

Effective Metacognitive Strategy Factors on the Reading Comprehension of the Iraqi Female Students

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Abstract. *This paper addresses issues on educational process and reading comprehension. These factors are influenced by the aspect of metacognition as well as reading strategy awareness. When students are facing challenges in their reading ability, researchers often suggest the application of this strategy. Language learning places emphasis on this aspect this study looks at the metacognitive reading strategies and it strikes to find out what are the factors that affect female students in Iraq towards reading comprehension. Quantitative research design was employed in this study. Specifically, a quasi-experimental approach was applied to collect data from fifty students through the questionnaire tool. The data of this study was analysed using SPSS 25 software. The major findings revealed that metacognitive knowledge and use of strategies are some of the essential factors that will improve students' reading ability and performance. However, planning and management are totally not part of the expected result. Educators should be conversant with the advent of new technologies that seek to enhance reading comprehension among students and females, especially in order to overcome some of these learning challenges. The study concludes that female students need to be given special attention against their males' counterpart in order to wipe out the reading and comprehension challenges.*

Key words: *Metacognition, Reading strategy, Reading comprehension, female students.*

Introduction

Reading is an essential part of the academic world that requires constant teachers and students' engagement in a classroom setting. Written materials are most important materials in this matter and they may include blogs, books, magazines, journals, conference proceedings as well as internet news (Abdul, 2020). Reading compression is evitable in an academic domain and students who have weak reading culture or attitude, would find it hard to make progress in the academic world (Alzahrani, 2018). When students expose themselves to reading, they are bound to develop their focus, vocabularies and perception of the world around them. Most of the literary books are written in English which seems to the global language (Chen, 2019). Most university students who are average in English language are expected to establish hypothesis suitable to their research endeavour and other theoretical aspects.

Students with great or excellent reading comprehension, seems to be excelling in all their fields of learning so improvement in their reading skills means progress in almost all entities. These two aspects have connection with educational approach (Nunan, 2003). Collins (2020) states that significant progress in educational fields result to effective reading. Scholars such as pearson and Hamm (2005) observed that reading comprehension is a combination of various components that necessitates good reading manner and most reading approaches are heavily reliant of one single

dimension. These sort of methods and materials narrow the students perceptions and make the process monotonous (Fuchs, 2018).

Cognitive abilities are highly needed in reading comprehension. The cognitive capacity got boosted significantly with constant reading (Hart et al., 2009). Research ahs indicated that Iraq students are struggling with most high-stake testing such as TOEFL and TEFL Delgado, Vargas, Ackerman, & Salmerón, 2018; Ranjbaran & Alavi, 2017), however, this cannot be confirmed in some contexts outside Iraq regarding Iraq postgraduate students. Studies have established that there is a gap in Iraq students reading strategy and comprehension especially on reading academic texts such as essays, and academic articles. It has been confirmed that a single text can provide the required result for summative purposes but it cannot be used to enhance students reading performance (Stiggins, Alter, & Chappius, 2004). This study, therefore investigates whether metacognitive strategy exercise has any positive impact on students' reading performances.

These are the objectives of this study:

1. To ascertain the factors that lead metacognitive strategy exercise have significant impact on female students in Iraq.
2. to examine the extent of Iraq female students' metacognitive strategy exercise and its impact on female students reading comprehension.

Review of related literature

Reading comprehension is inevitably the most unique conceptual process that human use in their daily lives which is difficult to be taught, assessed or studied. There are numerous theoretical enquiry that seek to underpin the essence of reading and its meaning in relation to comprehension (Perfetti & Stafura, 2014). These theoretical models that explained the wider theoretical assumptions which constitute the major parts of the comprehension processes. One of such theories is the Simple View Reading (SVR). This aspect of reading asserts that words can be decoded by participants in reading comprehension (Gough & Tunmer, 1986). Studies have shown that individual differences in these aspects may signify that reading comprehension have broad impact across languages while other items transform over a period of time (Catts, 2018). Decoding and reading competence are two distinct items but decoding is more connected to reading comprehension. Comprehension of linguistic idea at early stages of life is a strong indicator of mastery in reading comprehension (Catts, Adlof, & Weismer, 2005).

Literarily, to judge a text means to be able to identify its literary mechanics such as the author's skills, moral tendencies of the characters and their acts which are essential to indepth evaluation of the comprehension. As stressed, scholars have indicated that reading comprehension impacts performance of students as indicated in table one below.

Table 1: Summary of Recent studies about Reading Comprehension Skills

Authors	Country	Year	Research Aims
Samiei F., Ebadi S.	Iran	2021	To explore EFL learners' reading perception skills in a flipped classroom
Li Y., Xing H., Zhang L., Shu H., Zhang Y.	China	2021	To identify How observable word analysis and context-driven auditory that deals with semantic mixing to reading comprehension using additive and multiplicative models.
Barquero L.A., Cutting L.E.	United States	2021	To introduce the unique issue on developments towards perception of reading comprehension limits.
Rodrigues B., Cadime I., Viana F.L., Ribeiro I.	Portugal	2020	To develop and validate the tests of reading and listening comprehension among senior grade students in Portugal.

Can D.	Turkey	2020	To find out the effect of reading comprehension which is related to logical reasoning and lexical problem solving
Aguilar G., Uccelli P., Galloway E.P.	United States	2020	To ascertain the contributions of mid-adolescent double language learners between Spanish and English language skills with regards to language ability adolescent Dual Language Learners' Spanish and English to reading Comprehension
Welie C., Schoonen R., Kuiken F.	Netherlands	2019	To find out 8 th graders expository text understating.
Khan I., Ibrahim A.H., Kassim A., Khan R.M.I.	Saudi Arabia	2019	To evaluate the efficiency of active reading software towards improving EFL students reading compression.
Hermanudin, Suhartono, Suryadi, Noermanzah	Indonesia	2019	To augment students reading comprehension as well as reading ability. comprehension
Rogde K., Hagen Å.M., Melby-Lervåg M., Lervåg A.	Norway	2019	To identify the effect of linguistic knowledge instruction on general language skills
Fernandes S., Querido L., Verhaeghe A., Araújo L.	Portugal	2018	To identify the connection between reading to prosody and reading comprehension
Joh J.	South Korea	2018	To seek the Interplay of working lapses in L2 reading to skills, strategy use, and task difficulty
Fotidzis T.S., Moon H., Steele J.R., Magne C.L.	United States	2018	To find out the cross-modal primary effect Cross-modal

METHODOLOGY

A quantitative research design was utilised in this research. The objectives of the study were achieved through the use of quasi-experimental paradigm. The deductive criterion was scientifically applied to produce the research findings.

Participants

This study was carried out in Iraq universities and the subject of this study were female students in Iraq universities. There is a total population of 150,000 students at various universities which consist of only female students. The fourth year students formed the major part of the study. These students were engaged in english reading classes at foundation level in their first and second semester of academic engagements.

Instrument

In an attempt to answer the first research question, the subjects were categorised into two main groups. One is the experimental group and the other is a controlled group. In the first instance, the experimental group was exposed to metacognitive strategies and the end of the programme, the experimental group was measured through the use of specific comprehension sub-test on reading performance (TORP) (Padeliadu & Sideridis, 2000) to perceive the impact of the metacognition approach. At the end of the project, the researcher made comparison of the performance of the control group on a reading test provided to the students both before and after the intervention on the given test.

The second research question was answered through the use of a questionnaire tool which was developed from similar studies. Some part of the questionnaire was adapted and modified (Zhang, X., & Guo, L. 2020), this will fit to the level of the students in Iraq context. A five-point likert scale was used where numerical values were used to indicate the level of students' perceived abilities, thus, (1 = strongly disagree to 5= strongly agree).

Data Collection

The tool used by Padeliadu & Sideridis (2000) popularly known as (TORP) was specifically employed in this study to assess the reading performance of these students. A PC screen was used to one at a time to display the six-scale difficulty texts to the students. The experiment group and control groups were both given the task. After the reading task, the students were asked to answer eighteen objective questions and a point was awarded to each correct answer. The test was open, meaning no restriction on time to respond.

Similarly, with regards to the second question, primary data was obtained through a questionnaire distributed by the researcher. The female students were given the questionnaire at their various universities and the survey was given to them at the end of the reading comprehension task. The students were first asked to comment on the course content and later about their proficiency and expectation about the course. They were also asked to talk about their fulfilment and learning objective of the course as well as their reading comprehension course..

The main two research questions of this study will be addressed by undertaking the multiple regression. In this section, the data analysis checks the reliability of the data set, data normality and the multiple regression tools to address the following research questions:

RQ1: why Does metaconceptual exercise have impact on the reading comprehension of the female students in Iraq universities?

RQ2: Which component of metacognition does have a more effective consequence on the reading comprehension of female students in Iraq?

Descriptive Analysis

Table 3: Descriptive Statistics (N =50)

Variables	M	SD	Skewness	Std. Error	Kurtosis	Std. Error
The conceptual Knowledge	3.96	0.69	0.02	0.34	-0.83	0.66
Use of Approaches	4.25	0.61	-0.31	0.34	-0.67	0.66
Preparation and Management of techniques	4.21	0.63	-0.63	0.34	-0.07	0.66
Reading Understanding Performance	4.17	0.61	-0.94	0.34	0.26	0.66

Note: M= mean; SD= Standard Deviation

Descriptive data analysis of frequencies is analysed in table 4.3. All items have an average rating extra than 4.00. It is a sign that the most range of contributors agreed with the statements of the items primarily based totally on every variable and appeared those items as a critical courting among Metacognitive Knowledge, Use of Strategies, Planning and Managing of the Practices as well as Reading Comprehension Performance. Based at the five factor Likert Scale, wherein 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Identifying lacking records and outliers is important to make certain correct estimation from the statistical analysis. There isn't any outlier determined thru frequency analysis. Similarly having no outliers, the records is correct for analysis.

Regression Analysis

The “use of Multiple Regression has come to be not unusual place throughout a huge form of social, technological know-how disciplines such as implemented psychology and training, particularly looking for interplay outcomes and comparing moderating outcomes of variables in idea development (Aguinis, Petersen, & Pierce, 1999; Mason & Perreault Jr., 1991; Shieh, 2010). Applications of Multiple Regression in psychology frequently are used to check an idea of approximately causal effects at the final results degree (Jaccard et al., 2006). Multiple regression is appealing to researchers, given its flexibility (Hoyt et al., 2006). It may be used to check the speculation of linear institutions amongst variables, to observe institutions amongst pairs of variables whilst controlling for capability confounds, and to check complicated institutions amongst more than one variable (Hoyt et al., 2006). Multiple regression assumptions are described as number one studies issues like linearity, outlier independence, homoscedasticity, normality, and collinearity. This study will discuss the assumptions of linearity, reliability of measurement, homoscedasticity, and normality.”

Homoscedasticity

Homoscedasticity according to the following scholars Hair et al. (2016), refers to the unique belief where normal association is equated with the supposition based variable. In this sense, it may show an identical variation outrightly through a list of impartial variables, while other scholars described the term homoscedasticity as variability in ratings for different variables (Tabashnick and Fidell, 2017). These scholars identified the variables from different perspectives but the rationale seems to be uniform in nature. Levene, however, concludes that the variables can be become computed through a non-metric variable and this is what is obtainable in this study, the minimal sizeable value, i.e., $p < 0.05$ (See table 4.11).

Table 4. Homogeneity of variances adopted from Levens

Variables	The Statistics	df1	df2	Sig.
Metaconceptual Information	1.728	9	32	0.123
Use of Approaches	1.465	9	32	0.203
Preparation and Managing of Practices	2.492	9	32	0.058

Multicollinearity

The VIF and tolerance outcomes had been computed the use of a couple of regression methods with collinearity diagnostic options. The effects supplied in Table 4.12 found out that the biggest VIF fee became 1.944, which indicates the nonexistence of multicollinearity within the impartial variables but the level of tolerance on impartial variables ranges from 0.515 to 0.613. as a result it affords the rare chance of multicollinearity. The approach used to deal with multicollinearity is to eliminate the redundancy of variables (Tabashnick & Fidell, 2007).

Table 5 Regression for observing VIF and tolerance effect

	Tolerance	VIF
Metacognitive Knowledge	0.613	1.631
Use of Strategies	0.759	1.318
Preparation and Administration of Practices	0.515	1.944

Note: VIF < 5.0 (Tabashnick & Fidell, 2007)

Table 6: Correlations

		UoS	PMP	RCP	MK
UoS	Pearson Correlation	1	.310*	.689**	.622**
	Sig. (2-tailed)		0.029	0	0
PMP	Pearson Correlation	.310*	1	.399**	.491**
	Sig. (2-tailed)	0.029		0.004	0
RCP	Pearson Correlation	.689**	.399**	1	.847**

	Sig. (2-tailed)	0	0.004		0
MK	Pearson Correlation	.622**	.491**	.847**	1
	Sig. (2-tailed)	0	0	0	
* Relationship is significance at the 0.05 level (2-tailed).					
** Relationship is significance at the 0.01 level (2-tailed).					

Note: *Metaconceptual Knowledge (MK)*; *Use of approaches (US)*; *Planning and Management of Practices (PMP)*; *Reading Comprehension Performance (RCP)*

This study examines the connection between the series of variables considered independent which are (Metacognitive Knowledge (MK); in this case, Use of Approaches (US); Plans and Managing Practices (PMP)) and the dependent variable (Reading Comprehension Performance (RCP)). The objective of the more than one regression evaluation became to recognise the impact of predictor variables have at the final results variable (based variables) via way of means of interpreting R², this seems squared in one pearson which became the squared of a single pearson, (Allen, & Rao, 2000). Rs, affirms that huge variance within the approved variable will turn solved through other impartial variables (Hair, et al. 2016).

The influence of the connection among variables is assessed through their association with one another.

Table 7: R Square

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
RCP	.716 ^a	.512	.502	.42

Reading Comprehension Performance (RCP)

Hypothesis testing

Table 8: Table of Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.356	0.374		0.950	0.347
Use of Strategies	0.242	0.084	0.265	2.878	0.006
Planning and Management of Practices	-0.025	0.085	-0.024	-0.291	0.772
Metacognitive Knowledge	0.720	0.104	0.694	6.896	0.000

Perceived Reading Comprehension Performance: this is a perceived Dependent Variable. With P<05 at significant level.

The table 4.15 indicates a coefficient P-value which is significant where the 0.06 serves as the strategy which is 0.05 with a mean use of Strategies in essentially useful on reading Comprehension Performance. From the list of female students who are the participants from university the level shows a metacognitive knowledge in Reading and Comprehension Performance. Conversely, the association between the stages of planning and management of the constructs Reading Comprehension Performance is dismissed as can be observed from the P-value (sig) is 772. So, from the data indicated in table 4.15, this hypothesis was generated and affirmed:

Table 9: Concise hypothesis testing

Hypothesis No	Hypothesis statement	Results
H1	Metaconceptual information plays an important role on the keywords of this study on Iraq female students	agreed
H2	Employment of distinct approaches play an essential role in reading and perception of Iraq female students.	agreed
Not Supported		

Discussion

This study is on metaconceptual strategy and practices that focuses mainly on female students in Iraq university. What this study found out was that the application of strategies and metaconceptual information are the key elements that affect reading comprehension in most students and female students are not an exception. Reading strategies are preplanned actions that require careful and cautious attention. They may be intentional as well as deliberate but there are some procedures and techniques that need to be followed. These procedures will assist students towards understanding a text and monitoring progress made by them and observing their reading comprehension (Mokhtari & Sheorey, 2018). There are huge literature on reading comprehension that provide useful direction in addressing students problems. Cohen (2016) for instance, views reading strategies as cognitive process that readers choose and apply purposefully to obtain meaning in text. Reading strategies are usually intentional actions conducted by learners actively mainly to reduce expected cognitive failure (Garner, 2017). In another study, Pearson and Paris (2018) provide similar factors that deal with deliberate motives in goal-directed attempts to control and change students attempt to understand text, as also to perceive and draw meaning from them. Research on students' use of reading approaches is essential for researcher on reading because it reveal and explore how students interact and engage themselves in text (Carrell, 2019). Reading and Comprehension requires the students to read a lot and practice a lot. The text they read are related to their study materials in their fields of endeavour within the university domain (Malcolm, 2019). Teachers and learners sometimes work together to assess their progress and decide whether the comprehension is taking place within that context and they will understand if they need further intervention or not (Alsheikh, 2014). So many studies on students reading comprehension attest that students in higher institutions of learning are making progress especially through little intervention from the teachers. This study is unique because it involved strategies of reading and comprehension as well as some principles that other studies neglected Research (Mokhtari and Sheorey, 2020).

The second objectives deals with effect of metaconceptual strategy regarding reading comprehension focus on female students in Iraq. This objective was addressed through the following hypothesis. First, metaconceptual information impacts more on reading comprehension of the Iraq female students, while the second objective asserts that the use of approaches has major impact on reading comprehension on Iraq female students and the final hypothesis adds that to plan and manage practices may have noticeable impact on reading comprehension of Iraq female students. It was confirmed in this study that the knowledge gain through the application of these important constructs will determine the metaconceptual data that used to influence reading comprehension among the participants of this study who are sourced from the Iraq universities while the planning and management do not have any major influence on the reading comprehension of these students.

There are so many implications in this study and one of them is that reading comprehension should not be just equated with obvious instructional practices that only targets formative assessment in most universities. Most EFL classrooms are the focus of this target with goal setting towards efficient learner as part of the strategy and planning. In addition, reading comprehension should be seen as a cyclical model of SRL. It should not only be targeted at the end of the end of the students engagement to measure their performance but they should form the part of continues practices and evaluation, planning and execution. Although it is seen as alternative strategy, its constant usage will be the final stage of learning. This will show that applying reading comprehension in a complete semester will produce and enhance students result regarding reading performance. This study has stressed that reading comprehension ought to be an additional instructional method as it has been stated that any classroom intervention that involves monitoring, planning, and evaluation will have huge impact on students and it will be more sustained and extensive than ordinary assessment tool as it encourage students to reflect and think deeply on their progress and enhance their skills and abilities let them take control of themselves (Nawi et al., 2015)

Conclusion

In conclusion, it has been established that reading comprehension is one of the most important aspects to assess language learners' comprehension and to deal with most favourite topic by teachers in a classroom. Although some students may face problem through interpreting some texts, and derive meaning from it, studies have indicated that metaconceptual reading approach is one of the important stages to follow to address students reading comprehension. Conclusion can be drawn that universities, colleges and schools need to enhance the metaconceptual reading strategies of their students. This will promote their perception and explain the world of reading around them and understand the full meaning of reading comprehension.

Research has supported the assertion that metaconceptual method which facilitates students' understanding towards reading comprehension. The study also corroborated the view that practical instruction is required to uphold the view that reading comprehension will supplement the practice of metaconceptual reading activities, however, instructors may find it challenging to practice it in a typical classroom setting. It is worth noting that metaconceptual strategy is the most effective in terms of measuring students' progress in a university environment. So, this study on female university students has become a yardstick to understanding how reading comprehension may transform learning in a self-regulated setting.

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