

The Effects of Strategy-based Reading Instruction on Reading Comprehension and Reading Strategy Use

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Abstract: This study investigates the effects of strategy-based reading instruction on the reading comprehension and metacognitive reading strategy awareness of Pakistani Undergraduate Business Administration students of a private sector university in Karachi, Pakistan. A quasi-experimental design was adopted and two intact groups of students were assigned to a control group (31 students) and an experimental group (31 students). The reading comprehension levels and metacognitive reading strategy awareness of both the groups were measured through a pre-test of reading comprehension and Survey of Reading Strategies (SORS) questionnaire. The control group was taught through teacher-centred traditional reading instruction, whereas the experimental group was taught through strategy-based reading instruction for eight weeks through 2-hour long weekly sessions. The experimental group was trained to use 30 reading strategies (18 Cognitive, 7 Metacognitive, 3 social/affective, and 2 Test-taking strategies) during the intervention following the Cognitive Academic Language Learning Approach and using Reciprocal Teaching Procedure Activities. At the end of the reading intervention, the post-test on reading instruction and the measure of metacognitive reading strategy awareness (SORS) were re-administered. The data were analysed through descriptive statistics, t-tests, and ANOVA. The results revealed that the experimental group students had scored significantly higher than the control group students on reading comprehension post-test and had also shown significantly higher improvement in metacognitive reading strategy awareness than control group students. The study recommends strategy-based reading instruction to be an effective option for teaching reading comprehension skills at the university level in Pakistani universities and in the contexts which share similar characteristics.

Keywords: Strategy-based reading instruction, reading comprehension, metacognitive reading strategy awareness, reading strategies.

Introduction

Developing adequate reading skills in English is pivotal for ensuring success in education as well as in professional life in the modern world (W. P. Grabe & Stoller, 2011). Similarly, acquiring proficiency in English language is mandatory for Pakistani students as English enjoys the status of the official language in the country (Zaidi & Zaki, 2017) and it is the language of 'the domains of power-administration, judiciary, military, education, and commerce' (Rahman, 2010). It is taught as a compulsory subject for twelve years at school and college level in Pakistani education system with the aim of making students proficient in English language skills (Muhammad, 2013). It is also the medium of instruction for

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higher education at tertiary level institutions in Pakistan, so good literacy skills are an essential ingredient for academic success (Ahmed-Khurram, 2007; Shamim, 2008).

However, the traditional methodology of teaching reading skills used in majority of Pakistani classrooms has not produced proficient English readers who can confidently and autonomously read in and outside the classrooms (Khan & Pandian, 2014; Muhammad, 2013). Pakistani English language reading classrooms are mostly dominated by traditional methods of teaching reading. Rote learning and translation methods are commonly used for teaching reading and students rarely develop sufficient reading skills in English language (Dilshad, 2006; Warsi, 2004). The lack of reading and writing culture in the society is also a hindrance in developing Pakistani students' reading and writing skills (Fareed, Ashraf, & Bilal, 2016).

Besides other hindrances, like ineffective textbooks and extremely limited resources, the methods employed by teachers to teach reading remain one of the main causes behind students' poor reading skills (Hassan, 2009; Warsi, 2004). Majority of teachers use traditional lecture based methods to teach reading in their classroom and they do not show much evidence of proper planning. There is little emphasis on teaching reading strategies or actively involving the students in the reading process. No pre-reading activities are used, nor are students helped to become autonomous learners (Khan & Pandian, 2014; Memon & Badger, 2007; Muhammad, 2013).

There is no focus on developing metacognitive awareness of reading strategies in general Pakistani classrooms. The poor standard of teaching reading rarely translates into a positive attitude towards reading and students seldom become life-long readers with a personal interest in reading (Dilshad, 2006).

This traditional teaching methodology for teaching reading has proven ineffective and there is a pressing need for adopting more current and effective methods for teaching reading. Many first and second language researchers have found strategy-based reading instruction to be an effective method of teaching reading (Tavakoli & Koosha, 2016; Akkakoson, 2013; Ikeda & Takeuchi, 2006; Macaro & Erler, 2008). Through this method, students become more aware of the reading process, participate actively in the reading class, and gradually become autonomous readers. It could prove to be a better choice than the traditional reading instruction based on grammar-translation method for English as second/foreign language contexts, like Pakistan.

The researcher aims to investigate the effectiveness of strategy-based reading instruction as an alternative method of teaching reading skills at the tertiary level in the Pakistani context through a quasi-experimental study to replace the traditional method of teaching reading skills generally in practice currently.

The present study is an attempt to deal with the significant problem of lack of reading proficiency of undergraduate students in Pakistan. To the best of researcher's knowledge, there have been very few studies conducted in Pakistani context which investigate the effectiveness of reading strategy instruction for teaching undergraduate students, so this study may be a step towards resolving the problem of reading instruction through an alternative method of teaching reading skills. Moreover, there have been limited studies carried out to explore the efficacy of strategy-based reading instruction in second or foreign language settings (W. P. Grabe & Stoller, 2011), so the findings will contribute to the

existing body of literature in the field of reading in a foreign language.

Literature Review

Reading

W. P. Grabe and Stoller (2011) define reading as “the ability to draw meaning from the printed page and interpret this information appropriately” (p. 3), however, they believe it is difficult to offer a comprehensive definition which covers all the aspects of the complex process of reading. This definition signifies the goal of comprehension as the most important objective of the process of reading. Various models have been proposed to explain the reading process, for instance, W. P. Grabe and Stoller (2011) describe three commonly discussed metaphorical models of reading, bottom-up, top-down and interactive models, in the following way.

Bottom-up models suggest that reading is a mechanical process of building a mental translation of the information in the text piece-by-piece without using the reader’s available background knowledge. However, top-down models assume that reading is heavily influenced by the goals and expectations that a reader has from a text. Deducing information from the text and using the background knowledge are two frequently used processes in top-down models of reading. On the other hand, the interactive models of reading offer a combination of both bottom-up and top-down models to create a synthesized and more effective and comprehensive model which could offer the best of both models. For example, the reader needs to have rapid and accurate word recognition abilities while reading, but he or she should also be activating his or her background knowledge at the same time to create meaning from the text.

Reading Strategies

Reading strategies are a sub-category of language learning strategies which have been defined in various ways in literature. Abbott (2006) considers them to be ‘the mental operations or comprehension processes that readers select and apply in order to make sense of what they read’ (p. 637). They are also regarded as the purposeful ways of decoding the author’s message (Olshavsky, 1976) or the ‘plans for solving problems encountered in constructing meaning’ (Duffy, 1993).

Reading strategies are not useful or harmful in themselves, as their usefulness depends on the effective or ineffective use of strategies in different contexts (W. Grabe, 2004). Metacognition is the key here as the effective use of reading strategies depends on the metacognitive reading strategy awareness among the readers (A. D. Cohen, 2007). Several previous studies have found that the explicit teaching of reading strategies in the language classroom has a positive impact on the reading comprehension skills of the students (Tavakoli & Koosha, 2016; Zarrati, Nambiar, & Maasum, 2014; Akkakoson, 2013). Therefore, students in the EFL/ESL classrooms need to learn these strategies consciously first, but through extensive and regular practice, they must achieve automaticity in the

use of these strategies turning them into skills. They need to learn the purpose of reading strategies as well as the steps involved in using them, more importantly when and how to use them effectively in different contexts (Garner, 1994; Paris, Lipson, & Wixson, 1994).

Taxonomy of Reading Strategies

Reading strategies have been categorised according to their goals and functions in the literature with some overlap. Cognitive strategies, which are related to the knowledge of the target language and the world in general, comprise of bottom-up and top-down strategies. Bottom-up strategies are language-based strategies, such as scanning the text for specific information, whereas top-down strategies make use of readers' knowledge of the world, for instance previewing and predicting strategies (Akkakoson, 2011). Metacognitive strategies are the ones used to plan, monitor and evaluate the effective use of cognitive strategies during the process of reading, for instance advance organization and comprehension monitoring (O'Malley & Chamot, 1990).

Social strategies, such as asking for clarification, help readers discuss their reading effectively with others, whereas affective strategies, such as self-talk, help learners deal with their emotions and anxiety while completing reading tasks (Oxford, 1990; Chamot & Kupper, 1989). Finally, test-taking strategies help students perform well on reading tests. Identifying different types of reading comprehension questions, such as literal and inferential questions, is an important test taking strategy (A. D. Cohen, 1998).

In the light of the taxonomies discussed above, the present study focuses on the reading instruction that promotes the co-ordinated use of both metacognitive and cognitive strategies as well as social, affective and test-taking strategies among the learner readers.

The Role of Metacognitive Awareness

Metacognitive awareness of reading is also a part of the process of reading. It is defined as 'the knowledge of the readers' cognition about reading and the self-control mechanisms they exercise when monitoring and regulating text comprehension' (Mokhtari & Sheorey, 2002). Metacognitive awareness of the reading process and reading strategies is an important part of the skill set of the proficient readers. With the help of metacognitive awareness, they are able to understand the requirements of a reading task much better than poor readers do. They select reading strategies that are appropriate to the reading task as well as the context and their own cognitive style. They are also constantly involved in monitoring their comprehension of the text, evaluating the success of the chosen strategies, and changing any strategies which are not working, whenever needed (A. D. Cohen, 1998; Paris et al., 1994).

There has been extensive research on the relationship between metacognitive awareness and reading comprehension among first language readers. Proficient readers have been found to use a larger number of strategies with a much more efficient organization of strategies than the less proficient readers (Anderson, 1991). The integration of the metacognitive awareness into classroom reading instruction has also been found to be

very useful in helping struggling students become more proficient readers and achieving significant gains in reading comprehension (Alfassi, 2004; Block & Pressley, 2002).

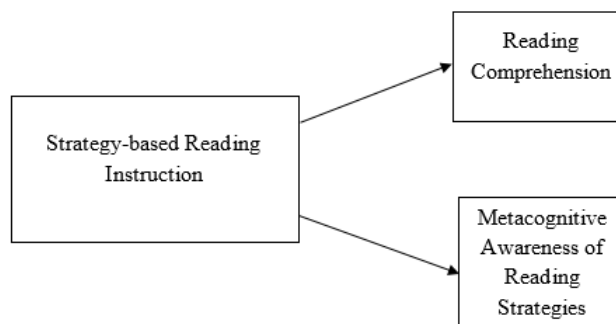
After gaining acceptance in the first language reading, the notion of comprehension monitoring has also become a topic of interest in second language reading research. However, there is a need to do further research to investigate the effectiveness of metacognition in second language reading (W. P. Grabe & Stoller, 2011).

As the review of the foregoing literature reveals that explicit teaching of reading strategies and increasing students' metacognitive awareness of reading strategies can be an effective method of reading instruction in the second or foreign language classroom, this study aims to investigate the effectiveness of strategy-based reading instruction for teaching reading skills to Pakistani undergraduate students. This study is significant because to the best of researcher's knowledge, very few studies have been conducted in Pakistani context to explore the effectiveness of strategy-based reading instruction for teaching reading skills to undergraduate students. Moreover, the findings of the study can help solve the problem of teaching reading skills in the Pakistani classrooms. Also there is a gap in literature regarding the effectiveness of teaching reading strategies to second or foreign language learners, although the usefulness of strategic reading instruction is well-established in the first language classrooms.

Based on the review of literature, the following hypotheses and the conceptual framework are proposed for the study:

- (i) Undergraduate BBA students taught using a strategy-based reading instruction approach will achieve higher scores than the students taught using a traditional reading instruction approach on an English reading comprehension post-test.
- (ii) Undergraduate BBA students taught using a strategy-based reading instruction approach will achieve higher scores than the students taught using a traditional reading instruction approach on a post-instructional reading strategy use questionnaire.

Figure 1
Conceptual Framework of the Study



Methodology

This paper reports a part of a larger experimental study conducted at a private sector university in Karachi, Pakistan. The study adopted quantitative methodology and a quasi-experimental pre- & post-test design, as the setting of the present study prohibited forming artificial groups.

Population & Sample

The target population for this study was 342 students studying in the first year of BBA degree program in the Department of Business Administration at a private sector university in Karachi, Pakistan. The students had an average age of 20 years and majority of them had middle class socio-economic background. Most of them had completed their Intermediate (Grade 12) from Karachi Intermediate board, while a few students had come to Karachi from other cities and very few had done A Levels from Cambridge University. Using the non-random purposive sampling technique, a sample of 62 students was selected from the target population which was 17% of the total target population. The sample consisted of the two intact groups of students enrolled in Basic English course offered by Department of Business Administration at the university who were randomly placed in the control and treatment groups. Due to similar proficiency levels in English, similar cultural and social background, and possible similar motivations for attending the course, it could be said that both the groups were homogenous.

Data Collection Instruments

The data for the study were collected through a standardized English reading comprehension test and a reading strategy use questionnaire. The pre-test and post-test of reading comprehension were based on two different versions of the reading section of the official IELTS Test. The metacognitive awareness of reading strategies before and after the reading intervention was measured through Survey of Reading Strategies (SORS) questionnaire developed by [Mokhtari and Sheorey \(2002\)](#). It contains 30 items based on a 5-point likert scale ranging from 1 (Never) to 5 (Always) and has been used in several previous studies and found to be highly reliable (Cronbach's $\alpha = .93$ ([Mokhtari & Sheorey, 2002](#))).

Data Collection

The data were collected in two phases during the Spring Semester in 2017 which ran from January 2017 till May 2017. First in the pre-testing phase, students took the pre-test of English reading comprehension and completed the Survey of Reading Strategies (SORS) questionnaire. Next the experimental treatment lasted 2 months with 08 sessions of 02 hours dedicated to the teaching of reading skills through two different reading instructional approaches to the control and experimental groups. Finally, the post-testing phase

comprised post-test of English reading comprehension and re-administration of SORS questionnaire to both the groups.

The Experimental Treatment

The experimental treatment comprised two reading instructional interventions: traditional reading instruction for the control group and strategy-based reading instruction for the experimental group. The treatment was given to both the groups for two months in two-hour long weekly sessions.

Traditional method of reading instruction is commonly used in Pakistani EFL classrooms at different levels (Khan & Pandian, 2014; Muhammad, 2013). It is based on the bottom-up reading model which views reading comprehension process as hierarchical, beginning with letter recognition, and moving to word recognition and sentence decoding, until the page of text is comprehended (Akkakoson, 2013). This approach is teacher-centred and use of translation into the mother tongue to explain the text is common in this method. The framework for traditional instruction in the present study was established by interviewing five teachers of English in the research setting about how English reading is taught along with their class observations. The teaching materials for the traditional reading instruction was based on the book, English for Undergraduates by Howe, Kirkpatrick, and Kirkpatrick (2004), which is most commonly used in undergraduate programmes in Karachi, Pakistan.

The strategy-based reading instructional approach focuses on training students in the well-coordinated use of multiple reading strategies while reading texts in order to develop successful strategic readers (Akkakoson, 2013; Block & Pressley, 2002). The experimental group students were taught 30 reading strategies of a variety of types selected from previous research during the treatment (Akkakoson, 2013; Mokhtari & Sheorey, 2002). These strategies included eighteen Cognitive Strategies, seven metacognitive strategies, three social/affective strategies and two test-taking strategies (See Appendix for the complete list of strategies).

The Reciprocal Teaching Procedure (RTP) was adopted for strategy instruction using the activities suggested by (Palinscar & Brown, 1984). RTP focuses on training students in four key strategies: Predicting, Questioning, Clarifying, and Summarising. Along with RTP, the five-phase procedure for strategy instruction proposed by Chamot and O'Malley (1994) was integrated into the treatment in this study. The procedure, Cognitive Academic Language Learning Approach (CALLA), comprises five phases of strategy preparation, presentation, practice, evaluation and expansion. The teaching materials for the strategy-based reading instruction included handouts prepared from the book More Reading Power by Mikulecky and Jeffries (1996). Each handout included a statement about the purpose and merit of using the strategy to be taught, an explanation and examples of its use, and exercises for its application to other reading activities.

Findings

The research question one was posed to find out if there was a significant difference between the reading comprehension levels of students taught through strategy based reading instruction and traditional method of reading instruction. The scores of control and experimental group students on the pre-test of reading comprehension were analysed through an independent samples t-test to ensure that both the groups had homogeneity in their reading comprehension levels. The results of the t-test, as reported in Table 1 below, revealed that there was no significant difference between the reading comprehension levels of the students in both groups.

Table 1
A comparison of the reading pre-test scores of the experimental and control groups

Group	N	Mean	Std. Deviation	t-value	Sig. (2-tailed)
Control - Pre-test	31	15.35	4.431	0.584	0.562
Exp. - Pre-test	31	14.58	3.605		

$p > 0.05$

After the two month long reading intervention, the post-test of reading comprehension was administered to both the groups. The scores on the post-test were again compared through an independent samples t-test to measure the gains in reading comprehension for both the groups after the experiment. The results of the t-test in Table 2 revealed that students in the experimental group performed significantly better on the post-test of reading comprehension, proving that strategy-based reading comprehension is more effective for teaching reading skills to university students in Pakistani context.

The significant difference between the post-test reading comprehension scores of control and experimental groups in favour of the experimental group students proves the first hypothesis set for the current study.

Table 2
A comparison of the reading post-test scores of the experimental and control groups

Group	N	Mean	Std. Deviation	t-value	Sig. (2-tailed)
Control - Post-test	31	14.06	3.6050	-2.771	.007
Exp. - Post-test	31	18.55	8.2577		

$p > 0.05$

Cohen's d was used to measure the effect size which is commonly used to determine effect size for t-test analysis. It was calculated to be 0.71 which is a medium effect, according to [J. Cohen \(1992\)](#)'s criteria. This means that the independent variable, strategy-based reading instruction, has a medium effect on the dependent variable, students' reading comprehension level.

Further analysis was done to investigate the impact of reading proficiency level of students on the improvement of reading comprehension through strategy-based reading instruction. The experimental group students were divided into three sub groups based on their high, low or average proficiency levels by using a plus or minus one standard deviation shift of the mean score ([Bachman, 2004](#)) of the pre-test conducted at the beginning

of the study. ANOVA (one-way analysis of variance) was used to compare the post-test scores of the three sub groups in the experimental group. The results, as reported in Table 3 below, revealed a significant difference between the post-test scores of the sub groups in the experimental group at the 0.05 significance level.

Table 3

A comparison of the reading post-test scores of the experimental sub-groups

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	741.302	2	370.651	7.956	0.002
Within Groups	1304.375	28	46.585		
Total	2045.677	30			

To further analyse the difference between each pair of means, a post hoc analysis using Scheff's method was conducted. Table 4 reports the obtained results.

Table 4

Multiple comparisons of the experimental sub-groups' post-test scores

(I) level	(J) level	Mean difference (I-J)	Std. Error	Sig.	95% Lower Bound	Confidence level Upper Bound
High	Low	20.7500*	5.2129	0.002	7.276	34.224
High	Average	12.6250*	4.1796	0.019	1.822	23.428
Average	Low	8.125	3.6861	0.106	-1.402	17.652

The results reveal that students in high proficiency sub group scored significantly higher than both low proficiency and average proficiency sub group students, with a statistically significant difference of .002 and .019 respectively. However, the mean scores of average proficiency and low proficiency students did not have a statistically significant difference between them. These results reveal that students with higher proficiency levels benefit the most from strategy-based reading instruction.

The research question two was posed to investigate if there was a significant difference in the metacognitive reading strategy awareness of students taught by strategy-based reading instruction and those taught by traditional reading instruction. The responses of control and experimental groups on the strategy use questionnaire at the pre-testing phase were analysed through an independent samples t-test to compare their use of reading strategies before the intervention. The results in Table 5 below reveal that there is no significant difference, with a t-value of -1.562 and p value of .124, between the metacognitive strategy awareness of the two groups at the pre-instructional phase.

Table 5

A comparison of control and experimental groups' mean scores on pre-instructional strategy use questionnaire

Group	N	Mean	Std. Deviation	t-value	Sig. (2-tailed)
Con. Pre-Strategy	31	3.13	0.66109	-1.562	0.124
Exp. Pre-Strategy	31	3.35	0.40875		

p > 0.05

However, the analysis of post-instructional strategy use questionnaires completed by both the groups at the post-testing phase revealed a significant difference in the metacog-

nitive awareness of reading strategies in favour of the experimental group, proving the second hypothesis set for the study. The results of the post-instructional t-test are reported below in Table 6.

Table 6

A comparison of control and experimental groups' mean scores on post-instructional strategy use questionnaire

Group	N	Mean	Std. Deviation	t-value	Sig. (2-tailed)
Con. Post-Strategy	31	3.25	0.5764	-3.229	0.002
Exp. Post-Strategy	31	3.69	0.4962		

$p > 0.05$

Furthermore, the effect of strategy-based reading instruction on the experimental group's metacognitive awareness of reading strategies was measured through Cohen's d , which was calculated to be 0.81 indicating a large effect size of strategy-based reading instruction on metacognitive reading strategy awareness of experimental group's students. These results prove that students who were taught through strategy-based reading instruction made much bigger gains in metacognitive reading strategy awareness than the control group students who were taught through traditional reading instruction.

Discussion & Conclusion

The study aimed to examine the effect of strategy-based reading instruction on undergraduate students' reading comprehension in a private university in Karachi, Pakistan. To investigate if there was a significant difference in the reading comprehension of students taught by strategy-based reading instruction and those taught by traditional reading instruction, a test of reading comprehension was conducted at pre-test stage. The analysis of the pre-test scores of control and experimental groups of students through an independent samples t-test revealed that there was no significant difference in the reading comprehension levels of both the groups, with a t-value of .584 and an insignificant p value of .562. A reading intervention lasting eight weeks followed in which control group was taught through traditional reading instruction methodology and the experimental group students were taught through strategy-based reading instruction. After the reading intervention, post-test of reading comprehension was conducted for both the groups, and the results of an independent samples t-test revealed that there was a significant difference between control and experimental group students' reading comprehension test scores, with the t-value of -2.77 and a significant p value of .007. The effect size of the strategy-instruction was also calculated through Cohen's d , which was 0.71 indicating a medium size effect. After dividing the students into low, average and high proficiency groups based on their pre-test scores, ANOVA was run to measure the improvement gained by the three experimental sub groups. The results revealed that that high proficiency group had gained more significant improvement in their reading comprehension levels than the average and low proficiency groups.

These results reveal that the experimental group students who had been taught through strategy-based reading instruction have made significant gains in their reading compre-

hension and strategy-based reading instruction is a more effective teaching method for reading instruction in Pakistani context. These results are in sync with the previous research (Akkakoson, 2013; Salataci & Akyel, 2002; Alfassi, 2004; Macaro & Erler, 2008) which has also found direct instruction of reading strategies to be helpful in improving students' reading comprehension skills.

The study also investigated if there was a significant difference between the metacognitive awareness of reading strategies of control and experimental group students. A Survey of Reading Strategy (SORS) questionnaire was used to measure metacognitive awareness of both the groups at the pre- and post-instructional stages. The analysis of participants' responses through an independent samples t-test revealed that there was no significant difference in the self-perceived strategy use of reading strategies between the control and experimental group students at the pre-instructional level, with the t-value of -1.562 and an insignificant p value of .124.

However, after the reading intervention, the experimental group students outperformed the control group students in the metacognitive awareness of reading strategies at the post-instructional stage, as the t-value of -3.299 and a significant p value of .002 on an independent t-test indicated. Cohen's d value was calculated to be 0.81 which indicates a large effect of strategy-based reading instruction on strategy use of experimental group students. These results imply that students who are taught through strategy-based reading instruction develop higher and more extensive metacognitive knowledge of reading strategies than students taught through traditional reading instruction.

These results are consistent with the previous studies (Akkakoson, 2013; Gurses & Adiguzel, 2013; Alfassi, 2004; Ikeda & Takeuchi, 2006; Macaro & Erler, 2008; Salataci & Akyel, 2002) which have also found strategy-based reading instruction to be instrumental in developing students' metacognitive awareness of reading strategies and increasing their use while reading a text.

Limitations of the Study

The study has a few limitations resulting from the nature and process of research which could affect the generalizability of the findings. The first limitation is the quasi-experimental research design which was used in the current study. Due to the constraints at the research setting, it was not possible to conduct a true experiment by randomly assigning students to control and experimental groups. The two-month duration of the treatment was the second limitation as longer treatment was not possible due to constraints of the research setting. Another limitation was unfamiliarity of the students of experimental group with group work activities, as they had had mostly experienced lecture-based teaching in their schools and colleges through teacher-fronted instruction. In addition, the researcher had to teach both the control and experimental group students during the treatment phase due to practical constraints at the research setting. Finally, as the strategy-based reading instruction treatment explicitly and specifically named different reading strategies in the classroom, this could have contributed to experimental group students remembering to name the strategies more frequently than the control group students while completing the strategy-use questionnaires at post-instructional stage.

Implications of the Study

The study has several implications for reading instruction in universities in Pakistan as well as contexts which share similar characteristics with the research setting. Firstly, strategy-based reading instruction can be used to teach reading skills more effectively to undergraduate students than the traditional reading instructional methods. Secondly, teachers need to develop and increase students' metacognitive awareness of reading strategies through explicit and extensive discussion of the use and importance of reading strategies. Thirdly, material developers need to include explanation and exercises for developing metacognitive awareness of reading strategies as well mastery in coordinated use of these strategies among the students. Fourthly, teachers need to be trained to impart strategy-based reading instruction effectively in their ESL/EFL classrooms through training workshops, seminars, and conferences. They should be encouraged to integrate strategy-based reading instruction in their teaching methodology by providing them a framework as well as resources for teaching reading through this methodology.

Suggestions for Future Research

For future research on this topic, a true experimental study can be designed to investigate the effectiveness of strategy-based reading instruction for teaching reading skills. The present study used a strategy-based reading instruction intervention which lasted for eight weeks only, therefore, a longitudinal study can be conducted to investigate the effectiveness of the intervention over a longer period of time. Moreover, as the target population in the current study was the first year undergraduate students of a private university, so future research on the topic could be conducted with the school and college students. Similarly, the government sector undergraduate students can also be focused in future research. Finally, as the current study investigated the effect of strategy-based reading instruction on the two variables of reading comprehension and metacognitive strategy awareness, future studies can be more comprehensive by incorporating additional variables, such as reading attitude, motivation, self-efficacy, gender and socio-economic background.

In conclusion, the current study has investigated the effectiveness of strategy-based reading instruction for teaching reading in the English as foreign language classrooms at the university level, and found it to be a more effective method for reading instruction than traditional methods. It is hoped that the findings of the current study can contribute to the improvement of English reading proficiency and skills of Pakistani students in the university classrooms.

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Appendix

Table 1
The List of Reading Strategies Taught to the Experimental Group Students

Cognitive Strategies	Cognitive Strategies	Metacognitive Strategies
(Bottom-up Strategies)	(Top-down Strategies)	
1. Resourcing	10. Previewing	19. Advance Preparation
2. Scanning	11. Predicting	20. Advance organization
3. Guessing meaning from the context	12. Confirming or modifying predictions	21. Self-management
4. Re-reading	13. Skimming	22. Comprehension monitoring
5. Adjusting reading speed	14. Making Inferences	23. Double-checking
6. Ignoring unknown words	15. Recognising Text Structure	24. Strategy monitoring and evaluation
7. Identifying important words	16. Summarising	25. Performance evaluation
8. Marking the text	17. Visualising	Social Strategies
9. Paraphrasing for better understanding	18. Pausing to reflect on reading	26. Discussing reading with others
		27. Cooperating with others in reading tasks
		Affective Strategies
		28. Self-talk
		Test-taking Strategies
		29. Understanding the type of comprehension questions
		30. Re-reading the text to find the answers