Assessment of the knowledge and the use of Metacognitive reading strategies among ESL learners

WS Sudusinghe[#]

Department of Languages, Faculty of Management, Social Sciences and Humanities, General Sir John Kotelawala Defence University

[#] sudusinghews@kdu.ac.lk

Abstract*: Metacognitive awareness can be categorized as one of the most influential strategies in developing effective readers. It becomes very useful for university undergraduates as they are expected to involve in extensive reading for their academic activities. Further, this enhances the learner autonomy and critical thinking skills. Hence, the current study aimed to assess the awareness and the use of metacognitive strategies among the selected sample of ESL learners in Sri-Lankan Universities. The online survey has been carried out as a descriptive cross-sectional study. An online questionnaire developed in English was used to gather data. The questionnaire has been shared on social media platforms for a period of two weeks. The questionnaire comprised of two sections, one focused on demographic information, and a separate section was allocated for the metacognitive Awareness of Reading Strategies Inventory (MARSI). Informed consent of the participants was obtained before the data collection. The data analysis was performed using SPSS 23.0, including the descriptive statistics, independent sample t-test and Turkey Post hoc test on one-way ANOVA. Majority of the participants were female (62.9%; n=83) Law undergraduates. With regard to the self-evaluation, majority of the study participants (51.5%; n=68) were identified as average readers. The study findings have revealed that the mean values of the GRS, PSS and SRS were at a level of medium. Hence, it is recommended to make necessary interventions to understand awareness of metacognitive strategies of reading among the university undergraduates. It will also be useful in implementing new strategies in language teaching, planning and helping the students to improve their critical thinking skills and mindfulness.*

Keywords: *Metacognitive awareness, Undergraduates, Reading skills*

1. Introduction

The tertiary education expects a student to master the skills in comprehending, understanding, monitoring, critically evaluating and synthesizing when reading a text in the academic context. Further, they need to be in a position to go beyond the surface meaning, interpret and critically analyze the texts with their own perspective (Maasum and Maarof, 2012). Hence, improving the strategies for effective reading is of a greater significance for the university undergraduates. Many research studies conducted over the past years regarding the English language learners' knowledge on influential reading strategies, have proven that there is a deficiency in their knowledge regarding effective reading strategies necessary for academic purposes (Maasum and Maarof, 2012).

Improving the reading skills in English among the second language (ESL) learners has gained much attention among the instructors and the researchers and they constantly focus on exploring effective strategies to develop the reading skills of the students (Albiladi, 2019). Further, many researchers have identified reading as the most influential mechanism to allow the English Language learners to enhance the other language competencies like writing, improving the vocabulary and speaking (Mason and Krashen, 1997). Therefore, developing the reading skills of the English language learners play a significant role in enhancing the written and speaking competencies (Horwitz, 2012).

Metacognition becomes a strong force in raising awareness among the students on their own strengths and weaknesses as readers, learners and writers. Further, it enables the students to improve their critical thinking and logical reasoning (Medina, Castleberry and Persky, 2017). Researches have attempted to highlight the significance of metacognitive awareness in reading texts written in both native and second language. The strategic awareness and the ability to monitor the comprehension are regarded as crucial elements in skillful reading (Sheorey and Mokhtari, 2001).

Metacognitive awareness can be categorized as one of the most influential strategies in developing effective readers. It becomes very useful for the university undergraduates as they are expected to involve in extensive reading for their academic activities, and they should be capable enough to explore knowledge beyond the surface meaning. As large proportion of their syllabus comprise of English medium study materials it is of paramount importance that they master the skills of effective reading strategies. Even though there is plenty of research done regarding second language reading, there is a limited number of studies conducted to examine the metacognitive reading strategies among the university students, especially with regard to the Sri-Lankan context. Hence, the current study aimed to assess the awareness and the use of metacognitive strategies among the selected sample of ESL learners in Sri-Lankan Universities. And the results of this study will be highly benefited in understanding the level of their awareness and in designing the curricula with modifications to improve the skills of reading among university undergraduates. It will also be useful in implementing new strategies in language teaching, planning and helping the students to improve their critical thinking skills and mindfulness. Obtaining a comprehensive knowledge regarding the students use and awareness on Metacognitive strategies is the key to successful designing of lesson plans and class room activities that can improve the reading skills of the ESL learners. Moreover, it can enlighten the language teachers regarding the preferences of the students regarding the strategies implemented. The study findings can broaden the language teacher's awareness on the areas the undergraduates need improvement in becoming effective readers and scholars with critical thinking skills.

2. Literature Review

Majority of the research conducted over the past years on English language teaching and learning has stressed on the significance of improving the reading skills of language learners. Further, researches strongly believe that improving the reading skills of the ESL learners is of a greater use for them to enhance their capacities of other language skills (Albiladi, 2018). According to Horwitz (2012) reading is classified as the core skill to be improved when achieving the competency in the second language. Reading enriches the language learner with multiple benefits than the learners who master the other skills.

Improving the reading skills is a key to successful academic and professional career (Altin and Saracaloğlu, 2018).

Language learners are motivated in enhancing their skills of reading as it becomes a facilitator for the advancement of other skills (Haupt, 2015). Several studies were conducted to assess the various reading strategies that can effectively be implemented among the ESL learners (Nordin et al., 2013). The researchers have defined the strategies employed in reading as thoughtful, goal-oriented efforts to regulate and modify the readers attempts to comprehend the meaning, understand and decode a text. Further, researches have pointed out several elements related to the usage of those strategies such as gender, genre of the text, text type, purpose and the level of proficiency in the reader (Afflerbach, Pearson and Paris, 2008).

Metacognition was introduced in 1970's by Flavell and it has begun to play a very significant role in the research studies related to education (Baker, 1989). It emphasized on the mechanisms through which the readers plan, repair and monitor the level of comprehension on their own. Generally, Metacognition is recognized as an intellectual activity dealing with the capacity of the individual to assess and order his learning procedure. Hence, Metacognition is identified as a very significant theory in the field of educational psychology and cognitive development (Jacobs and Paris, 1987). Due to the increasing significance of Metacognition, it has given birth to various outlines for understanding and reading comprehension in research literature (Baker, 1989).

Metacognitive strategies pave the way for the reader to allocate important concern on evaluating, monitoring and controlling the reading process (Pressley, 2000). Studies conducted on successful reading strategies of L1 and L2 have revealed that the success of a reading strategy depends on whether the strategy was utilized metacognitively (Jiménez, Garcia and Pearson, 1996). Several studies conducted on learners' metacognitive aspects of reading-strategy use had pointed out the fact that the readers with high levels of metacognitive awareness had proven to be successful readers than their peers who had low levels of metacognitive awareness (Zhang and Wu, 2009).

A research study has revealed that the unsuccessful learners do not possess the strategic awareness and the ability to monitor the process of comprehension. Garcia et al. (1998) Therefore the learners who are not successful have no proper understanding of their own cognitive process and they should be given constant guidance in utilizing effective reading strategies (Mokhtari, Dimitrov and Reichard, 2018). A study conducted by Barnett (1988) highlighted that there was a constructive relationship between reading comprehension and in the use of both perceived strategy and strategy use. The more the L2 learners employ effective reading strategies better they perform in terms of their level of comprehension. A qualitative study conducted by Auerbach and Paxton (1997) revealed that the L2 readers had a better awareness in engaging in metacognitive strategies for comprehending the texts than those who were focusing on the text at sentence level. This study revealed that there is a strong relationship among metacognitive awareness, strategy disposition and L2 reading (Salataci and Akyel, 2002).

A study was conducted in South Africa with a participation of 131 first year ESL learners undertaking a professional course at university. The findings of the study revealed that the students who had obtained strategic training instruction on the use of metacognitive reading strategies achieved

significantly higher marks in both statistical and practical aspects in reading comprehension tests than the students who were in the control group (Dreyer and Nel, 2003). The above-mentioned studies have highlighted on the significance of metacognitive strategies in developing learner to become efficient readers. It can clearly be stated that L2 readers metacognitive awareness plays a vital role in improving the reading skills of ESL learners.

3. Methodology

The present study was conducted as a descriptive cross-sectional study. An online questionnaire developed in English was shared on the social media networks (i.e., Facebook, WhatsApp, Viber) during a period of two weeks to receive the completed questionnaires. The study targeted on a group of ESL learners who represent different streams (Medicine, Engineering, Social Sciences, Law, Allied Health Sciences and Computing) in Sri-Lankan universities.

Moreover, the consent of the participants was taken before the collection of the data. The objectives of the study were explained to the participants through an online statement. The cultural appropriateness, comprehension and suitability of the scale were pre-tested through a pilot study. The pilot study has been carried out with the participation of ten undergraduates and they were excluded from the main study.

A questionnaire consisted of two sections (Section A and B) was used for the data collection of this study. Section A composed of questions regarding personal characteristics. Section B was metacognitive Awareness of Reading Strategies Inventory (MARSI) which was designed by Mokhtari and Reichard (2000)(Mokhtari, Dimitrov and Reichard, 2018). The written permission to use MARSI was obtained by the developers of the scale. MARSI is composed of 15 items and consisted of three dimensions which were related to Global Reading Strategies (GRS) (item 01,03,05,12,13), Problem Solving Strategies (PSS) (item 07,09,11,14,15) and Support Reading Strategies (SRS) (item 02,04,06,08,10). Cronbach's coefficient alpha for internal consistency reliability of the three documented subscales (GRS, PSS and SRS) ranged from 0.89 to 0.93, and score reliability for the total sample was 0.93, indicating reliable measures of metacognitive awareness of reading strategies (Mokhtari, Dimitrov and Reichard, 2018).

GRS primarily aims to set the favorable atmosphere for the act of reading (e.g., set the determination for reading, preview the content of the text, forecast what the text is about, etc.). When there are issues pertaining to understand the information of the text the PSS are used. This provides the reader a better understanding of the relevant text. SRS, plays a vital role as a supportive tool in achieving sustainable responsiveness to reading. For instance, when using dictionaries and other useful supportive documents. Therefore, the aforementioned strategies combine and support each other effectively in the process of meaningful reading of a text (Mokhtari, Dimitrov and Reichard, 2018).

The items of the inventory were assessed using a Likert scale which ranged from 1 (I never or almost never use this strategy) to 5 (I always or almost always use this strategy) to identify the awareness. The metacognitive awareness of Reading Strategies was categorized into three levels according to the mean values received for each dimension (High (mean ≥ 3.5), Medium (mean= 2.5-3.4), and Low (mean ≤ 2.4) (Maasum and Maarof, 2012). Data was analyzed using SPSS 23.0, including the descriptive statistics, independent sample t-test and Turkey Post hoc test on one-way ANOVA.

4. Results

A. Socio Demographic Data

According to the results, the mean (±SD) age of the participants was 21.54 (±1.79) years, and the majority of them were females (62.9%; n=83). Majority of the study population are Law undergraduates (44.7 %; n=59). When considering the self-evaluation of the participants, majority of them were average readers (51.5%; n=68) (Table 01).

Table 01. Personal Characteristics

Parameter		Status
Demographic Data		
Age	Mean	21.54
	Median	21.00
	Mode	21
	SD	1.792
Gender	Male	37.1%(n=49)
	Female	62.9%(n=83)
Academic Stream	Medicine	10.6%(n=14)
	Engineering	9.8%(n=13)
	Law	44.7%(n=59)
	Allied Health Sciences	17.4%(n=23)
	Social Sciences	12.1%(n=16)
	Computing	5.3%(n=7)
Academic Year	First	44.7%(n=59)
	Second	27.3%(n=36)
	Third	22.0%(n=29)
	Forth	6.1%(n=8)
Self-evaluation as a reader	An excellent reader	2.3%(n=3)
	A good reader	37.9%(n=50)
	An average reader	51.5%(n=68)
	A poor reader	8.3%(n=11)

B. Metacognitive Awareness of Reading Strategies

The mean values of the metacognitive awareness on GRS (2.80±0.85), PSS (2.76±0.97), SRS (2.77±0.97) were at a level of medium. Hence, the overall mean on metacognitive awareness of reading strategies was also at a medium level (2.77± 0.76). As shown in Table 02, 25 (18.9%) students reported high use of metacognitive reading strategy, 56 (42.4%) students reported medium use, and 51 (38.6%) reported low strategy use.

Table 02. The students reported use of metacognitive reading strategy

	N	%	M	SD
High	25	18.9%	2.77	0.76
Medium	56	42.4%		
Low	51	38.6%		
Total	132	100.0%		

C. Comparison of Metacognitive Awareness of Reading Strategies scores among various participant characteristics

1) Awareness on Global Reading Strategies

When considering the awareness of GRS, there was no significant difference among the mean differences of males and females (p=0.488). Allied Health Sciences students had the highest mean (3.33±0.794) on GRS among all the academic streams (Table 03). Further, there was a statistically significant difference between academic streams as determined by one-way ANOVA ($F(5,126) = 7.837$, $p = 0.000$). A Tukey post hoc test revealed that Engineering students had a significantly low awareness on GRS when compared to Law (p= 0.007) and Allied Health Sciences students (p=0.000). Further, Law students had a significantly high awareness on GRS when compared to Engineering (p=0.007) and social

sciences students (p=0.000). Moreover, Allied Health Sciences students had a significantly high GRS when compared to Engineering (p=0.000) and social sciences (p=0.000) students. Social sciences students had a significantly low awareness on GRS when compared to Law (p=0.002) and Allied Health Sciences students (p=0.000). There was no significant difference on the awareness of GRS among academic years (p>0.05).

2) Awareness on Problem Solving Strategies

When considering the awareness of PSS, there was no significant difference among the mean differences of males and females (p=0.353). Computing students had the highest mean (4.52±1.29) on PSS among all the academic streams (Table 03). Further, there was a statistically significant difference between academic streams as determined by one-way ANOVA (F (5,126) =6.808, p=0.000). The Computing students had a significantly high awareness on PSS when compared to Medicine (p=0.02), Engineering (p=0.000), Law (p= 0.000), Allied Health Sciences (p=0.001) and social sciences (p=0.000) students. However, there were no significant mean differences observed in other streams. There was no significant difference on the awareness of PSS among academic years (p>0.05).

Table 03. Metacognitive awareness of reading strategies according to the academic stream

		Mean	**Std. Deviation**
Mean GRS	Medicine	2.7000	.98215
	Engineering	2.1077	.39678
	Law	2.9288	.82693
	Allied Health Sciences	3.3304	.79455
	Social Sciences	2.1000	.44422
	Computing	3.0857	.30237
	Total	2.8015	.84582
Mean PSS	Medicine	2.9000	.46244
	Engineering	2.6923	.32265
	Law	2.5390	.94340
	Allied Health Sciences	2.9217	1.15481
	Social Sciences	2.5375	.35567
	Computing	4.5143	1.28508
	Total	2.7636	.96877
Mean SRS	Medicine	2.6143	.57359
	Engineering	2.4000	.43205
	Law	2.5492	1.00316
	Allied Health Sciences	2.9304	1.15146
	Social Sciences	3.2000	.51121
	Computing	4.0571	.90711
	Total	2.7667	.96919

3) Awareness on Support Reading Strategies

When considering the awareness of SRS, there was no significant difference among the mean differences of males and females (p=0.075). Computing students had the highest mean (4.06±0.90) on SRS among all the academic streams (Table 03). Further, there was a statistically significant difference between academic streams as determined by one-way ANOVA (F (5,126) =4.932, p=0.000). Computing students had a significantly high awareness on SRS when compared to Medicine (p=0.010), Engineering (p=0.002) and law students (p=0.001). When considering the awareness on SRS, there was a statistically significant difference between academic year as determined by one-way ANOVA (F (5,126)

=3.695, p=0.014). A Tukey post hoc test revealed that the awareness on SRS was significantly high among second year students when compared to first year students (p=0.17).

5. Discussion

The current study was conducted to assess the metacognitive awareness of reading strategies among ESL learners in Sri-Lankan Universities. The overall metacognitive awareness of reading strategies and the three dimensions of metacognitive awareness of reading strategies were at a medium level. Only 18.9% of the population had a high level of metacognitive awareness on reading strategies. However, a previous study conducted among freshmen majoring in an English Education Department, Indonesia has revealed that 51.6% of the total population had a high level of metacognitive awareness on reading strategies. Further, the overall mean of the study group was 3.52±0.46 which indicates a high level in the reported use of metacognitive awareness on reading strategies (Dari and Noviabahari, 2018). However, in the present study the participants' overall mean score on metacognitive awareness on reading strategies was 2.77±0.76 which was medium. Furthermore, the GRS (2.80±0.85) is the most used strategies by the students, followed by SRS (2.77±0.97), and PSS (2.76±0.97) in the present study. However, the similar study conducted among freshmen in Indonesia indicated that the PSS are the most used strategies (M=3.84±0.57), followed by GRS (M=3.38±0.44), and SRS (M=3.35±0.57) (Dari and Noviabahari, 2018).

Moreover, similar studies have pointed out that their study samples utilize the metacognitive reading strategies efficiently and effectively in their learning process. Moreover, they had proper self-evaluation on the success of their own reading (Block, 1992). However, in the present study majority of the study participants (51.5%; n=68) were identified as average readers and their use of metacognitive reading strategies remains at a medium level.

A study conducted in Malaysia based on 41 university undergraduates revealed a high overall mean score in all the categories in the MARSI scale namely; Global (M= 3.73) Support (M= 3.38) and Problem solving (M= 4.10). (Maasum and Maarof, 2012). However, in the current study the mean values of the metacognitive awareness on GRS (2.80±0.85), PSS (2.76±0.97), SRS (2.77±0.97) were at a medium level.

Moreover, in the current study the Allied Health Sciences students had the highest mean on GRS among all the academic streams while Social Sciences students had the lowest. Computing students had the highest mean on PSS while Social Sciences students had the lowest. Computing students had the highest mean on SRS among all the academic streams while Engineering had the lowest.

6. Recommendation

And the results of this study will be highly benefited in understanding the level of their awareness and in designing the curricula with modifications to improve the skills of reading among university undergraduates. It will also be useful in implementing new strategies in language teaching, planning and helping the students to improve their critical thinking skills and mindfulness. Obtaining a comprehensive knowledge regarding the students use and awareness on Metacognitive strategies is the key to successful designing of lesson plans and class room activities that can improve the reading skills of the ESL learners. Moreover, it can enlighten the language teachers regarding the preferences of the students regarding the strategies implemented. The study findings can broaden the language teacher's awareness on the areas the undergraduates need improvement in

becoming effective readers and scholars with critical thinking skills.

7. Conclusion

The study findings revealed that the mean values of the GRS, PSS and SRS were at a level of medium. Hence, the overall mean on metacognitive awareness of reading strategies was also at a medium level. Therefore, it is necessary to modify the university curricula in order to improve the reading skills of the undergraduates. When they become effective readers, they will be able to improve their capacity of innovative thinking. Further, it will also motivate the students to explore new knowledge in the field of their specialization. Once they master their reading skills it will automatically improve their skills of writing and speaking. Therefore, enhancing the awareness of the university undergraduates regarding the Metacognitive Strategies will be a precious investment for their academic progress.

References

Afflerbach, P., Pearson, P. and Paris, S. (2008) 'Clarifying Differences Between Reading Skills and Reading Strategies', The Reading Teacher, 61, pp. 364–373. Available at: https://doi.org/10.1598/RT.61.5.1.

Albiladi, W. (2018) 'Effective English Reading Strategies: English Language Learners' Perceptions', 7, pp. 273–281.

Albiladi, W.S. (2019) Effective English Reading Strategies: English Language Learners’ Perceptions. preprint. ARTS & HUMANITIES. Available at: https://doi.org/10.20944/preprints201912.0127.v1.

Altin, M. and Saracaloğlu, A.S. (2018) 'Effect of reading comprehension instruction enriched with cultural materials on English learning', Cogent Education. Edited by M. Boylan, 5(1), p. 1475589. Available at: https://doi.org/10.1080/2331186X.2018.1475589.

Baker, L. (1989) 'Metacognition, Comprehension Monitoring, and the Adult Reader', Educational Psychology Review, 1, pp. 3–38. Available at: https://doi.org/10.1007/BF01326548.

Block, E.L. (1992) 'See How They Read: Comprehension Monitoring of L1 and L2 Readers', TESOL Quarterly, 26(2), pp. 319–343. Available at: https://doi.org/10.2307/3587008.

Dari, R.W. and Noviabahari, J.L. (no date) 'The Freshmen's Metacognitive Awareness of Reading Strategies', 222, p. 5.

Dreyer, C. and Nel, C. (2003) 'Teaching reading strategies and reading comprehension within a technology-enhanced learning environment', System, 31, pp. 349–365. Available at: https://doi.org/10.1016/S0346-251X(03)00047-2.

Haupt, J. (2015) 'The Use of a Computer-Based Reading Rate Development Program on Pre-University Intermediate Level ESL Learners' Reading Speeds', Reading Matrix: An International Online Journal, 15(1), pp. 1–14.

Horwitz, E.K. (2012) Becoming a Language Teacher: A Practical Guide to Second Language Learning and Teaching. 2nd Edition. Boston: Pearson.

Jacobs, J. and Paris, S. (1987) 'Children's Metacognition About Reading: issues in Definition, Measurement, and Instruction'. Available at: https://doi.org/10.1207/S15326985EP2203.

Jiménez, R., Garcia, G. and Pearson, P. (1996) 'The Reading Strategies of Bilingual Latina/o Students Who Are Successful English Readers: Opportunities and Obstacles', Reading Research Quarterly - READ RES QUART, 31, pp. 90–112. Available at: https://doi.org/10.1598/RRQ.31.1.5.

Maasum, T.N.R.T.M. and Maarof, N. (2012) 'Empowering ESL Readers with Metacognitive Reading Strategies', Procedia - Social and Behavioral Sciences, 69, pp. 1250–1258. Available at: https://doi.org/10.1016/j.sbspro.2012.12.058.

Mason, B. and Krashen, S. (1997) 'Extensive reading in English as a foreign language', System, 25(1), pp. 91–102. Available at: https://doi.org/10.1016/S0346-251X(96)00063-2.

Medina, M.S., Castleberry, A.N. and Persky, A.M. (2017) 'Strategies for Improving Learner Metacognition in Health Professional Education', American Journal of Pharmaceutical Education, 81(4). Available at: https://doi.org/10.5688/ajpe81478.

Mokhtari, K., Dimitrov, D.M. and Reichard, C.A. (2018) 'Revising the Metacognitive Awareness of Reading Strategies Inventory (MARSI) and testing for factorial invariance', Studies in Second Language Learning and Teaching, 8(2), pp. 219–246. Available at: https://doi.org/10.14746/ssllt.2018.8.2.3.

Nordin, N.M. et al. (2013) 'Differences in Reading Strategies: How esl Learners Really Read', Procedia - Social and Behavioral Sciences, 90, pp. 468–477. Available at: https://doi.org/10.1016/j.sbspro.2013.07.116.

Salataci, R. and Akyel, A. (2002) 'Possible Effects of Strategy Instruction on L1 and L2 Reading', Reading in a Foreign Language, 14.

Sheorey, R. and Mokhtari, K. (2001) 'Differences in the metacognitive awareness of reading strategies among native and non-native readers', System, 29(4), pp. 431–449. Available at: https://doi.org/10.1016/S0346-251X(01)00039-2.

Singhal, M. (2001) 'Reading proficiency, reading strategies, metacognitive awareness and L2 readers', The Reading Matrix, 1.

Zhang, L.J. and Wu, A. (2009) 'Chinese senior high school EFL students' metacognitive awareness and reading-strategy use', p. 23.

Acknowledgement

I gratefully acknowledge the participants of the study for their contribution and for their genuine feedback given to fulfil the objectives of this study.

Authors Biography

Wasana Sudusinghe is attached to the Department of Languages, Faculty of Management, Social Sciences and Humanities, KDU. She has obtained her Master's degree in Linguistics from the University of Kelaniya. Applied Linguistics and Educational Psychology are her major research interests.