

## **THE IMPACT OF SCAFFOLDING QUESTIONS ON THE COMPREHENSION SKILLS OF MIDDLE SCHOOL ESL STUDENTS: AN EXPERIMENTAL STUDY**

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In this context, the metaphor of the scaffold is both explanatory and exploratory. Like the scaffold in architecture, the scaffolding questions give a close and detailed access to the passage. Scaffolding questions are defined as questions which facilitate an analytical view of a passage. A comprehension passage is read by the middle school ESL students for three different purposes. (1) to understand the context of a passage. (2) to answer the questions that follows. (3) to analyze critically why the other options given are not correct. Improvement of the students in terms of reading comprehension can be tested by the way they handle the questions on the passage, and the way they analyze critically and eliminate the wrong options. Scaffolding questions play a vital role in provoking the students to critically analyze the questions and options in a reading comprehension passage. In the experiment, Middle School ESL students were given reading comprehension passages and the teachers were made to use scaffolding questions. It was observed that the students were able to analyze critically each and every option given and come out with correct answers logically and not by fluke.

**Keywords:** Scaffolding questions; critically analyze; reading comprehension passage; middle school ESL students;

### **Introduction – Problem and Approach**

According to Stephen Krashen's 'Monitor hypothesis,' the acquisition system is the utterance initiator, while the learning system performs the role of a monitor or editor. The monitor acts in planning, motivating and correcting. Here, the teacher motivates the second language learner by putting appropriate scaffolding questions. Teachers ask students questions during or after reading passages of text. A question focuses the student on particular content and can facilitate reasoning (Brandão, A.C.P. and J. Oakhill, 2002). The middle school ESL students have a common problem while working on reading comprehension. After reading the passage, they answer the objective type questions with critically analyzing the question in the context of the passage. They answer by just having a peripheral understanding of the passage. Sometimes they end up getting correct answer by fluke and most of the time when the options are close, they tend to commit errors.

Therefore, to make the students critically analyze each and every option and come out with the correct answer, scaffolding questions are employed for each option. In this process, the students understand the passage when they try to answer

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the scaffolding questions. Here, the students focus on the questions and verify the correctness of their choice of answer.

Scaffolding questions can be seen simply as a mean of eliciting information stated, implied or suggested. The appreciation of the power of questions and the use of questions with specific therapeutic purposes only began during the 1970s as an aspect of a group of therapies, including Brief Therapy and Problem- Solving Therapy (McGee, Del Vento and Bavelas, 2005). Scaffolding questions can also assist middle school students to gain greater clarity and understanding of their thinking processes while comprehending a reading text. The majority of the literature examining the use of questions within therapy has focused on Socratic questioning (Carey and Mullan, 2004; Overholser, 1993). The scaffolding questioning process is an active one, requiring different types and sequences of questions at various stages of reading activities.

According to Joseph E. Beck, Jack Mostow, and Juliet Bey (2003), there are three kinds of multiple- choice questions in children's assisted reading:

1. *Wh* – questions that check the basic understanding of a passage like What, Where, When, How, etc. They are content-focus questions.
2. 'Why' questions – check the reason or logic based on which students have selected the right answer from the given options. These are inference-focus questions.
3. Cloze: checks the accuracy of the students in the selection of an appropriate word to fill in the blanks or synonyms or antonyms. These are grammar/usage/vocabulary questions.

For all the three types of comprehension questions, scaffolding questions are framed to aid understanding of the passage. Hargie and Dickson (2004) distinguished between several types of questions. At the basic levels, there are *open* or *closed* questions. Open questions are broader in nature and can be answered in a number of ways, while closed questions usually elicit a shorter response, selected from a limited number of options. For open questions, the response from the students is critical and most of the time they don't get a common answer from the passage. They decode based on their understanding of the text and their prior knowledge whereas, in closed questions, they have choices to choose from. This is where they opt for an answer without any critical analysis and as a coincidence they may be right also. Here is where scaffolding questions play a vital role.

### **Literature Review**

Patricia Edmondson (2000) has researched 'Scaffolding' as a strategy that supports and improves the performance of students before, during, and after reading. Moreover, the research is based on development of essential skills for understanding and extracting meaning from text and boosts the performance of the students on

reading comprehension assessments. The researcher concludes that students who benefit from scaffolded learning function better as independent readers and express ideas in a variety of ways.

Kuo-En Chang, Yao-Ting Sung, and Ine-Dai Chen (2002) have conducted a study to test the learning effects of three concept-mapping methods on students' text comprehension and summarization abilities and to determine how students can most effectively learn from concept mapping (Chang, Chen, & Sung, 2002, p. 8). For the study, three concept-mapping methods were designed with varying degrees of scaffolding support, namely, map construction by correction (with constant and highest degree of scaffolding), by scaffold fading (with gradually removed scaffolding), and by generation (with the least scaffolding) (Chang, Chen, & Sung, 2002, p. 19). The 7-week study was conducted with 126 fifth grade students that were randomly assigned to 4 groups, one for each concept mapping method, and a control group.

Joseph E. Beck, Jack Mostow, and Juliet Bey (2003) have worked on automated questions that scaffold students' comprehension skills. The evaluation methodology incorporated an interesting approach to the challenge of evaluating the effects of alternative tutorial interventions. The within-subject design avoided the sample size reduction incurred by conventional between-subjects designs. The randomized dosage explored the effects of different amounts of each intervention. The logistic regression model controlled the variations in students, item difficulty, and time. The results proved that a computer can scaffold a child's comprehension of a text without understanding the text itself, provided it avoids irritating the student.

### **What are Scaffolding Questions?**

Scaffolding instruction as a teaching strategy originates from Lev Vygotsky's sociocultural theory and his concept of the Zone of Proximal Development (ZPD). The zone of proximal development is the distance between what children can do by themselves and the next learning that they can be helped to achieve with competent assistance (Raymond, 2000). The scaffolding teaching strategy provides individualized support based on the learner's ZPD (Chang, Sung, & Chen, 2002). The scaffolds facilitate a student's ability to build on prior knowledge and internalize new information before, while and after reading a text. The activities provided in scaffolding instruction are just beyond the level of what the learner can do alone (Olson & Pratt, 2000). The more capable other provides the scaffolds so that the learner can accomplish (with assistance) the tasks that he or she could otherwise not complete, thus helping the learner through the ZPD (Bransford, Brown, & Cocking, 2000).

'Scaffolding' implies that given appropriate assistance, a learner can attain a goal or engage in a practice otherwise out of reach (Elizabeth & Naomi, 2004). Vygotsky defined scaffolding instruction as the role of teachers and others in

supporting the learner's development and providing support structures to get to that next stage or level (Raymond, 2000, p. 176). An important aspect of scaffolding instruction is that the scaffolds are temporary. As the learner's abilities increase the scaffolding provided by the more knowledgeable other is progressively withdrawn. Finally the learner is able to complete the task or master the concepts independently (Chang, Sung, & Chen, 2002). Therefore the goal of the educator, when using the scaffolding teaching strategy, is to make the student become an independent and self-regulating learner and problem solver (Hartman, 2002). As the learner's knowledge and learning competency increases, the educator gradually reduces the supports provided (Ellis, Larkin, Worthington, n.d.). According to Vygotsky, the external scaffolds provided by the educator can be removed because the learner has developed "...more sophisticated cognitive systems, related to fields of learning such as mathematics or language, the system of knowledge itself becomes part of the scaffold or social support for the new learning" (Raymond, 2000, p. 176).

Most of the time, in a reading session, students are not exposed to scaffolding question. The first point that should be made here is that many of the questions asked to the students in a reading comprehension session are not scaffolding questions, but normal questions. There are a number of questions that are clear questions that would be considered as scaffolding questions if they had been asked by the teacher. The following table clearly differentiates normal questions from the scaffolding questions:

TABLE 1: DIFFERENCE BETWEEN QUESTIONS AND SCAFFOLDING QUESTIONS

<i>S.No</i>	<i>Question</i>	<i>Scaffolding Question</i>
1	Does everyone understand what we learnt in the passage 1?	Could you please come out with the main idea of the passage 1?
2	How many passages did we read?	What information is given in passage 2?
3	Which of the options is the appropriate answer?	Are convinced that option 'a' is the appropriate choice? If yes, why?
4	Is option 'b' the correct answer?	How can the option 'c' and 'd' eliminated?
5	Is the main idea of the paragraph 2 is _____?	According to the main idea of the paragraph 2, how can option 'c' be eliminated?

The aim of scaffolding is to help the learning of the participant. In most cases, the students make progress on the passages following these questions. On the competency issue, the students involved in asking the question have sufficient competency and experience, and the problem is sufficiently within their zones of proximal development, and ask appropriate questions of themselves and of each other.

## **An Experimental Study**

### ***Participants***

This study was carried out at a school in the western part of Tamil Nadu, India. This is a school where English is being taught as a second language. In this school, the middle school students are being taught reading comprehension skills. One of the classes in the middle school was assigned as a control group with the traditional reading approach, while the other class in the middle school was the experimental trained with using scaffolding questions to decode information and analyze the reading passages critically.

The intervention lasted for a month. The strength of the classes was thirty five each. During the experiment, students from each class were trained in reading comprehension. They were classified as group A and Group B. Students of group A were trained in reading comprehension in the traditional way whereas, group B were trained using scaffolding questions.

### ***Reading Materials***

The reading materials used in the present study consisted of selected texts from a supplementary reader designed and published by the Tamil Nadu Textbook Corporation for the middle school students. This reader consisted of both expository and narrative texts for the middle school ESL students. The selection of the reading material was based on the following parameters: (a) Complexity level (b) Variety of topics and (c) Lexical count.

### ***Instructional Procedure***

#### ***The Experimental Group***

At the beginning of the instruction, the researcher familiarized the students with what are scaffolding question and how to use them effectively while reading a text. The students were also trained to use scaffolding questions at different stages ('before', 'while' and 'after' reading) for different types of passages. The students learned to use a variety of scaffolding questions and they also started creating their own questions. They used these scaffolding questions at all the three levels – before reading a text, while reading a text and after reading a text.

#### ***The Controlled Group***

The instruction material and content provided for both the experimental and control groups were the same whereas, the control group was not exposed to the use of scaffolding questions and implementing the same in reading process. The control group adopted traditional methods where students were made to read the passage again and again to understand the content and answer the comprehension questions.

They were able to understand the meaning conveyed in the paragraph or passage, whereas they could not critically analyze the passage and come out with the main idea, supporting details, etc.

### **Interventions – Scaffolding Question Incorporation**

Scaffolding questions serve a variety of functions, from gathering information to invoking interest or encouraging critical thought and evaluation of a situation. In spite of their functional efficacy, scaffolding questions constrain the students to answer within a framework of assumptions demarcated by the more knowledgeable questioner. Whether the function of the question is met depends on the “correct” type of question being asked by the teachers or tutors. As a result, it is important for the teachers or tutors to have a good understanding of the differing functions of questions. The teacher is doing 90% of the strategy use, and the students are contributing 10% (Sweet, Anne Polselli & Catherine E. Snow, 2003).

### ***Scaffolding Questions ‘Before’ Reading***

In the intervention process, first, scaffolding questions for different types of reading comprehension questions were developed. Skilled professions were involved in developing the text-specific scaffolding questions. Researchers have also found that when adult readers are asked to “think aloud” as they read, they employ a wide variety of comprehension strategies, including asking and answering questions before, during, and after reading (Pressley, 1995). To aid the student while comprehending, scaffolding questions were put to them before, during and after reading the text. The following table shows the pre-reading questions put to the students:

TABLE 2: ‘BEFORE’ READING QUESTIONS

‘Before’ Reading Questions	Passage	Is this passage a narrative or an expository text? Are you familiar with the topic or title of the passage? What do you already know about this topic? Have you read any other passage about this topic?
	Author	Who is the author? What article/books has he/she written or illustrated earlier? Can you describe the style of the author/illustrator? Have you ever read other texts by this author? If so, what do you remember about those texts?

Students were given the opportunity to practice writing and discussing some pre-reading questions for the passage. Students were divided into groups of six and each group was made to discuss the pre-reading questions. After understanding and discussing the pre-reading questions, each group was asked to prepare a new

two pre-reading questions. They were instructed that they need to depend on their prior knowledge and brainstormed point for preparing pre-reading questions. At the end of their discussion, students of each group were instructed to report their prediction of the passage.

### *Scaffolding Questions ‘While’ Reading*

While reading the passage, students were instructed to write down any questions that pop in their minds. Each group was provided with a sheet of paper to put down the questions. The questions of each group were collected and displayed so that all the students of all the groups will be familiar with the questions. The repeated questions from all the groups were clubbed together. The following table shows the consolidation of the questions written down by the students while reading the passage.

TABLE 3: ‘WHILE’ READING QUESTIONS

‘While’ Reading Questions	First Reading	What clues does the title give about the passage? Is the content of the passage real or imaginary? Why is the passage being read? What is my prior knowledge about the passage? What predictions can be made?
	Second Reading	What do I understand from what I just read? What is the main idea? What picture is the author painting in my head? Do I need to reread so that I understand?

The objective here was not to make the students come out with one common answer to the questions generated while reading the passage; they were asked to reason out their answer by analyzing the text to the other members in the group and also to the other groups. Each student was made to share his/her critical analysis of the questions to other students in the class. Again, the students were made to discuss each other’s analysis.

### *Scaffolding Questions ‘After’ Reading*

Once the students were done with reading the passage, they were administered the following graphic organizer:

#### **The Pre-test and Post-test Model**

All true experiments have a post-test – that is, measurement of the outcome in both groups after the experimental groups had received the treatment. Many true experiments also have pre-tests, which measure the dependent variable prior to the experimental intervention (Rafael & Russell, 2005). Pre-test was administered to

TABLE 4: GRAPHIC ORGANIZER – ‘AFTER’ READING THE PASSAGE

<i>Predictions made before reading the text based on the scaffolding question</i>	<i>Predictions made while reading the text based on the scaffolding questions generated</i>	<i>Confirmation of the prediction / Actual context of the text</i>
What predictions were made based on the title of the passage? _____ _____ _____ _____ _____ _____ _____	What predictions were made after first reading? _____ _____ _____ _____ _____ _____ _____	What predictions were confirmed? _____ _____ _____  What details in the text confirmed them? _____ _____ _____
What were the predictions made based on the Scaffolding question? _____ _____ _____ _____ _____	What predictions were made after second reading? _____ _____ _____ _____ _____	What were the main ideas and themes presented in the text? _____ _____ _____  What connections did you make to the text? _____ _____

both experiment and control groups to know the standard of the students. The pre-test scores of both the groups were recorded. The test material was designed based on the scope of the study. It was made up of 4 reading comprehension passages, totally 20 questions which can be classified into five types of reading questions – (1) Inferring the theme, (2) Identifying the setting, (3) Identifying the main idea, (4) dealing with vocabulary, (5) fact and opinion and (6) compare and contrast. Out of 24 questions, there were 4 main idea questions, 4 supporting detail questions, 4 vocabulary questions, 4 fact and opinion questions, 4 inference questions and 4 compare and contrast questions. Each question was worth 1 mark and sum total of the test was 24 which was later calculated for 100 marks.

Before administering the pre-test, it was important for the researcher to examine whether the proficiency level of the students in both experimental and controlled group are same or different. In the first session of the experiment, a pre-test was



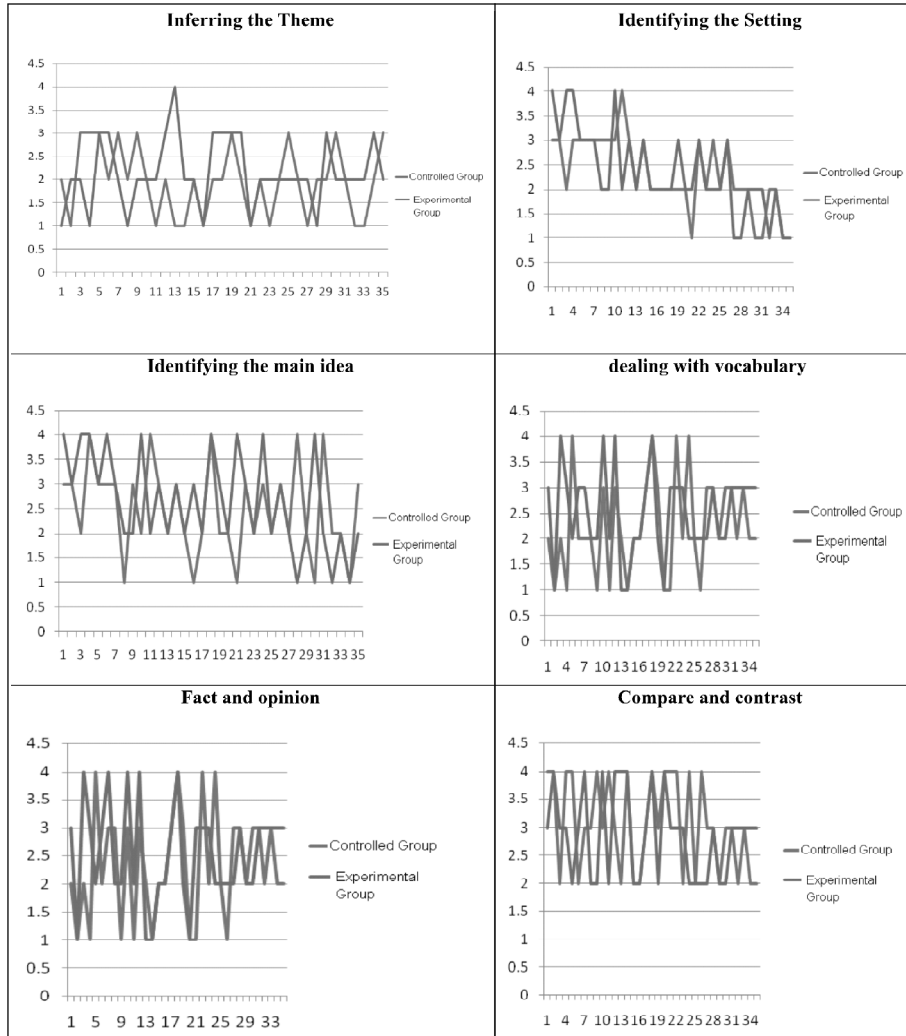
TABLE 5: STATISTICAL RESULTS OF PRE-TEST FOR ONE-WAY ANOVA ON TYPES OF COMPREHENSION QUESTIONS

<i>S.No</i>	<i>Type of Questions</i>		<i>Sum of the squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	<b>Inferring the Theme</b>	Between Groups	0.700	1	0.700	0.789	0.377
		Within Groups	60.285	68	0.886		
		Total	60.986	69			
2	<b>Identifying the Setting</b>	Between Groups	0.0014	1	0.014	0.021	0.884
		Within Groups	45.429	68	0.668		
		Total	45.443	69			
3	<b>Identifying the main idea</b>	Between Groups	0.700	1		0.789	0.377
		Within Groups	60.285	68	0.700		
		Total	60.986	69	0.887		
4	<b>dealing with vocabulary</b>	Between Groups	15.357	1		7.354	0.008
		Within Groups	58.228	68	5.757		
		Total	56.585	69	0.782		
5	<b>Fact and opinion</b>	Between Groups	0.914	1		1.067	0.305
		Within Groups	58.228	68	0.914		
		Total	59.142	69	0.856		
6	<b>Compare and contrast</b>	Between Groups	0.700	1		1.077	0.303
		Within Groups	44.171	68	0.700		
		Total	44.871	69	0.649		

given to all the participants in the two groups. The result of the pre-test proved that the comprehension skills of both the groups were at the same level. Table: 1 shows the Statistical Results of Pre-Test for One-Way ANOVA on Types of Comprehension Questions.

According to Prof. R.A. Fisher, originator of ANOVA, "Analysis Of Variance (ANOVA) is the separation of variances ascribable to one group of process from the variance ascribable to the other group". From the One Way Analysis of Variance it is understood that there are significant changes between the pretest and the post test. The 2<sup>nd</sup> column in the above ANOVA table titled as 'Types of Questions' and the fourth column gives the value of sum of squares between and within the controlled group and experimental group. The next column, the 'Degrees of Freedom' is the number of data considered. The 'Mean Square' column is obviously is the ratio between 4<sup>th</sup> and 5<sup>th</sup> columns. The last two columns are the final calculations of F ratio and the significance between the two groups.

The set of graphs below shows the performance of the students in each type of questions in the pre-test (1) Inferring the theme, (2) Identifying the setting, (3) Identifying the main idea, (4) dealing with vocabulary, (5) fact and opinion and (6) compare and contrast.



**Figure 1:** Graphical Representation of the Performance of the Students in the Pre-Test

TABLE 6.2: SHOWS THE STATISTICAL RESULTS OF POST-TEST FOR ONE-WAY ANOVA ON TYPES OF COMPREHENSION QUESTIONS

<i>S.No</i>	<i>Types of Questions</i>		<i>Sum of the squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	<b>Inferring the Theme</b>	Between Groups	27.661	1	27.661	70.484	0.194
		Within Groups	26.691	68	0.392		
		Total	54.342	69			
2	<b>Identifying the Setting</b>	Between Groups	25.200	1		55.022	0.192
		Within Groups	31.140	68	25.22		
		Total	56.340	69	0.461		
3	<b>Identifying the main idea</b>	Between Groups	26.412	1		55.734	0.129
		Within Groups	32.232	68	26.412		
		Total	58.644	69	0.471		
4	<b>dealing with vocabulary</b>	Between Groups	30.231	1		94.412	0.182
		Within Groups	21.772	68	30.230		
		Total	52.003	69	0.321		
5	<b>Fact and opinion</b>	Between Groups	28.921	1		98.631	0.194
		Within Groups	19.943	68	28.930		
		Total	48.874	69	0.291		
6	<b>Compare and contrast</b>	Between Groups	0.011	1		0.021	0.984
		Within Groups	45.430	68	0.011		
		Total	45.441	69	0.671		

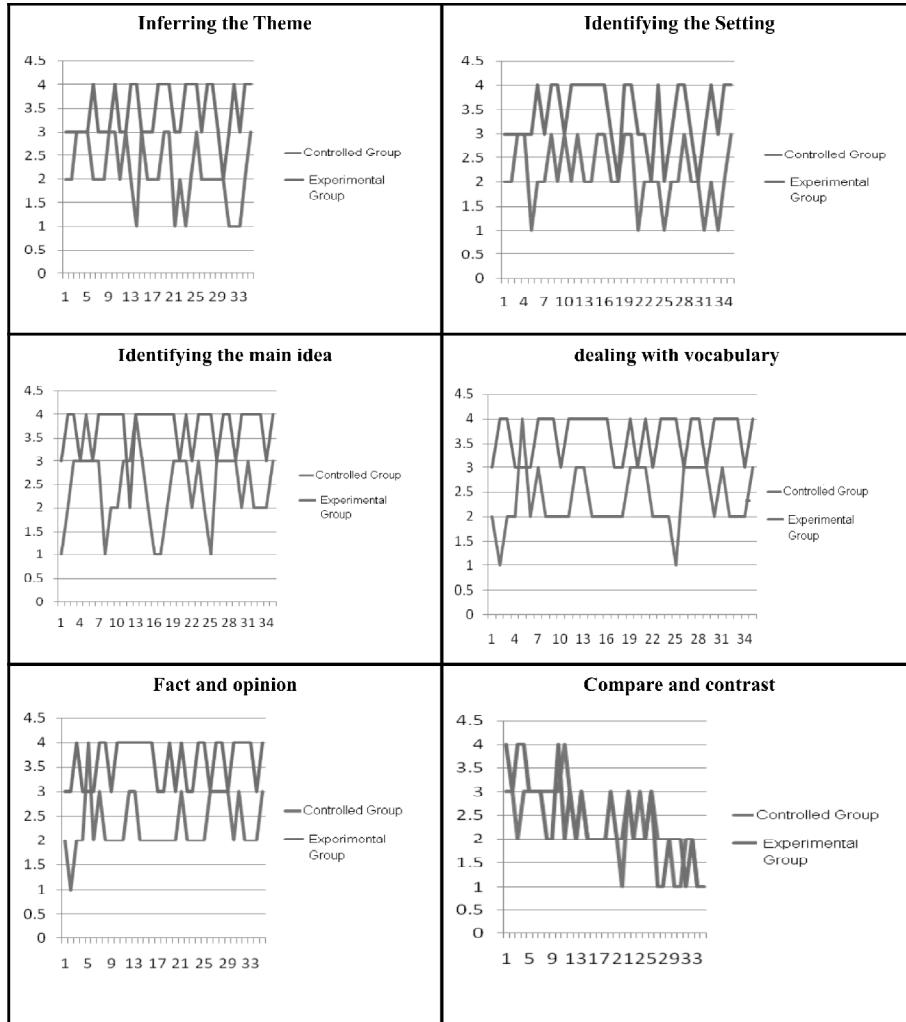
The set of graphs below shows the performance of the students in each type of questions in the post-test (1) Inferring the theme, (2) Identifying the setting, (3) Identifying the main idea, (4) dealing with vocabulary, (5) fact and opinion and (6) compare and contrast.

### Result

This study discusses the effect of using scaffolding questions on the EsL learners' answers related to types of comprehension questions. An analysis of variance (One-Way ANOVA) was performed to evaluate the impact of the two instructional approaches – Using scaffolding questions and the traditional comprehension method - on all participants' answers to five types of comprehension questions.

### *Interpretation of the Pre – Test and Post – Test ANOVA Tables*

When comparing pre-test and post-test scores for the whole group (N=70), the average was 49% and 58% respectively yielding a % difference of +9. While this % difference is positive, it was also found to be statistically significant. When an ANOVA was performed, the pre-test and post-test were significantly different. The variance ratio of the pre-test was between 0.89 and 7.35 whereas, the post-test ratio was between 55 and 98 (except for the variable *Compare and Contrast* which



**Figure 2:** Graphical Representation of the Performance of the Students in the Post-Test

shows that there is a considerable improvement in the post-test for the second set of data, i.e. the experimental group at 0.01 level ( $F_{\alpha}=.01$ ). For this variable, the ratio was decreased since it is independent. Further, the results yield significance at the .001 level meaning that for the whole group. Therefore, the difference between the pre-test average score and the post-test average score was statistically significant.

The average pretest score for the group A is 47% while the same group has got an average of 48% during the post test. This shows that there is no significant improvement in the controlled group. Analysis of the post-test results of the

experimental group shows that the group has got an average of 50% in the pre-test and 69% in the post-test, which means that the group has improved significantly. The improvement is +19%. This can be seen from Table 2. The mean sum of squares has increased in all types of questions. This can be seen from the data of between groups. In *Inferring the theme*, the pre-test sum of squares was 0.7 whereas, in the post-test it was 27 with an increase of 26.3. In *Identifying the setting* the pre-test mean sum of squares is 0.14 whereas, in the post-test it was 25 with an increase of 24.86. For the third type *Identifying the main idea*, the pre-test mean sum of squares is 0.7 whereas, in the post-test it is 26 with an approximate increment of 25.3. In *Dealing with vocabulary*, the pre-test sum of squares was 5.7 whereas; it was 30.3 in the post-test with an increment of 24.6. In the questions pertaining to *Fact and Opinion*, also the improvement was considerable. The data gave the sum of squares as 0.914 in the pre-test and 28 in the post-test. But, according to the table, the variable *compare and contrast* does not have a significant improvement. Hence we can conclude that administering scaffolding questions helps the students very much to understand the above concepts while comprehending a passage.

### **Conclusion**

Reading comprehension is one of the major fields of understanding being taught to the ESL students. This plays a vital role not only in the testing aspect of the reading proficiency of the students, but also in various aspects like improving the interpretation skills, critical thinking skills, decoding skills, etc. Administering scaffolding questions before, during, and after reading a passage has proved to be effective in terms of teaching reading comprehension to the middle school ESL students. Moreover, the result of the experiment clearly proves that scaffolding questions are effective in the course of teaching reading comprehension to the middle school ESL students. Table 3 sheds light of the % wise improvement in the pre-test and post-test scores. This 9 % improvement in the post –test scores proves the effectiveness of employing scaffolding questions while teaching reading strategies like, (1) Inferring the theme, (2) Identifying the setting, (3) Identifying the main idea, (4) dealing with vocabulary, (5) fact and opinion and (6) compare and contrast. It was observed that the students were able to analyze critically each and every options given and come out with correct answers logically and not by fluke.

The above study clearly demonstrates that scaffolding question helps in a big way in ESL students comprehending a passage. An innovative use of this method would help the learner during reading and comprehending a passage.

### **Reference**

- Brandão, A.C.P. and J. Oakhill. (2002). "How Do We Know the Answer?" Children's use of Text Data and General Knowledge in Story Comprehension. in *Society for the Scientific Study of Reading 2002 Conference*. The Palmer House Hilton, Chicago.

- Bransford, J., Brown, A., & Cocking, R. (2000). *How People Learn: Brain, Mind, and Experience & School*. Washington, DC: National Academy Press.
- Carey, T. A. and Mullan, R. J. (2004). What is Socratic questioning? *Psychotherapy: Theory, Research Practice, Training*, 41, 217–226.
- Chang, K., Chen, I., & Sung, Y. (2002). The Effect of Concept Mapping to Enhance Text Comprehension and Summarization. *The Journal of Experimental Education*, 71(1), 5-23.
- Ellis, E., Larkin, M., & Worthington, L. (No date). *Executive Summary of the Research Synthesis on Effective Teaching Principles and the Design of Quality Tools for Educators*. University of Alabama, AL.
- Elizabeth A. Davis & Naomi Miyake. (2004). Explorations of Scaffolding in Complex Classroom Systems. *Journal of the Learning Sciences*, 13(3), 265-277.
- Guthrie, John. T., Allan Wigfield, Kathleen C. Perencevich. (2009). *Motivating Reading Comprehension: Concept-Oriented Reading Instruction*. Lawrence Erlbaum Associates, New Jersey.
- Hargie, O. and Dickson, D. (2004). *Skilled Interpersonal Communication: Research, Theory and Practice* (4th ed). East Sussex: Routledge.
- Hartman, H. (2002). Scaffolding & Cooperative Learning. *Human Learning and Instruction* (pp. 23-69). New York: City College of City University of New York.
- James, Ian Andrew., Rachel Morse & Alan Howarth. (2010). The Science and Art of Asking Questions in Cognitive Therapy. *Behavioural and Cognitive Psychotherapy*, Vol: 38, pp: 83–93.
- Jaramillo, J. (1996). Vygotsky's Sociocultural Theory and Contributions to the Development of Constructivist Curricula. *Education* 117(1), 133-140.
- Kashihara, A., A. Sugano, K. Matsumura, and T. Hirashima. (1994). "A Cognitive Load Application Approach to Tutoring" in *Proceedings of the Fourth International Conference on User Modeling*. pp. 163-168.
- Mostow, J., J. Beck, J. Bey, A. Cuneo, J. Sison, B. Tobin, and J. Valeri, (2003). *Using Automated Questions to Assess Reading Comprehension, Vocabulary, and Effects of Tutorial Interventions*. Technology, Instruction, Cognition and Learning, to appear. 2.
- McGee, D., Del Vento, A. and Bavelas, J. (2005). An Interactional Model of Questions as Therapeutic Interventions. *Journal of Marital and Family Therapy*, 31, 371–384.
- Olson, J. and Platt, J. (2000). The Instructional Cycle. *Teaching Children and Adolescents with Special Needs* (pp. 170-197). Upper Saddle River, NJ: Prentice-Hall, Inc.
- Pressley, Michael. (2000). Comprehension Instruction: What Makes Sense Now, What Might Make Sense Soon. *Handbook of Reading Research*. Vol – III, pp: 22 -30.
- Roshenshine, B., C. Meister, and S. Chapman. (1996). *Teaching Students to Generate Questions: A Review of the Intervention Studies*. Review of Educational Research. 66(2): pp.181-221.
- Raymond, E. (2000). Cognitive Characteristics. *Learners with Mild Disabilities* (pp. 169-201). Needham Heights, MA: Allyn & Bacon, A Pearson Education Company.
- Sweet, Anne Polselli & Catherine E. Snow. ed. (2003). *Rethinking Reading Comprehension*. Guilford Publications, New York.