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Impact of Contextual Inferencing Strategies on the Reading Comprehension Skills of University Students

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Abstract

Lexical knowledge is an important factor for the mastery of any language and without knowing one cannot claim the knowledge of a language. English language is very important for Pakistani university students for various reasons, and reading skill is a foundational skill to learn about English language because of reading exposure can enhance all four skills of the language learners at university level. The current study aimed to enhance reading comprehension skill of the university students through contextual inferencing strategies. The study was conducted through pre and post-test 2 groups experimental design by selecting 140 homogenous students from public sector university students in Lahore. The results show that experimental group improved 26% from pre-test to post-test. The difference of control and experimental group scores in post-test was 25% that shows that contextual inferencing strategies can work for the better reading comprehension skill of the university students.

Keywords: Contextual inferencing strategies, reading skill, university students, reading comprehension

1. Introduction

Perfetti and Stafura (2014) stated that reading comprehension is one of the toughest tasks for humans. While defining reading as a simple thing, Gough and Tunmer (1986) claimed reading comprehension is combination of two things: linguistic comprehension and decoding the vocabulary items but Catts (2018) added that the relationship of both ideas, changes with the time and with the language. Yet, it is a fact that reading comprehension is a difficult task from both points from teaching and from learning, that means both have to work for its mastery. Perfetti and Adolf (2012) said teachers should work on connecting abilities of students in the language with their cognitive processes. That is why, Perfetti, Landi, and Oakhill (2005) said that comprehension needs a balanced coordination among many factors like word reading, inference generation, vocabulary, working memory, and knowledge of the students prior facing the comprehension tasks.

Cahyaningata (2018) considered mastering the language skill of reading as a must for the learners of English language, because it is one of the core skills for grasping the understanding in that language. Lumbantobing, Pardede, and Herman (2020) said that reading overall is a complex skill because it involves deep thinking for understanding the text. Hence, it is important for any student / learner of language to achieve mastery in reading. Sirait, Hutaurnuk, and Herman (2020) iterated that reading is equivalent to critically analyzing and evaluating what has been offered in the text to get its full gist. It means reading is equal to text and reader because both combined to get the meaning and the process of reading comprehension is completed.

Language comprehension requires the ability to make inferences, which is the process of using background knowledge to fill in for information that isn't explicitly stated in one text or another (Kendeou, McMaster, & Christ, 2016; Kintsch, 1988). At all stages of development, making inferences is a general skill that is crucial for communication and learning. Even young children can infer causes for events when given the opportunity (van den Broek, Lorch, & Thurlow, 1996). Reading comprehension has been shown to be uniquely predicted by inference ability across developmental stages (Barth et al., 2015). When good and poor comprehenders are matched on decoding and vocabulary, inferential tasks at the word, sentence, and passage levels exhibit differences (Cain & Oakhill, 1999). Poor comprehenders exhibit difficulties making topic-related inferences, placing words in context, resolving contextual references, and providing logical answers to inference questions when compared to skilled comprehenders (Long, Oppy, & Seely, 1994; Perfetti & Stafura, 2014). Additionally, it can be said that for predicting reading comprehension, the ability to infer is teachable. Teaching inferences improved general comprehension as well as inferential and literal comprehension skills, according to a meta-analysis of inference intervention studies (Elleman, 2017). Willingham (2017) stated that less than 10 hours of instruction were provided in the majority of interventions, suggesting that extended practice of context-independent skills may not be necessary. Text clues, self-generated elaborations, graphic organizers that link concepts together, and teaching students to use their prior knowledge and integrate it with the information in the text are all examples of effective inference instruction techniques (e.g., Elbro & Buch-Iversen, 2013; Kendeou et al., 2016). A reader's prior knowledge is required to construct a coherent representation of a text. Memory storage that is well-connected allows for faster retrieval and utilization of required information (Kintsch & Rawson, 2005). Prior understanding of the subject aids in appropriate comprehension and learning (Barnes, Dennis, & Haefele-Kalvaitis, 1996). Readers with greater prior information regularly outperform readers with less prior knowledge, demonstrating

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that increased background knowledge is an area that may assist less proficient readers in compensating for a general understanding deficiency (Schneider, Körkel, & Weinert, 1989). Prior knowledge of a domain predicts text memory for kids at all stages of development and enhances the ability to make inferences and learn new terms (Recht & Leslie, 1988). (Kaefer, Neuman, & Pinkham, 2015).

Despite educators' recognition of the importance of knowledge in understanding the text, very little time in early primary school is spent on generating informational material (Duke, 2000). According to a survey data published in the National Survey of Science and Mathematics Education, elementary teachers devote more than 80 minutes per day to language arts instruction, compared to an average of 21 minutes for science and 18 minutes for social studies (Banilower et al., 2013). This is exacerbated for less proficient readers who have knowledge gaps (Compton, Miller, Gilbert, & Steacy, 2013), difficulty understanding expository literature (Saenz & Fuchs, 2002), and are frequently pulled from content area classrooms for extra reading training (Banilower et al., 2013). Well-designed programs can integrate domain knowledge acquisition and understanding instruction to address these challenges. A recent meta-analysis of cognitive science and reading programs discovered that there was a moderate effect for both science and reading outcomes (Talbert, Parrish, & Elleman, 2016). Social studies-focused programs have also demonstrated success in boosting information acquisition and reading comprehension (e.g., Guthrie & Klauda, 2014; Vaughn et al., 2013). ESL teachers should work in this domain to explore more strategies for the betterment of vocabulary teaching and universities should work to include vocabulary teaching strategies in the professional development of ESL teachers (Rana, & Bhatti, 2020).

During developmental stages, vocabulary can be used as a strong predictor to know about the reading comprehension. Biemiller and Slonim (2001) stated that the rate of vocabulary acquisition is very fast for the children like in a single day they acquire 2 to 8 words. Since the children start reading, their vocabulary acquisition is attached with the exposure to the written words. It is a fact as Hayes and Ahrens (1988) quoted that exposure to new unknown lexical words through oral language is lesser with comparison to written language and it affects the substantial growth of lexical tokens. Explicit instruction has also been ruled out as a significant factor in vocabulary acquisition because children are only taught a fraction of the words required to learn the 40,000 words that the average high school student is expected to know (Stahl & Nagy, 2006). Most words are learned implicitly over time through repeated exposures in various contexts (Landauer & Dumais, 1997). Explicit instruction has also been ruled out as a major factor in vocabulary growth, since children are only taught a small portion of the 40,000 words that the average high school student is thought to know (Stahl & Nagy, 2006). Most words are learned by being exposed to them over and over in different situations (Landauer & Dumais, 1997).

Unfortunately, early readers have very different-sized vocabularies that stay the same through elementary school (Biemiller & Slonim, 2001). By the end of second grade, poor students' vocabulary knowledge can be 2 years behind that of their average peers and 4 years behind that of those in the top quartile. To make up for these differences, it makes sense to put a lot of emphasis on learning vocabulary early and keeping it up, but it is not clear if enough vocabulary can be taught explicitly to change students' general understanding. ESL policy in Pakistan needs to be curtailed (Rana, Bhatti, & Abbas, 2020) in this respect so that the language they learn in the universities should be equated with the market-oriented language needs (Abbas et al., 2021). English is considered a global employment skill for which vocabulary can play its role. Along with employment needs of the language it is also important for university exams where knowledge of vocabulary can give better grades to the students (Bhatti, Perveen, & Ali, 2017) those will help an overall state of affairs at making the Pakistani English unique and acceptable across the globe (Shahzadi, Irfan, & Bhatti, 2022).

Two studies that looked at the effect of teaching vocabulary on comprehension found gains on comprehension tests that used the words that were taught, but not on general comprehension tests (Elleman, Lindo, Morphy, & Compton, 2009; Wright & Cervetti, 2017). Even though all readers benefited from vocabulary instruction, less skilled readers benefited more than average readers. Benefit is also attached with the kind of vocabulary being introduced in the textbooks, if the vocabulary is culturally oriented the students even weak reader can get benefit (Azim, et al., 2018). Like Mushtaq, Bhatti, & Yasmin (2021) said that the vocabulary introduced in the textbooks was mostly of the unique kind and there was no recycling available that make difficult for the students to learn the vocabulary. Recycling is very important for the vocabulary learning because without recycling, students' knowledge cannot be enhanced (Azim et al., 2020) and reading comprehension cannot be improved. This shows how important vocabulary instruction is for these students (Elleman et al., 2009).

Interactive ways to learn words seem to work better than ones that focus on teaching definitions (Wright & Cervetti, 2017), but some studies show gains with less than a minute of instruction per word, which suggests that vocabulary should be made part of overall instructional strategies. So, if the goal of a lesson is to help students understand better what they are reading, giving short explanations of words before or during reading may be a good way to help students learn words and understand about the context of reading. Other generative word learning strategies that go beyond

learning individual words, like learning to use context to figure out word meanings (Fukkink & deGlopper, 1998) and morphological analysis (Goodwin & Ahn, 2013), can also help learners learn words. Using knowledge networks may be another way to teach vocabulary knowledge more effectively at the same time (Neuman & Wright, 2014). Motivation is important to learn vocabulary for which there should be observable signals available in the books where the words are being introduced (Azim et al., 2020), which is also related to the learning style of the students if they are introvert motivation can help them and if they are extrovert, they can discuss the contextual clues with their peers to learn the vocabulary (Rana et al., 2021).

Looking into the scenario of abilities of our university students in reading skill, most of them are unable to read, hence fail in the questions of reading comprehension. The importance for reading skill cannot be ignored and our students' failure needed to be addressed. The current study is an effort to explore the impact of contextual inferencing strategies, which are important to learn lexical knowledge to help the university students for honing their reading skill. The study is conducted to give importance to knowledge of vocabulary and inferencing strategies based on the context be given equal weightage for reading comprehension, which is unfortunately not practiced in Pakistan, that is why, the current research is an effort to bridge that gap.

1.1. Research Hypothesis

The current research will explore the following hypothesis:

H1: Contextual inferencing strategies can enhance reading comprehension skill of the public sector universities

H0: Contextual inferencing strategies cannot enhance reading comprehension skill of the public sector universities

2. Methods

2.1. Design of the Research

The current research used quasi-experimental method to analyze the effect of contextual inferencing strategies on reading comprehension abilities of public sector university students. All the participants are residents of urban area and students of a public sector university which is also situated in an urban area. The researcher got the permission from all 100 students before getting them enrolled in the treatment process. They were explicitly told about what kind of data would be gathered and where it has to be shared with. A pre-test was generated to get the initial scores of the participants on a standard reading comprehension test. The students were divided into two non-equal homogenous gender groups.

2.2. Instrumentation

Instrument is very important for any research because the authenticity of the data can only be validated if the instrument is valid. Herman et al., (2020) said that research tool or research instrument is very important for data collection process. For the current quasi-experimental study, pre-test and post-test is used to get data from the students. The participants were chosen based on purposive sampling from a public sector university.

3. Analysis and Discussion

3.1. Data Analysis

Table 1: Correlation between the Scores of Control and Experimental Respondents

Pair	Items in the Pair	No.	Correlation	Sig. (2-tailed)
1	Post-test cont & Pre-test cont	140	.929	.000
2	Post-test exp - Pre-test exp	140	.647	.000
3	Post-test exp - Post-test cont	140	.040	.000
4	Pre-test exp - Pre-test cont	140	.010	.000

The above table is showing the results of correlation test. The correlation was used to analyze the relationship between the scores of respondents participated in the experiment and control group. There are four pairs whose correlation is shown above. First pair is the score of post and pre-test of control group, which shows strong correlation of .929 with significant difference between the scores of the pair where p score is .001, second pair is the score of post and pre-test of experimental group which is also strong with .647 and .001 p score which shows significant difference between the score. Last two pairs are post test scores of both experimental and control groups and pre-test scores of both groups. Here the correlation is weak because of different groups. P scores of both pairs is significant with .001 score that shows the difference between the groups.

Table 2: Paired Sample Test Scores between Experimental and Control Respondents

Pair	Items in the Pair	No.	Mean	Std. Deviation	T score	Sig. (2-tailed)
1	Post-test cont & Pre-test cont	140	8.029	3.628	26.182	.000
2	Post-test exp - Pre-test exp	140	26.164	8.260	37.480	.000
3	Post-test exp - Post-test cont	140	25.657	13.713	22.138	.000
4	Pre-test exp - Pre-test cont	140	7.521	13.410	6.636	.000

The above table is showing the results of the experiment of reading comprehension. There were two groups control and experimental and, on their scores, paired sample test was applied. There are four pairs in the above table. Pairs between pre and post-test of control group, pre and post-test of experimental group, post-test of control and experimental group and pre-test of experimental and control groups. The results show that mean scores between post and pre-test scores of experimental group (26.164), and post and post-test of experimental and control groups (25.657) are higher than the mean scores of post and pre-test scores of control group (8.029) and pre-test of experimental and control groups (7.521). There is a significant difference between the scores of all four pairs as the p score is .001 which is less than the standard score of p=.05.

3.2. Discussion

The research was conducted to analyze the impact of contextual inferencing strategies on the reading comprehension skill of public sector university students. the study used experimental design for which the students of public sector universities were selected and divided into two group experimental and control. Control group was taught in the routine way as the language was being taught to the university students but experimental group was treated specially by teaching through contextual inferencing strategies. The results show that the university students improved their reading comprehension as their scores are showing their improvements. In the test, different kinds of contextual clues were used so that the students could infer the answer and the same method was applied while teaching to the experimental group. It shows that if the context is able to give a clue to the students, they can infer the meaning of unknown words.

Lexical tokens can be familiar or unfamiliar to the students (Vo, 2019) because at the university level, students have to read a lot (Simanjuntak, 2020) and many a times, the sources are based on new experiments, new inventions or ideas, theories and propositions (Rahiem, 2020), and to understand those newly introduced lexical token, the students need to infer the meaning. Strong inference is only possible if the context is providing them the clue for understanding the new lexical item. In this way, the word becomes the knowledge of the students and they can use the word in their writing, because writing is based on the reading of the students (Graham, 2019; Bhatti et al., 2020). The current study also proved the same results that a lot of reading at university level can be made beneficial for the students if they are taught properly how to read and make their intake so the reading can help them enhance their lexical knowledge.

3.3. Conclusion

The study was based on the hypothesis that what is the impact of contextual inferencing strategies on the reading comprehension skills of the university students. Experimental design was applied to analyze the impact of intervention on experimental group whereas control group was taught by using traditional method. After the treatment the post-test was conducted on both control and experimental group. The pre-test was already taken from both groups and then the results of pre and post-test was compared to check the difference, so that it could be come into focus whether the contextual inferencing strategies worked for enhancing the reading comprehension skills of university students.

The results of the study show that H1 is proved because the students' reading comprehension skill is improved. The experimental group's mean score shows that their improvement was 26% from pre-test to reach post-test by using contextual inferencing strategies. The difference in improvement of control and experimental group is 25% that means experimental group improved 25% more than the control group; whereas the difference was only 7% when the pre-test was conducted. The control group only improved 8% till the completion of program that shows the worth of contextual inferencing strategies, because the usual teaching methodology for reading skill only improved 7% for the reading comprehension skill of the university students. The study concluded that the universities should develop contextual inferencing strategies-based lessons for the improvement of their learners, if they want their students improved reading comprehension skill. This can help their students not only in their reading skill but also their writing skill could also be improved because lexical knowledge is an important factor for the writing skill and that need to be improved through reading skill.

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