| **RESEARCH ARTICLE**

The Role of Using P-BT (Process-based Technique) on Teaching Reading Skill in Iraqi Primary Schools

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| **ABSTRACT**

This study intends to explore the role of process-based techniques in teaching reading to the 5th grade primary school learners. This technique aims to teach pupils the appropriate strategies for identifying different kinds of texts depending on the interaction between the information presented in the text and pupils' background knowledge. To achieve the aims of the present study, the hypothesis proposes that there is no statistically significant difference in the performance of pupils who are taught by the Process-based Technique and those who are taught by the traditional teaching technique. To fulfill the aim of the study, an experiment was designed where two groups, each of 135 pupils, were randomly chosen from the 5th grade primary school. One group was assigned as the control group, while the other functioned as the experimental group, with both groups matched in age, parental education level, and prior achievement in English based on previous exam results. The scores obtained in the experiment were tested statistically, and it was seen that the experimental group achieved higher than the control group. A T-test formula was conducted for the independent samples. The obtained "t" value displayed the significant difference between the two groups, and more especially, the experimental group, instructed using the Process-Based Technique, outperformed the control group, which followed the conventional method. Consequently, the null hypothesis was rejected.

1. Introduction

1.1 The Statement of the Problem

Reading skills are crucial in shaping students' educational futures and hold greater importance for academic success than any other skill (Gisler & Eberts, 2009). As one of the most essential language skills, reading impacts all aspects of life, beginning from early school years through university and potentially beyond.

Processes–based Technique (Henceforth: PBT) is the interaction of two processes, one relatively automatic, called the monitoring, and the other relatively controlled, called the operating process. These two processes operate in tandem with learning (Elliot, 2004). Herera (2003: 14) described the value of adapting this technique in teaching reading skill: "It develops the ability of reading skill with the use of language structures and discourse features found in different area and classroom area such as writing to explanation". Paran (1998) evaluated the PBT by saying that it is the system of constructing meaning on the basis of the readers' expectations and previous knowledge.

Karim (1997) notes that Iraqi learners encounter significant challenges in reading and struggle with writing in English. These difficulties stem from various factors, one of which is the reading instruction provided, which fails to offer systematic opportunities for practicing reading skills.

The researcher posits that the issue addressed in this study stems from pupils' low performance in English language reading tests, a lack of motivation, and limited classroom engagement. This problem has been substantiated by the researcher's own expertise in teaching and exam marking, as well as discussions with fellow teachers. Based on the researcher's observations, pupils' low performance is largely due to insufficient reading skills. Consequently, conducting this study is essential to enhance pupils' reading abilities and improve their academic performance by implementing a proposed PBT.

1.2 The Aims
The study aims to explore the impact of employing a PBT in teaching reading to fifth-grade primary school students, aligned with modern approaches in teaching EFL.

1.3 Hypotheses
 The hypotheses are enumerated as follows:

1. There will be no substantial disparity in accomplishment scores between the experimental group and the control group on both the pre-test and post-test.
2. No substantial difference will exist in the pre-test and post-test achievement scores between the experimental group and the control group.

1.4 The Scope of the Study
The current study is constrained to:

1. Teaching reading skill to the primary grade pupils.

2. The experiment will commence in the second semester of the 2023-2024 academic year.

3. Teaching the experimental group through PBT and the control group according to the currently method.

2. Literature Review
2.1 Process–Based Technique
From a philosophical perspective, David Ausubel (1960) introduced the concepts of 'Top–down' and 'Bottom–up' processing, describing an approach to meaningful verbal learning in education. This approach explains how information-processing systems are structured, suggesting that each discipline is organized into sets of hierarchical concepts. At the highest level are broad, overarching concepts that encompass more specific, inclusive concepts organized at lower levels. These levels form a hierarchy, starting with perceptual data at the base and moving through progressively abstract levels until reaching the most abstract concepts at the top (Joyce & Weil, 1972). Paran (1998) expanded on this with a theoretical and historical background of the process approach.

1. The primary approach in the 1950s and 1960s was "bottom-up," focusing on phonemes as the foundational elements, i.e., it is the smallest sound unit in a language that signals a difference in meaning.

2. During the late 1960s and 1970s, the "top–down" approach, largely attributed to Goodman (1967), emerged as a dominant educational philosophy prioritizing meaning over structure. In this approach, while learners use sound-letter correspondences and syntactic knowledge, they primarily rely on their background knowledge (schema) to predict the meaning of the text conform or correct predictions. Top–down processing is also referred to as 'knowledge–based', 'inside–out', and 'concept driven' processing. It is called knowledge–based processing as opposed to text–based processing. It is called inside–out–processing because the information, which is stored inside the brain of the learner affects the comprehension of the out-coming information of the text. These names reflect the importance of higher mental processing that enables the learner to form meaningful hypotheses based on the context.

3. Approaches based on schema theory are often termed interactive approaches, as they involve a dynamic interaction between the learner and the text. In these approaches, the learner utilizes both prior background knowledge and textual information to construct meaning. Rumelhart (1977) introduced schema theory, emphasizing that effective learning in a first or second language requires the simultaneous use of top-down and bottom-up strategies. This collection illustrates that both top-down and bottom-up processing, when functioning interactively, are essential for a thorough understanding of foreign language comprehension.

The brain can engage with a subject in two distinct ways. In a data-driven approach, it starts by processing external stimuli analyzing this incoming information to reach an interpretation. Alternatively, in a conceptually driven approach, the brain begins with existing knowledge of the topic, linking previously stored information to newly received data to make sense of it (Madden & Nebs, 1980).

Data-driven processing, commonly known as bottom-up processing, and conceptually driven processing, often called top-down processing, describe different directions of cognitive flow. In bottom-up processing, thought progresses from specific details toward broader understanding, whereas in top-down processing, it begins with existing knowledge and applies it to interpret specific information (Hunt, 1982).

2.2 Nature of Reading Skill

The definition of reading and the description of the reading process vary with different psychologists, educators, and learning specialists. According to Cushenbery (1988: 4), "if you were to ask 100 people to define 'reading,' you would probably receive 100 different responses". Reading has been studied over a long period of time by different researchers having different interests and using different approaches and sets of procedures. The result of these studies is a picture of reading as a complex activity with various possible angles through which it can be viewed. Generally speaking, most definitions of reading fall into two main categories. Some experts define reading simply as the act of vocalizing words, particularly in the initial stages of language learning. Others, however, view comprehension as the primary purpose of reading.

Flesch (1955) defines reading as extracting the meaning of words composed of letters on a printed page and nothing more. Similarly, Collins (1981: 22) defines reading as "a skill by use of which a child correctly pronounces the words in front of him." In this context, Badger (1965) concurs that the primary task for novice readers is to translate or decode printed symbols into their associated spoken words.

Goodman (1967) describes reading as a selective process that depends on the limited use of minimal language cues from what the reader perceives, all while being shaped by their expectations. As the reader engages with this partial information, they make tentative decisions that can be confirmed, rejected, or adjusted during the reading process. Grellet (1986: 7) views reading as "a constant process of guessing," emphasizing that what a reader brings to the text often holds more significance than what they discover within it. In a similar vein, Brumfit et al. (1987) assert that readers draw on their knowledge of language and the world, forming expectations and making predictions about what lies ahead. The accuracy of these predictions is a crucial factor in achieving fluent reading. Sheng (2000) describes reading as the act of recognizing and interpreting written text, emphasizing that reading primarily involves language form, whereas comprehension, its ultimate goal, relates to language content.

3. Procedures

3.1 The Experimental Design

Following a new method in teaching EFL cannot be taken seriously unless its efficacy is stated. To do so, an experiment was conducted to check if the new method would give better results than the traditional one that is already in use. The researcher used the "experimental control group design" (Lewin, 1979:52), as illustrated in Table 1.

Table (1): Experimental Design

1	E.G	Pre-test	Independent Variable	Post-test
2	C.G	Pre-test	…………….	Post-test

3.2 The Population of the Study

The population for this study consists of all fifth-grade pupils enrolled at Al-Hijaz Primary School for Boys. The experimental design involves the random selection of two groups.

3.3 Sample of the Study

The 5th-grade class in this school comprised a total of 135 pupils divided into four sections. Two of these sections were randomly selected, with one designated as the experimental group (EG), specifically Section B, and the other as the control group (CG), specifically Section C. The EG received reading teaching using the PBT method, while the CG was taught reading according to the conventional method recommended in the Teacher's Guide.

In Section B, there were 33 pupils, while in Section C, there were 32. After excluding repeaters from both groups, the total sample size was 60, with 30 pupils in each group. This comprised 44% of the total 5th-grade population at the school.

3.4 Statistical Formulas Used in the Study

Several statistical means have been used to achieve the study's objectives. These include the following:

1. Percentage: This means was used to find out the percentage of the correct answers of each level and sub-skill among the whole sample.

2. Person's Formula for correlation coefficient was utilized to measure the test's reliability.

3. A T-test was performed to evaluate whether a significant difference exists between the means of two score sets or between correlation coefficients (Sallemi, 1988).

4. Analysis

Statistical analysis was conducted on the test results utilizing the mean (X), standard deviation (S.D.), and t-test. These tools were applied to evaluate whether a significant difference existed between the experimental and control groups for both the pretest and posttest. Additionally, the same statistical techniques were applied to compare pre-test and post-test scores within each group separately.

4.1 Comparison of the E.G and C.G in Pre –Test Scores

The experimental group's mean score was therefore used to compare with the control group's mean score on the basis of their pre-test scores. The mean score of the experimental group was 18.6, while the mean score of the control group was 17.366.

Since the scores were scaled on a Likert-type scale, a t-test was conducted so as to test the hypothesis that stated that the mean of the two groups is equal. The coefficient of t-value was equal to 1.4 on the significance level of 0.05, on the fact of 58 degrees of freedom. The result shows that at a pretest, there is no difference between the score of the experimental and control group, therefore rejecting the null hypothesis and making it simpler in a way that there is no differential between the two groups.

Table 2: Pretest scores' mean, Standard deviations, and T-test value of the two groups

Variable / Group	No. of Subjects	"X"	SD	T- Value		Degree of freedom	Level of significant
				computed	tabulated		
G (B)	30	18.6	9.97				
G(C)	30	17.366	10.522	1.4	2.00	58	0.05

4.2 Comparison of the E.G and C. G in Post–Test

The post-test total score of the experimental group was compared with that of the control group using a t-test. The experimental group attained a mean score of 25.35, while the control group's corresponding score was 18.23. The "t" formula is useful for finding out whether there is significance in showing the extent to which the experimental group is significantly higher or lower than the control group's mean scores. The "t" value is found to be (4.108), which indicates that there is a significant difference at the (0.05) level of significance and a degree of freedom (58) between the two groups. Based on these findings it can be ascertained that the result obtained by the experimental group was higher than that postulated by the control group and therefore implying rejection of the null hypothesis. Therefore, it may be affirmed that students who learnt reading with the help of the 'P-BT' approach achieved better results than the students who were taught by traditional approaches, thus, indicating that the 'P-BT' method is more effective than traditional reading instruction.

Table (3): The Post-Test Mean, Standard Deviation, and "T" Value for Both Groups

Variable / Group	No. of Subjects	"X"	SD	T- Value		Level of significance	Degree of freedom
				computed	tabulated		
G (B)	30	25.35	8.26	4.108	2.00	0.05	58
G(C)	30	18.233	10.72				

4.3 Comparison of the E. G. Pre- and Post-Test Results

The "t" formula tests whether the means of the experimental group of the posttest =25.35 differ significantly from the pre–test = 18.6. The ''t'' value got is 0.454, $p<0.05$ with a degree of freedom (58). This means that there is a significant difference between the two test scores. Altogether, these findings suggest that the members of the experimental group received higher mean scores on the post-test than on the pre-test might be attributed to the impact of the instructional approach stemming from the applied PBT approach.

Table (4): The Pre-Test Mean, Standard Deviation, and "T" Value for Both Groups

Variable / Group	No. of Subjects	"X"	SD	t- Value		Level of Significance	Degree of freedom
E.G				computed	tabulated		
PRE-TEST	30	18.6	9.97			0.05	58
POST-TEST	30	25.53	8.26	0.454	2.00		

4.4 Comparison of the Control Group's Pre-Test and Post-Test Scores

The control group's mean was 17.366 in the pretest phase of the study, while the mean score of the same group as obtained in the posttest phase of the study was 18.233. To test if this difference has a statistically significant effect, a t-value was obtained as 4.07 at a 0.05 level of significance. This could mean that there is a weak improvement of raw score in the control group posttest rather that the pre-test.

Table (5): The Post-Test Mean, Standard Deviation, and "T" Value of C. G.

Variable / Group	No. of Subjects	"X"	SD	T- Value		Level of significance	Degree of freedom
C.G				Computed	tabulated		
PRE-TEST	30	17.366	10.522	4.07	2.00	0.05	58
POST-TEST	30	18.233	10.72				

4.5 Discussion of the Results

The statistical analysis reveals that the experimental group has a mean score of 25.35, which exceeds the control group's mean score of 18.233 in the post-test. This went a long way towards proving that the experimental group scored higher than the control group did. Consequently, it can be seen that the PBT as a method to teach reading skills to the experimental group is more effective and advantageous for learning than the conventional approach.

The present study revealed the following:

1. **Group Comparison**: Substantial differences were revealed between the control and experimental groups. The experimental group, which followed a structured reading lesson plan, achieved higher scores on the post-test compared to the control group, which did not implement such a structured approach.

2. **Pre-test and Post-test Results**: The experimental group showed notable improvements in achievement between the pre-test and post-test. This goes a long way to explain the depth at which participants engaged with the material, given that they

entered it with a broad, all-encompassing perspective. Thus, it is established that the appreciation of information can be optimized through thinking skills that are intermeshed within reading strategies.

3. **Achievement Scores**: A significant difference was observed in the achievement scores of the experimental group between the pre-test and post-test. Feedback from students revealed a strong level of task and strategic knowledge, albeit a lower level of personal knowledge. The study's evidence supports the idea that reflecting on reading processes can enhance metacognitive awareness among students, potentially leading to greater success in second language reading tasks.

5. Conclusions

Based on the study's findings, the fact that the difference in the performance of the experimental group in the post-test has turned out to be statistically significant may be attributed to one or more of the following factors:

1. The enhancement in the performance of the experimental group in comparison to the control group suggests that, given the study's design and implementation procedures, teaching reading through the PBT approach was more effective and beneficial for EFL pupils than the conventional method.

2. The use of the PBT can improve the learners' competence in the foreign language and transform the static description of structural items or instructions into a dynamic process where the learner operates on the three stages of the reading process (pre-reading, while reading, and post-reading)

3. The implementation of tasks that promote learner thinking and focusing on the processes rather than the content allows students to acquire a foreign language in a natural and realistic manner.

4. It is also concluded that learners should prioritize conveying ideas or opinions based on authentic materials instead of concentrating solely on language forms. In these contexts, readers subconsciously apply the grammatical rules they have learned to effectively communicate their messages.

References
[1]   Badger, H. (1965). *Teaching Beginning Reading*. Fortworth: Harcourt Brace Book Company.
[2]   Brumfit, C.et al. (1987). *Teaching English as a Foreign Language*. London: Henley and Boston.
[3]   Collins, F. (1981). *Reading and Learning to Read*. Tornto: McGrow Hill, Reyeson Limited.
[4]   Cushenbery, D. C. (1988). *Comprehensive Reading Strategies for All Secondary Students*. U.S.A: Charles Thomas Books.
[5]   Elliot, A. (2004). *Media and Research Update Social psychology*. New York: Longman. INC.
[6]   Flesch, R. (1955). *Why Johnny Can't Read*. NewYork: Harper and Brother.
[7]   Gisler, P & Eberts, M. (2009). *Top ten ways to improve reading skill*s, viewed 29th June 09. TUhttp://school.familyeducation.com/top-10-ways/improve-reading-skills/38329.html
[8]   Goodman, K. S. (1967).*Reading: A Psycholinguistic Guessing Game* in Journal of Reading Specialists.Vol.6.
[9]   Grellet, F. (1986). *Developing Reading Skills*. Cambridge: Cambridge University Press.
[10] Herera, H. (2003). Language for Thinking...Thinking for Learning. *Language and Cognitive Issues*. (URLC: http://www.Hherera@elk-grove=kl2-il-us.html). Retrieved 2/7/2024.
[11] Hunt, M. (1982). *The Universe Within*. New York: Simon and Schnster, Ltd.
[12] Joyce, B. and Weil, M. (1972). *Models of Teaching*. New jersey: Englewood Cliffs, Hall, INC.
[13] Karim, A. Amera. (1997). The Need of Teaching Listening Comprehension EFL Classroom. *College of Education For Women Journal*. July. No.26.
[14] Paran, A.(1998). Bottom-up and top-down processing in English Teaching Issue. April Vol. 3 No.4 (URLC: http://www.SLALS.Thompson@reading.ac.uk.2000.html). Retrieved in 20/6/2024.
[15] Saleemi , A. P. (1988). Language Testing in   Language Teaching Forum, Vol. XXVI, No. I.
[16] Sheng, H. J. (2000). A Cognitive Model for Teaching Reading Comprehension in English Teaching Forum.URL: http: // exchanges. state. gov/ forum/ vols/ vol 38/ no 4/ p12. html. Retrieved on 15 – 6 – 2024.