the two languages. The students appeared to prefer using the pragmatic reading strategies *Read more* and *Re-read* more often in Bahasa Indonesia than in English.

Table 6. Paired Sample t-tests of the Pragmatic Reading Strategies

| | | Mean | Std. Deviation | Std. Error Mean | t (2-tailed) | df | Sig. |
|--------|---------------------|-------|----------------|-----------------|--------------|----|-------|
| Pair 1 | Note (E17/B17) | 0.28 | 1.196 | 0.133 | 2.136 | 80 | 0.036 |
| Pair 2 | Highlight (E18/B18) | 0.10 | 1.136 | 0.126 | 0.783 | 80 | 0.436 |
| Pair 3 | Margin (E19/B19) | 0.21 | 1.069 | 0.119 | 1.767 | 80 | 0.081 |
| Pair 4 | Underline (E20/B20) | 0.04 | 1.042 | 0.116 | 0.320 | 80 | 0.750 |
| Pair 5 | Read more (E21/B21) | -0.21 | 0.945 | 0.105 | -1.999 | 80 | 0.049 |
| Pair 6 | Re-read (E22/B22) | -0.36 | 0.926 | 0.103 | -3.479 | 80 | 0.001 |

Note: E stands for English and B stands for Bahasa Indonesia

Similarly to the analytic reading strategies, the effect sizes were also calculated for all the three pragmatic reading strategies for which the mean differences were found significant.

Table 7. Effect Sizes for Paired Sample t-test of the Pragmatic Reading Strategies

| | | Eta squared |
|---------|---------------------|-------------|
| df = 80 | | |
| Pair 1 | Note (E17/B17) | 0.054 |
| Pair 5 | Read more (E21/B21) | 0.048 |

In Table 7, the values of the eta squared statistic were reported, indicating only one moderate effect size for the pragmatic reading strategy *Re-read* that was above 0.06 (Cohen, 1990). The magnitudes of the mean differences were small for the pragmatic reading strategy *Note* and *Read more*.

DISCUSSION

This study aims to answer whether differences in the use of reading strategies occur when the students read in Bahasa Indonesia and in English. The results of the analyses show that some differences exist in the use of the analytic and the pragmatic reading strategies for Bahasa Indonesia and English. Particularly, the result reveals that on average the students report using some of the analytic reading strategies more frequently when they read in their mother tongue (Bahasa Indonesia) than in English. On the other hand, the students report more frequent use of the pragmatic reading strategies for English.

It is mentioned previously that the literature concerning the use of metacognitive reading strategies in first language reading and in English as a foreign language is limited. The previous studies investigating the use of metacognitive reading strategies in first language reading and in English as a foreign language focused on the use of these strategies by good readers and poor readers. Therefore, there has not much information that can specifically relate the results of this study to the existing literature, especially the one that is related to the use of metacognitive reading strategies in Bahasa Indonesia. However, this study adds valuable information to the body of knowledge about the metacognitive reading strategies students use when they read academic materials in their first language and in English as a foreign language, especially in Bahasa Indonesia as a first language and English as a foreign language (EFL). In addition, it is of value to suggest language teachers to encourage their students to use those metacognitive reading strategies used by the students in this study to improve their reading performance both in Bahasa Indonesia and in English.

However, there is an implication of a need for future research to verify the results and discussions reported in this paper. Despite the possible conclusions that have been drawn from this study, it is necessary to emphasize that this study needs to be repeated with larger samples. There is also a need to carry out a further investigation (i.e., by interviewing some students) so that a greater understanding and more detailed information concerning the students' use of the metacognitive reading strategies can be gathered.

CONCLUSIONS

The general picture of the observed differences between the average values for the analytic reading strategies use for Bahasa Indonesia and English revealed that on average the students reported using some of the analytic reading strategies more frequently when they read in Bahasa Indonesia than in English. In contrast to the results of the students' average attitude towards the analytic reading strategies, the outcomes revealed that the students generally used the pragmatic reading strategies more frequently when reading in English than in Bahasa. This might be due to the nature of the pragmatic reading strategies that are simple and appropriate for the less-sophisticated readers (Taraban et al., 2004).

However, there is an implication of a need for future research to verify the results and discussions reported in this paper. Despite the possible conclusions that have been drawn from this study, it is necessary to emphasize that this study needs to be repeated with larger samples and with more carefully constructed tests of reading in order to provide stronger answers to the proposed problem. There is also a need to carry out a further more descriptive study so that a greater understanding and more detailed information concerning the students' use of the metacognitive reading strategies can be gathered.

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APPENDIX A

Metacognitive reading strategies that construct 'Analytic cognition' component of the MRSQ

1. **Evaluate.** As I am reading, I evaluate the text to determine whether it contributes to my knowledge/understanding of the subject.
2. **Anticipate.** After I have read a text, I anticipate how I will use the knowledge that I have gained from reading the text.
3. **Draw.** I try to draw on my knowledge of the topic to help me understand what I am reading.
4. **Back.** While I am reading, I reconsider and revise my background knowledge about the topic, based on the text's content.
5. **Revise.** While I am reading, I reconsider and revise my prior questions about the topic, based on the text's content.
6. **Consider.** After I read a text, I consider other possible interpretations to determine whether I understood the text.
7. **Distinguish.** As I am reading, I distinguish between information that I already know and new information.
8. **Infer.** When information critical to my understanding of the text is not directly stated, I try to infer that information from the text.
9. **Reading goals.** I evaluate whether what I am reading is relevant to my reading goals.
10. **Search.** I search out information relevant to my reading goals.
11. **Present later.** I anticipate information that will be presented later in the text.
12. **Meaning.** While I am reading, I try to determine the meaning of unknown words that seem critical to the meaning of the text.
13. **Current information.** As I read along, I check whether I had anticipated the current information.
14. **Strengths.** While reading, I exploit my personal strengths in order to better understand the text. If I am a good reader, I focus on the text; if I am good with figures and diagrams, I focus on that information.
15. **Visualize descriptions.** While reading, I visualize descriptions in order to better understand the text.
16. **Hard.** I note how hard or easy a text is to read.

Metacognitive reading strategies that construct 'Pragmatic Behaviours' component of the MRSQ

17. **Notes.** I make notes when reading in order to remember the information.
18. **Highlight.** While reading, I underline and highlight important information in order to find it more easily later on.
19. **Margin.** While reading, I write questions and notes in the margin in order to better understand the text.
20. **Underline.** I try to underline when reading in order to remember the information.
21. **Read more.** I read material more than once in order to remember the information.
22. **Re-read.** When I am having difficulty comprehending a text, I re-read the text.

Note: Table derived from Table 1 in Taraban, Kerr, and Rynearson (2004)

APPENDIX B

Reading Tests for English

Text I

The John Hopkins School of Medicine has a new surgical assistant. His name is AESOP, short for Automated Endoscopic System for Optional Positioning.

The world's first robot in the operating room is just an arm – an electronic limb that manipulates instruments (in particular, miniature cameras used during surgery) usually controlled by a human. But unlike a human, AESOP never bumps into anyone, never drops the instruments and is rock steady. No matter how long the operation, AESOP never tires or suffers from stress.

Besides providing the precision required for repetitive actions during surgery, the machine also decreases the risk of infection for patients and doctors. Plus, the robot does not have to undergo years of education: AESOP is inexpensive compared with the cost of training surgical assistants and could 'decrease the need for surgeons and surgical specialists,' says Dr. Louis Kavoussi, director of the Brady Urological Institute and a surgeon who tested the robot.

He and his team at John Hopkins Bayview Medical Center have performed several operations using the new robot, exploring how doctors can work together with the new technology: Surgeons watching a monitor in an anteroom directed others working at the operating table. Such procedures hold promise for battle field and emergency operations in remote areas; surgeons in one part of the world will be able to assist colleagues in another. With AESOP, says Kavoussi, a much-needed specialist "could be in several different hospitals in one day."

01. It is obvious that compared to human beings AESOP _____
- cannot work under stress.
 - can make decisions faster.
 - is more precise in its operation.
 - does not eliminate the risk of infection.
 - performs well only in small surgery.
02. The phrase 'battle field and emergency operations' in line 14-15 is used to indicate that surgery can take place _____.
- in an area far from a hospital
 - at the operating table in a hospital
 - by using the traditional system of surgery
 - with the help of surgical specialists
 - by collaborating with foreign surgeons

Text II

.....(04)
 Dr. Tai Khoa Lam and colleagues at the Nepean Hospital in Sydney trialed the use of phone camera in their emergency room to assist with the treatment of hand injuries. Their study, published in the *ANZ Journal of Surgery*, looked at how effective snapshots of injuries and X-rays were at helping attendant doctors communicate with consultants in 27 cases of hand injuries. ER doctors usually rely on registrars and specialists-in-training to track down a busy expert consultant and then described the X-rays and injuries to them – a time-consuming task. In addition, not all doctors have a camera mobile phone. But by taking digital photos, Lam was able to communicate with the consultant almost straight away and despite the poor quality of the low-resolution image, the physicians found sufficient details to discuss the injuries and the patient's care. With photos costing just cents to send, camera phones may be a perfect addition to every doctor's bag.

03. Which sentence would best start the paragraph?
- A mobile phone camera can be a useful and cheap diagnostic tool for Australian doctors.
 - Mobile phone cameras are widely used by doctors in emergency rooms.
 - Doctors in the Nepean Hospital, Sydney, use mobile phone to communicate with one another.
 - Australian doctors use a mobile phone camera to take pictures of patients in emergency rooms.
 - You can always find a mobile phone camera in every Australian doctor's bag.

Text III

The importance of eight hours' sleep a night is widely accepted by health professionals. Scientists believe that sleep is the single most important factor _____(05) _____ to general health, before even diet or exercise. _____(06) _____ at the same time, studies show that people in developed nations increasingly spend less time asleep and more time at work or commuting. This _____(07) _____ to ever longer working hours is frequently counter-productive: it has been estimated that in the United States \$150 billion _____(08) _____ each year in direct and indirect costs due to sleep deprivation. These include medical expenses, sick leave, errors of judgment, accidents and injuries. The Challenger _____(09) _____ and the Exxon Valdez oil spill were both linked to errors made by sleep-deprived workers. Less dramatically, but still worryingly, it has been found that for every hour of sleep lost in a night our IQ will have dropped one point the next day. Thus, in a working week of only five hours sleep each night, the average person could drop fifteen IQ points, turning them from an average person into a marginally functioning wreck.

04. (A) contribute
 (B) contribution
 (C) contributing
 (D) contributory
 (E) contributed
05. (A) And
 (B) Moreover
 (C) Still
 (D) Therefore
 (E) Yet
06. (A) influence
 (B) change
 (C) alternative

- (D) tendency
- (E) direction

07. (A) is lost
(B) lost
(C) losing
(D) be losing
(E) to be lost
08. (A) explode
(B) explosion
(C) exploding
(D) explosive

Questions 9 to 11 are not related

09. "Jerry and I plan to go bowling tonight at 7. Would you like to join us? I'll pick you up then!"
'Well, _____ but I've got a lot of homework to do.'
- a. I want to join
 - b. It's a lot of fun
 - c. I'd love to
 - d. It's impossible
 - e. There'll be much fun
10. 'What did the policeman tell your brother after his car hit the lamp post?'
'He told my brother _____ while driving.'
- a. not to use cell phones
 - b. not using cell phones
 - c. he does not use cell phones
 - d. does not use cell phones
 - e. his not using cell phones
11. 'Did the travelers at last manage to continue their cross-country trip?'
'Oh, yes, after the old radiator _____.'
- a. is replaced
 - b. has been replaced
 - c. is being replaced
 - d. to be replaced
 - e. had been replaced

Reading Tests for Bahasa Indonesia

Petunjuk: Lingkari jawaban yang menurut anda benar.

01. *Truly Asia, begitu Malaysia ... jati diri negerinya dalam promosi pariwisata ke seluruh penjuru dunia. Keberanian negeri jiran ini ... negerinya sebagai "asia yang sesungguhnya" ternyata ... pikiran berbagai kalangan di Indonesia.*

Kata berimbuhan yang sesuai untuk melengkapi kutipan di atas adalah

- (A) menyebut, memosisikan, mengganggu.
 - (B) mengungkapkan, menentukan, membuat.
 - (C) mengungkapkan, memosisikan, membuat.
 - (D) memosisikan, mengganggu.
 - (E) menyebut, menentukan, menjadikan.
02. *(a) Kondisi ekonomi Indonesia saat ini cukup baik. (b) hal ini dapat dilihat dari berbagai usaha, baik jasa maupun barang yang berkembang pesat. (c) Salah satunya adalah usaha minimarket yang merupakan bisnis pelayanan. (d) Untuk usaha ini banyak didirikan di daerah yang jauh dari keramaian kota. (e) Fasilitas ini sangat membantu masyarakat dalam mencukupi kebutuhan sehari-hari, seperti sembako dan peralatan rumah tangga, sehingga proses distribusi barang dari produsen ke konsumen semakin mudah.*

Dalam alinea tersebut terdapat kalimat yang strukturnya salah. Kalimat yang dimaksud adalah

- (A) kalimat (a).
 - (B) kalimat (b).
 - (C) kalimat (c).
 - (D) kalimat (d).
 - (E) kalimat (e).
03. *Biologi molecular merupakan sains dasar kelas akselerasi adalah untuk memenuhi kebutuhan siswa yang memiliki potensi dan bakat akademis luar biasa.*

Istilah akselerasi dalam kalimat di atas berarti

- (A) tambahan.
- (B) percepatan.
- (C) unggulan.
- (D) peningkatan.
- (E) khusus.

04. 1. Kami mendengar berita itu.
2. Berita itu disiarkan oleh berbagai televisi.
3. Isi berita itu NAD dan Sumatra Utara dilanda gempa dan tsunami.

Rangkaian yang tepat dari ketiga kalimat tersebut adalah

- (A) Gempa dan tsunami melanda NAD dan Sumatra Utara kami mendengar dari berita yang disiarkan berbagai televisi.
(B) Bahwa NAD dan Sumatra Utara dilanda gempa dan tsunami kami mendengar dari berita berbagai televisi.
(C) Kami mendengar berita bahwa NAD dan Sumatra Utara dilanda gempa dan tsunami dari siaran berita televisi.
(D) Berita yang disiarkan berbagai televisi isinya bahwa NAD dan Sumatra Utara dilanda gempa dan tsunami kami dengar.
(E) Berita bahwa gempa dan tsumani melanda NAD dan Sumatra Utara dari siaran berbagai televisi.
05. Sejak lahirnya konsep pemikiran baru dalam ilmu kedokteran, yang dicetuskan oleh Profesor Linus Pauling, yakni tentang **Ortomolekular medicine** yang dasarnya adalah studi biologi molekular sebagai sains dasar, penelitian medis diarahkan pada molekul-molekul yang secara normal biologis fisiologis ada dalam tubuh manusia.

Inti kalimat panjang tersebut adalah

- (A) Konsep pemikiran baru dicetuskan oleh professor Linus Pauling.
(B) Ortomolekular medicine adalah sains dasar.
(C) Ortomolekular medicine dasarnya adalah studi biologi.
(D) Penelitian medis diarahkan pada molekul.
(E) Biologi molekuler merupakan sains dasar.
06. Seorang pelukis yang kaya akan **ekspresi** seni mampu menangkap **fenomena** alam dan **merealisasikannya** dalam bentuk lukisan yang menarik. Kenyataan ini menunjukkan bahwa goresan kuas pada kanvas merupakan **refleksi** batin seorang pelukis atas pemahamannya terhadap alam.

Kata-kata bercetak tebal pada kutipan di atas dapat diganti dengan kata-kata

- (A) jiwa-gejala-menggambarkannya-situasi.
(B) ungkapan-gejala-menggambarkannya-cerminan.
(C) ungkapan-gejala-mewujudkannya-cerminan.
(D) jiwa-suasana-mewujudkan-cerminan.
(E) jiwa-suasana-melukiskan-situasi.
07. Segala hal yang dilakukan selama ini sebenarnya tidak **konsisten**.
Kata *konsisten* dalam kalimat tersebut berarti
- (A) taat asas.
(B) ada gunanya.
(C) berbahaya.
(D) penting.
(E) tepat.
08. Tidur adalah kebutuhan hidup yang tidak bisa diabaikan. ... banyak orang menyepelkan aktivitas nikmat. ... banyak orang memotong waktu tidurnya supaya bisa melakukan pekerjaan atau aktivitas lain dalam jumlah lebih banyak. ..., hal tersebut justru akan berpengaruh negatif pada tubuh.

Kata penghubung yang tepat untuk mengisi titik-titik tersebut adalah

- (A) tetapi, sehingga, sedangkan.
(B) tapi, hingga, sedang.
(C) namun, oleh karena itu, padahal.
(D) tetapi, sampai, meskipun.
(E) sebaliknya, karena, walaupun.
09. Melihat fenomena yang terjadi saat ini, maka di sinilah peran Bank Pengkreditan Rakyat, di mana Bank Pengkreditan Rakyat dirancang untuk melayani kebutuhan kredit dan permodalan masyarakat kelas menengah ke bawah.

Rangkaian kata tersebut akan menjadi kalimat ragam baku bila diubah menjadi

- (A) Melihat fenomena yang terjadi saat ini, maka di sinilah peran Bank Pengkreditan Rakyat, Bank Pengkreditan Rakyat dirancang untuk melayani kebutuhan kredit dan permodalan masyarakat kelas menengah ke bawah.
(B) Setelah melihat fenomena yang terjadi saat ini, maka di sinilah peran Bank Pengkreditan Rakyat, dimana Bank Pengkreditan rakyat dirancang untuk melayani kebutuhan kredit dan permodalan masyarakat kelas menengah ke bawah.
(C) Setelah melihat fenomena yang terjadi saat ini, di sinilah peran Bank Pengkreditan Rakyat yang dirancang untuk melayani kebutuhan kredit dan permodalan masyarakat kelas menengah ke bawah.
(D) Melihat fenomena yang terjadi saat ini, di sinilah peran Bank Pengkreditan Rakyat sebagai bank yang dirancang untuk melayani kebutuhan kredit dan permodalan masyarakat kelas menengah ke bawah.
10. Produksi Beras, Impor, dan Pengadaan Beras Pernyataan di bawah ini yang TIDAK sesuai dengan isi tabel di atas adalah

| Tahun | Produksi padi (juta ton GKG*) | Produksi Beras (juta ton) | Impor beras (juta ton) | Pengadaan Beras (juta ton) |
|-------|-------------------------------|---------------------------|------------------------|----------------------------|
| 1996 | 51,10 | 33,22 | 2,14 | 35,36 |
| 1999 | 50,87 | 33,06 | -4,50 | 37,56 |
| 2002 | 51,49 | 33,47 | 1,81 | 35,28 |
| 2004 | 54,34 | 35,32 | 0,17** | 33,69 |

Sumber BPS GKG (Gabah Kering Giling*) Ramalan III,**)
Januari-September 2004

Pernyataan di bawah ini yang TIDAK sesuai dengan isi tabel di atas adalah

- (A) Semakin tinggi produksi padi semakin rendah impor beras.
- (B) Impor beras tertinggi terjadi pada kondisi pengadaan beras tertinggi.
- (C) Tingginya produksi beras seiring dengan tingginya pengadaan beras.
- (D) Kondisi produksi beras paling tinggi justru pengadaan beras terendah.
- (E) Impor beras terendah terjadi ketika terjadi pengadaan beras terendah.

11. *Penentuan warna untuk terapi membutuhkan kehati-hatian. Kesalahan dalam penentuan warna justru bisa menimbulkan ketidakseimbangan energi dalam tubuh. Sebagai contoh, warna merah tidak boleh diterapkan pada penderita tekanan darah tinggi dan jantung karena sifat warna merah yang penuh energi dan vitalitas akan kenaikan tekanan darah. Untuk penderita tekanan darah tinggi dan jantung lebih cocok digunakan warna hijau karena sifatnya menyeimbangkan emosi, menciptakan suasana tenteram dan tenang. Selain bermanfaat untuk kesehatan, terapi warna dapat digunakan untuk dunia mode, kecantikan, dan desain interior.*

Informasi inti dalam paragraf tersebut adalah

- (A) kehati-hatian dalam menentukan warna untuk terapi.
 - (B) manfaat lain terapi warna.
 - (C) contoh penyakit yang memanfaatkan warna untuk terapi.
 - (D) akibat kesalahan penentuan warna untuk terapi.
 - (E) terapi warna yang tepat untuk penyakit darah tinggi dan jantung.
12. *Pada tahun 1984, Indonesia telah berhasil mencapai swasembada beras. Hal ini berarti harga beras relatif terjangkau oleh masyarakat. Meningkatnya ketersediaan beras, pendapatan penduduk, dan sistem nilai sosial pada beras telah mengarahkan pola konsumsi pangan pokok pada beras. Karena itu, diperlukan upaya-upaya penganeekaragaman pangan pokok untuk mengurangi ketergantungan pada beras sekaligus mempertahankan swasembada beras, serta meningkatkan mutu gizi pangan penduduk.*

Pernyataan berikut yang sesuai dengan isi paragraf di atas adalah

- (A) Keberhasilan Indonesia dalam mencapai swasembada beras dapat meningkatkan mutu pangan.
- (B) Peningkatan kecenderungan penduduk beralih ke pola konsumsi pangan pokok beras perlu diimbangi dengan penganeekaragaman pangan pokok.
- (C) Karena swasembada beras dapat meningkatkan mutu gizi keluarga, pemerintah perlu mengusahakan pola konsumsi pangan pokok yang lain.
- (D) Penganeekaragaman pola konsumsi pangan pokok penduduk merupakan pekerjaan besar yang mendukung program pemerintah.
- (E) Keberhasilan swasembada beras ditunjang oleh pemerintah dengan upaya perbaikan menu makanan rakyat.