READING METACOGNITIVE AWARENESS IN MALAYSIAN SECONDARY SCHOOLS: SOME ASPECTS OF STUDENTS BACKGROUND DIFFERENCES

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Abstract: The purpose of this study is to gain a better understanding of the reading metacognitive awareness (RMA) among the secondary school students. Specifically, the study answers the following question: Are there differences in reading metacognitive awareness in terms of gender, place of residence, family socioeconomic status, self-confidence and time to learn ?

The instrument used measured the degree of RMA and it consisted of four components which were; conditional knowledge, planning, regulation and evaluation. The study was carried among 317 Form Five students. Data was collected based on the Index of Reading Awareness (IRA). This Index consisted of 20 questions appraising the level of RMA.

IRA was chosen by McLain, Gridley and McIntosh (1991) because they found it suitable for measuring the level of reading metacognitive awareness. Lipson and Wixson (1989) also recommended that teachers used the IRA to detect the level of students' metacognitive awareness, as well as in ensuring the effectiveness of metacognitive strategies.

This study has shown that the differences between boys and girls in the reading metacognitive awareness is significant. This means that girls are more conscious in reading than male students. This finding is compatible with the studies of Paris and Jacobs (1984) in which female students scored significantly higher than male students in the IRA.

The findings also show that differences in residence and socioeconomic status of families of students in the reading metacognitive awareness are not significant. Students who live in the city and the students who live in rural areas have the same abilities in the reading metacognitive awareness. This indicates that the level of awareness and control of a student of metacognitive in reading is not dependent on external factors such as place of residence and the surrounding socioeconomic status families of students. What is important, the students must receive training, exposure and systematic testing to increase the level of awareness of metacognitive in reading.

From another aspect, the findings of this study suggested that differences in students' self-assessment of metacognitive awareness of reading is significant. It clearly shows that there is self-assessment which affects students metacognitive awareness of reading.

In addition, this study also shows that the difference in the amount of reading time in the metacognitive awareness of reading is significant. This clearly shows that the use of the time to read influence the metacognitive awareness of reading.

These findings show that the students' personalities or internal factors also influences metacognitive awareness of reading. Therefore, they need to be changed through intervention, education or psychological actions to improve the functions of personality and cognitive and metacognitive skills so that they are more prepared for a systematic and balanced academic achievement.

Keywords: Index of Reading Awareness, Learning Skills, Reading Metacognitive Awareness, Reading Strategies and Secondary Schools.

INTRODUCTION

From the six points that became the major emphasis in the implementation of Malaysian School Curruculum, there are two aspect that are considered to be a close relationship with the teaching and learning strategies that are, *The Enhancing Of Intellectual* and *The Mastery Of Learning Skill* (Ministry of Education Malaysia, 1989).

The learning skills that can enhance a student's intellectual are the reading metacognitive awareness skill (Muhammad Azhar, 2004). These skills can help students become more capable, highly skilled, and responsible for understanding when reading. Muhammad Azhar and Hassan Basri (2005) states that in the process of teaching and learning, particularly in the subjects of language, aspects of metacognitive awareness of reading cannot be underestimated because of high metacognitive awareness will help students achieve good results in the examinations.

READING METACOGNITIVE AWARENESS

Reading is an active process because, according to Anderson et.al. (1985) and Valencia and Pearson (1987), the reader interacts with the text to construct meaning. In constructing meaning, awareness and control of the reader to the process of understanding is important. Awareness and control or monitoring is called metacognition.

In the context of reading skills among metacognitive skills according to current studies (Hare and Smith, 1982, Baker and Brown, 1984, Forrest-Pressley and colleagues, 1985) is classifying the goal of reading to know the needs of the task, and determining the important aspects in reading materials, focusing on the real (important) rather than on the unimportant, self-monitoring or inspection of activities that are being carried out to ascertain whether there is understanding, focusing on self-questioning to meet the task goals, correct the action or renovation techniques to solve problems if they fail to understand something, make prediction whether there is relationship between sentences, read back or change the speed to focus on materials that have different level of difficulty, concentration and assimilation of the materials during the process of reading, selecting the right and appropriate skills to assist understanding.

Thus, a reader perform metacognition in reading when its realize to its behavior during the reading and use appropriate strategies to gain understanding or overcome comprehension failures. In the study Yahya Othman & Dayang Raini Pakar (2013) shows the diversity of metacognitive strategies that have been used by students and it makes the students understanding of reading texts enhanced. According to Baker and Brown (1984), the good readers spontaneously using cognitive strtategies in reading whereas the weak readers normally fail to use it. They further say that anyone applying metacognitive strategies, they will face the text with ease and speed, when it comes to fail to understand the text, a good reader will read slowly, thereby enabling them to take time of solving their problems. Therefore, a good reader is a reader who always apply metacognitive strategies effectively compared to those who are weak. Keene (2008) also point out that there is no need to use a lot of metacognitive strategies for students to have a good understanding of the text. Quite simply one or two metacognitive strategies appropriate to the reading material will have a positive impact. Wong and Jones (1982) said that good readers will use metacognitive strategies spontaneously in reading compared to the weak readers. Mohammad Haron (1998) in his study also found that students with high achievement they have the high ability of metacognitive.

Baker and Brown (1984) defines metacognition as a student’s knowledge and self-regulation of cognitive in learning activities, including reading skills. McNeil (1987) has seen metacognitive skills in reading on three main aspects, namely awareness of a goal in reading, know how to achieve that goal and know how to attain knowledge through self-evaluation about understanding.

Paris, Cross and Lipson (1984) have found that metacognitive knowledge and awareness can be improved through classroom instruction, and good metacognitive awareness can be used effectively in reading strategies. While Paris and Jacobs (1984) also found a significant relationship between the level of student’s reading awareness with the comprehension skills. They also found that teaching metacognitive significantly increase students' awareness of reading strategies and comprehension strategy use.

This study will use the concept of metacognitive reading awareness, introduced by Jacobs and Paris (1987), they stated that there are four metacognitive awareness in reading skills. Mohammad Haron (1998) describe the four skills are as follows: (a) Conditional knowledge is cumulative or a group of knowledge (information, skills, abilities and suchlike) that refers to cognitive. It allows a person to know the time (when), situation, reason (why) and rationality appropriate to take action or use any metacognitive strategies. (b) Planning is the actions that usually are preparations for the implementation of a cognitive activities, including the selection of appropriate action with the activities goal. In addition, this action also seeks to maximize resources including time and capibility resource, and

also provide appropriate goals and objectives with the resources available. (c) Regulation is the action which are the goal is determines the right direction in any action or the action to implement the cognitive activities. In this case, the implementation of reading comprehension activities, especially when there are problems or deviations from the original goal occured. (d) Evaluation is the actions to appraise the ability of a person in completing any cognitive activity. It also seeks to measure the effectiveness of the use of all resources of comprehension activities including the effective implementation of meta-comprehension while reading.

These four skills were fundamental to Jacobs and Paris (1987) in developing 'Index of Reading Awareness' (IRA), which became the instrument.

OBJECTIVES

This study aims to investigate metacognitive awareness of reading among secondary school students. Specifically, this study will answer the following questions which are : Are there differences in metacognitive awareness of reading in terms of gender, place of residence, family socioeconomic status, self-confidence and the time spent for learning.

RESEARCH METHODOLOGY

This study is a survey of a sample of 317 form five students from five secondary schools in a district in the state of Selangor Darul Ehsan. All of them were given an index to measure their level of metacognitive awareness of reading.

The sample selection is using stratified random sampling. Researchers determine the layers to be studied, namely students with high, medium and low achievement so that it represents the distribution of real students who are in school. And for each layer of the samples selected randomly. Distribution of sample sizes between layers is done proportionally balanced.

This study uses a translation with slight modifications to the 'Index of Reading Awareness' (IRA) by Jacobs and Paris (1987) to measure metacognitive awareness of reading. IRA is 20 items classified into four aspects of metacognitive awareness that we mentioned earlier, namely the determination of strategy, planning, regulation and evaluation.

Each item was given 3 optional answers that each one is given a score ranging from 0 to 2. Score 0 means no awareness, a score of 1 means having little awareness and a score of 2 means to have a good awareness. Scoring metacognitive awareness of reading created by totaling the scores of respondents. This means that the highest score that can be obtained is 40 while the lowest score is 0.

IRA selected because McLain, Gridley and McIntosh (1991) found that it is suitable for measuring the level of metacognitive awareness of reading. Lipson and Wixson (1989) also recommended to teachers to use the IRA to detect the level of students' metacognitive awareness, also in ensuring the effectiveness of teaching metacognitive strategies.

The validity of IRA can be proved when Jacobs and Paris (1987) found that the IRA scores itself increased with the increasing of the age of students. They also found that there were significant differences between the scores of form three and form five students. While McLain, Gridley and McIntosh (1991) in their study found that the score of IRA increased with the increasing of the age of the students, there is also the relationship between IRA scores with the standard reading comprehension test scores that is the Woodcock Reading Mastery Test-Revised (WRMT-R).

In a pilot test conducted by the researcher, found that the index is able to differentiate between two groups that have been known to have a member with the different in condition and expertise towards the object when the high achieving students in the exam scored well in their level of metacognitive awareness.

The index reliability can be seen through Cronbach Alpha Test conducted by McLain, Gridley and McIntosh (1991) in their study of the IRA that is 0.61. While in this pilot study, the translated version of IRA for the value of Cronbach Alpha test is 0.62.

FINDINGS

The Differences of Reading Metacognitive Awareness in Terms of Sex

Table 1 shows the mean and standard deviation of metacognitive awareness of reading and also declared the results of the t test in determining whether there are differences in reading metacognitive awareness in terms of gender.

Table 1: Mean difference of reading metacognitive awareness by sex (N= 317)

		Sex		**t-test**	
		Male (n=107)	Female (n=210)	t	p < .05
Reading Metacognitive Awareness	mean	27.64	28.89	-2.96	SIG. (.003)
	standard deviation	4.04	3.26		

SIG.= Significant at the 0.05 level N.S = Not Significant

Table 2: Mean difference of reading metacognitive awareness by the place of residence (N= 317)

SIG.= Significant at the 0.05 level

		Place of Residence		**t-Test**	
		Urban (n=70)	Rural (n=247)	t	p < .05
Reading Metacognitive Awareness	mean	28.82	28.36	.95	T.S (.344)
	standard deviation	4.16	3.41		

SIG.= Significant at the 0.05 level N.S = Not Significant

The mean of reading metacognitive awareness for male students is 27.64 with a standard deviation of 4.04, while the mean girls of reading metacognitive awareness about 28.89 with a standard deviation of 3.26, the mean difference between male and female students in reading metacognitive awareness is significant where the value of t is -2.95 and p value is .003. This shows that girls have more reading metacognitive awareness than boys.

The Differences of Reading Metacognitive Awareness in Terms of Place of Residence

Table 2 shows the mean and standard deviation of reading metacognitive awareness and also declared the results of the t test in determining whether there are differences in reading metacognitive awareness in terms of where the student lives which are in urban or rural areas.

From Table 2 we found that the students who live in urban areas reached a higher mean score of 28.82 with a standard deviation of 4.16 in reading metacognitive awareness than those who live in rural areas with the mean score about 28.36 and standard deviation 3.41. However, this difference was not significant where the value of t is 0.95 and the value of p is 0.344. This shows that students who live in the urban and rural areas have the same abilities in reading metacognitive awareness.

The Differences of Reading Metacognitive Awareness in Terms of Family Socioeconomic Status

Table 3: Mean difference of reading metacognitive awareness by the family socioeconomic status (N= 317)

		Socioeconomic Status			1 Way ANOVA		Scheffe Test			
		Low (n=195)	Medium (n=86)	High (n=36)	F	P<0.05		L	M	H
Reading Metacognitive Awareness	mean	28.29	28.66	28.94	.6628	.5161 (T.S)	L			
	standard deviation	3.48	3.87	3.45			M			
							H			

L= Low; M= Medium; H= High; SIG= Significant;N.S= Not Significant

* = There are significant differences between the two groups at the level of 0.05

Table 3 shows the mean and standard deviation of reading metacognitive awareness and also stated the test results of f (1-way ANOVA) to determine whether there are differences in reading metacognitive awareness in terms of family socioeconomic status of the student's.

As noted in Table 3, the mean score of students in low socioeconomic status of reading metacognitive awareness is 28.29 with a standard deviation of 3.48, while the mean score of students in medium socioeconomic status is 28.66 with a standard deviation of 3.87, and the mean score of students with high socio-economic backgrounds are 28.94 with a standard deviation was 3.45. However the differences of these three groups in socioeconomic status of reading metacognitive awareness is not significant where the f is 0.6628 and the value of p is 0.5161. This finding indicates that socioeconomic status did not affect students' metacognitive awareness, and three groups of students have the same abilities in reading metacognitive awareness.

The Differences of Reading Metacognitive Awareness in Terms of Self-Confidence

Table 4 shows the mean and standard deviation of reading metacognitive awareness and four components, namely awareness of strategy, planning awareness, regulation awareness and evaluation awareness. Also stated the test results of f (1-way ANOVA) to determine whether there are differences in reading metacognitive awareness in terms of student's self-assessment of how they look or assess themselves.

Table 4 shows that students who assess themselves smart has achieved the highest mean score of 29.13 with a standard deviation 3.17 in reading metacognitive awareness, compared to a mean score of students who rate themselves as moderately smart at 28.20 with a standard deviation of 3.74, and the mean score of students who rate themselves less smart was 26.08 with a standard deviation of 4.10. One-way ANOVA analysis showed that the difference is significant which the value of f is 5.2774 and the value of p is 0.0056.

To get more information about which groups have differences, analysis Scheffe post-hoc test was conducted. As described in Table 4, we find that the difference between the group of students who rate themselves as smart (29.13 mean) and a group of students who rate themselves as less smart (26.08 mean) is significant at the level of 0.05. Overall these findings clearly indicate that student's self-assessment affects the students' reading metacognitive awareness, and it also shows significant differences in reading metacognitive awareness abilities of the three groups.

The Differences of Reading Metacognitive Awareness in Terms of the Average Amount of Time Spent for Learning In One Day

Table 5 shows the mean and standard deviation of reading metacognitive awareness which also indicated the test results of f (1-way ANOVA) to determine whether there are differences in reading metacognitive awareness in terms of the average amount of time spent for learning in one day.

Table 4: Mean difference of reading metacognitive awareness by self-confidence (N= 308)

		Self-Assessment			1 Way ANOVA		Scheffe Test			
		Less Smart (n=12)	Moderately Smart (n=177)	Smart (n=119)	F	P<0.05		L	M	S
Reading Metacognitive Awareness	mean	26.08	28.20	29.13	5.2774	.0056	L			
	standard deviation	4.10	3.74	3.17		(SIG)	M			
							S	*		

L= Less Smart; M = Moderately Smart; S = Smart; SIG= Significant; N.S= Not Significant
* = There are significant differences between the two groups at the level of 0.05

Table 5:Mean difference of reading metacognitive awareness by the time spent for learning (N= 317)

		Time Spent For Learning			1 Way ANOVA		Scheffe Test			
		Less than 2 hours (n=110)	Between 3 - 4 hours (n=143)	More than 5 hours (n=64)	F	P<0.05		L	B	M
Reading Metacognitive Awareness	mean	27.07	29.06	29.53	14.2373	.0000	L		*	*
	standard deviation	3.86	3.32	2.91		(SIG)	B			
							M			

L= Less than 2 hours; B = Between 3 - 4 hours; M = More than 5 hours; SIG= Significant;N.S = Not Significant
* = There are significant differences between the two groups at the level of 0.05

Table 5 shows that students learn more than five hours a day has reached the highest mean score of 29.53 with a standard deviation of 2.91 in reading metacognitive awareness, compared to a mean score of students who study between three to four hours a day which indicated about 29.06 with a standard deviation of 3.32, and the mean scores of students who are less than two hours a day was 27.07 with a standard deviation of 3.86. One-way ANOVA analysis showed that the difference is significant in that which the value of f is 14.2373 and the value of p is 0.000.

To get more information about which groups have differences, analysis Scheffe post-hoc test was carried out, as described in Table 5, we find that the difference between students who study for less than two hours (mean 27.07) and the group of students who study between three up to four hours (mean 29.06) is significant at the level of 0.05. Similarly, among the group of students who study for less than two hours and a group of students who studied more than five hours (mean 29.53). Overall these findings clearly indicate that the long time spent by students to read influenced on student reading metacognitive awareness, it also shows differences in reading metacognitive awareness abilities of the three groups.

Reasearch Findings and Conclusion

To facilitate the findings of this study are discussed in an orderly manner, it will be submitted in two sub-headings as follows.

How far the external factors such as gender, place of residence and family socioeconomic status affect metacognitive awareness of reading.

This study has shown that the difference between male and female students in reading metacognitive awareness is significant. This shows that girls have more reading metacognitive awareness and reading assessment than male students. This finding coincides with a study of Paris and Jacobs (1984), where female students scored significantly higher than male students in the IRA.

The findings also show that the difference place of residence and family socioeconomic status of students in reading metacognitive awareness and the three components is not significant. This shows that students who live in the urban and rural areas have the same abilities in reading metacognitive awareness.

Overall from these findings indicate that the level of awareness and the ability of a student in reading metacognitive is not depend on external factors such as place of residence around and family socioeconomic status. What the most important for students is they must receive training, exposure and systematic assessment to enhance reading metacognitive awareness.

How far the internal factors such as student self-assessment and disciplined use of time for reading affect reading metacognitive awareness.

The findings of this study shows that the differences of student's self-assessment in reading metacognitive awareness is significant. This clearly shows that the self-assessment of students affects their reading metacognitive awareness, and it also shows the differences in reading metacognitive awareness from the three groups.

In addition, this study also shows that the difference in the amount of time for reading in reading metacognitive awareness is significant. This clearly shows that the amount of time for reading affect the reading metacognitive awareness of students, and it also shows the differences in reading metacognitive awareness from the three groups.

These findings prove that the function of personality or student's internal factors affect the level of reading metacognitive awareness. Therefore, students need to be changed through educational intervention or psychological action to improve the function of personality followed by cognitive and metacognitive skills. This is as a systematic preaparation for them in achieving towards academic excellence.

CONCLUSION

Most of the students in this study are still weak in reading metacognitive awareness, they still have difficulty in finding the important contents and the whole idea, they are also weak on managing the strategies and activities before, during and after reading. This finding supports the findings of previous studies by Muthusamy (1994), Wahidah (1997) and Mohammad Haron (1998).

This finding shows that although students had been in grade five and almost left the school system, but they are still weak in understanding the process of reading material and reading metacognitive awareness. Surely their reading and understanding is not active. Such drawbacks will put them in problems especially when reading textbooks, references, guides, articles, encyclopedias and others.

Aspects of reading metacognitive awareness can not be underestimated in the process of teaching and learning. Thus, these skills must be taught and trained to students, they should have the knowledge, exposure, guidance and sufficient training to make them as an active reader. They must be given adequate guidance to increase the level of awareness. According to Brown (1980), students who get training in metacognitive strategies know the skills that should be applied when reading. Then, they will be able to apply the skills when reading a text.

While Paris and Jacobs (1984) found that students who received training metacognitive strategies significantly will achieve higher scores rather than for those who did not receive training. Similarly, Paris, Cross and Lipson (1984) found that students that have been taught the metacognitive strategies were significantly use this strategy well than those who do not learn. Stewart and Tei (1983) stated that training in metacognitive strategies such as self-questioning strategies will cause the reader to become more active when reading.

Some local researchers have also suggested teaching in strategy of reading metacognitive to students. In an experimental study, Muthusamy (1994) states that students can and should be taught metacognitive strategies so that it can help them understand the text and thus, improve the performance of reading comprehension. Wahidah (1997) also suggested that students should be taught the strategies on how to get the hang of reading material and trained to be aware of their level of comprehension ability since in primary school, because this knowledge is not only useful to get the hang of reading for them but rather, its even beneficial in studying which involve the reading activities and provides guidance in improving student's metacognition.

Mohammad Haron (1998) in his study has concluded that all students including the excellents, needs training because their reading level of metacognitive awareness are still relatively low.

The exposure of reading metacognitive awareness can also be done during formal teaching in the classroom. According to Costa (1991) that strategies which are directed towards the formation of student metacognition should be merged into the teaching methods either across the field of language teaching or content (content area). To that end, Phillips (1997) suggest that teaching thinking skills including metacognitive skills become an important in all aspects of teaching methods courses for all teachers in education program, if it has not been done. For him, thinking skills preferably starting since in primary school and teachers of this school level should get rigorous training on how to teach children to think.

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