

Does it matter who makes comprehension questions?

A comparison between the levels of comprehension obtained from Author-generated questions and Student-generated questions

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Abstract

This study attempts to compare the contribution of author-generated questions and student-generated questions on enhancing Iranian student's level of reading comprehension. Based on proficiency pre-test two homogeneous classes from a state-run pre-university center were chosen as the subjects. To verify the effectiveness of either approach on promoting student's reading comprehension one group worked on passages followed by author-generated questions and the other worked on passages followed by student-generated questions. After ten sessions of class work, subjects participated in a post-test in multiple-choice format with more reading comprehension questions. From data analysis via a *t*-test calculation, it became clear that the second group outperformed the first one. Therefore, it was cogently concluded that student-generated question approach was more effective than author-generated question approach.

Key terms: author-generated questions, student-generated questions, reading comprehension, teaching reading.

I. Introduction

It is not exaggeration to say that reading is a passkey skill among the four well-known ones through which one acquires most of his/her knowledge. It is the skill that equips one to grasp new information in a short-cut. Scholars, in different fields of study relevant to language learning and teaching, are researching to detect the mystery of reading in acquiring a second language. A good proof for this claim is numerous studies done by researchers like Bartlett, 1932; Johnson, 1982; Anderson .R. C, and Pearson, P.D.1984; and Wallace, 1992. Reading is of paramount importance especially in foreign language learning settings. In Iran, it is relatively viewed as the aim of language teaching and language learning program in secondary and tertiary levels of education. Thus, English teachers are expected to get familiar with efficient techniques that can boost the level of learners' reading comprehension.

Comprehension and questioning are traditionally connected. Although reading can be done for different objectives, it is generally believed that the main purpose of reading is comprehension of the ideas presented in the texts. This is why Katims, 1997 believes without comprehension, reading would be empty and meaningless; see also Royer, (2003). Perhaps for the same reason teachers use questions to check comprehension and assist students in understanding the literal

messages of a text. Similarly Hassany (1995) also notes that the main objective of teaching English in Iran is reading comprehension.

A growing numbers of educators now emphasize the importance of student-generated questions in teaching/learning for understanding and the number of investigations looking for ways to stimulate students to generate questions is growing (Commeyars, 1995; Rosenshine *et al*, 1996; Maskill & Pedrosa de Jesus, 1997a; Watts *et al*, 1997; Marbach-Ad & Sokolove, 2000). There is also strong evidence that if good conditions are created then students are willing to generate or ask questions (Pedrosa de Jesus & Maskill, 1993; Maskill & Pedrosa de Jesus, 1997b).

Andre and Anderson, (1978-79) and Cohen (1983) point out that students learn more effectively when they generate their own questions, summarize and exert choice in the lesson than when they do not. Student-generated questions are a way for teachers to assess students' comprehension during or after activities or an entire unit of study. It also provides opportunities for reinforcement of what has been learned and leads students to higher order of thinking. "Students reflect upon their learning and consider what they know, what they thought they knew, what they want to know more about, and what they still want to learn" (Chuck, 1995). He asserts that student-generated questions are those questions raised or generated by learners and not with the routine generating of questions by teachers. In general, student-generated questions are seen as an important element in the teaching/learning process, firstly because they can lead to improvement of understanding and retention of what a student encounters. Secondly, such questions can enhance classroom learning and are highly effective in increasing student interest, enthusiasm and engagement. Thirdly, learners' questions can be diagnostic of their understanding. Fourthly, question generation fosters discussion and debate.

A learner-generated question is a strategy for engaging the learner in a continual process of determining the value, relevance and practical application of new materials. When learners generate questions about materials and class discussions, they are participating in an important process of relating their prior knowledge and experiences to new information, leading to better comprehension. Also, as students are learning the content they are also learning the most effective means to find and use information. "Learners who have developed acute metacognitive skills are aware of the types of strategies they should apply in certain situations. Learners accustomed to using self-generated questioning develop this awareness of their own level of understanding" (King, 1992).

Enger (1997) states that teacher-generated questions has been shown to affect the cognitive level of student thought processes. Test questions can identify the cognitive level that students are capable of operating on. Similarly, the product of those test questions the students answer, can also be analyzed to determine the cognitive level at which the student is answering the questions on (p.10).

Author-generated questions refer to the comprehension questions which follow reading passages. They may be in multiple-choice, open-ended or any other format. They are provided by the author or the material developers and students have no role in their construction. On the other hand, student-generated questions are questions which are posed by students based on the contents they read. For the intention of improving their comprehension they are also supposed to answer these generated questions. Student-generated questions strategy is a simple but productive way to support reader engagement with the text. According to Poway Unified School District (PUSD, 2005), while reading chunks of text, students write down questions they have about what they read and what will happen next. This helps students clarify understanding, question the author's intent, etc. Through this strategy they focus the text to construct meaning.

Student-generated questions lead to deeper level of text-processing (Anderson, 1978- 1979 cited in Tavakoli Behrooz, 1992:73). These types of questions are known as think-type questions after reading passages for better capturing the information (Mc Bride, & Davey, 1986). They are techniques that can boost, foster, and monitor comprehension (King, 1992). These types of questions can help the reader to check comprehension and keep a track of his/her reading (Fan, 1995), and will facilitate comprehension, and foster recall (Brisk & Harington, 2000:62).

According to Joseph, Jack, Andrew, and Juliet (2003), teachers can improve learners' reading comprehension by training them to generate questions, especially generic Wh-questions. According to the above-mentioned justifications, these types of questions are highly suggested to be used by teachers as means of improving reading comprehension level of learners.

2. Statement of the problem

It has long been taken for granted that reading passages followed by questions are far better understood than other types of reading texts. But most recently it is suggested that passages followed by student-generated questions are more effective in improving learners' reading comprehension. Though researchers have done a lot on other approaches, they have not studied these approaches comparatively. As a result, this study takes a nominal step and attempts at testing the effect of author-generated questions and student-generated questions approaches in enhancing the level of reading comprehension.

To find the effectiveness of either approach on promoting Iranian pre-university students' level of reading comprehension, this study intended to find an answer for the following question:

Is there a meaningful difference between students' level of comprehension of passages followed by author-generated questions and passages followed by student-generated questions?

To conduct an unbiased study of the problem, the following null hypothesis was proposed.

As far as the promotion of reading comprehension level of students is concerned, there is no difference between passages followed by author-generated questions and passages followed by student-generated questions.

3. Methodology

3.1. Subjects

To investigate the effect of the above mentioned approaches on promoting students' reading comprehension level, 50 students were selected on the basis of the principle of random sampling from among the students of Allame Taba-Tabaei pre-university center in the city of Darrehshar in Ilam province. Through their performance on a proficiency pretest examination, designed based on pre-university English Text Book, they were divided in to two homogeneous groups: 25 subjects as experimental group and 25 subjects as control group. The students were all male, having an average age of 19, ranging from 18 to 20 years old. They were studying their second term 1382-3 (2004) of school year. They were all majoring in mathematics. The subjects had passed the same courses in English and were taught by the same English teacher.

3.2. Materials

Forty passages were selected for each group and from among which four passages were taught in each class session. The content of the passages was the same for both groups. In the first class passages followed by author-generated questions in multiple-choice format were given to the students. They worked on the passages individually and were supposed to choose the most appropriate answer from among the choices following the passages.

For the second class, during ten sessions of class work the same forty passages were given to the students without any questions. Students were asked to read the passages and generate some questions based on the contents. Students were supposed to answer the questions posed by themselves.

3.3. Design

As it was mentioned earlier, the present study was concerned with measuring the effect of two approaches: passages followed by author-generated questions and passages followed by student-generated questions. The design adapted for this study was "pretest posttest control group design" (Maftoon, 2003). It is illustrated in Table 1 as follows:

Table 1: The Design of the Study

R	G1	T1	T2
R	G2	T1	T2

R = Random G = Group T1 = Pre-test T2 = Post-test

3.4. Procedures

After selection of the subjects, a proficiency pretest based on English Book One and Two of pre-university was made. It consisted of 50 items: 15 structure, 21 vocabulary, and 14 reading comprehension items. The test was designed to report the subjects' difference in their entry behavior and for determining the homogeneity of the groups.

Both groups were under the instruction of the same teacher, in the same school, for two sessions a week during the same instructional year. The teacher gave the passages followed by author-generated questions to the first group and the second group received passages with no comprehension questions. Students were expected to generate questions.

To see the effectiveness of each approach, after ten sessions of working on these two approaches, a post-test was administered for both groups in multiple-choice format. It consisted of 12 structure, 12 vocabulary, and 36 reading comprehension items.

Having the data collected, the researchers processed the data using the statistical package for social sciences (SPSS/ PC). To compare the results and measuring the differences, the statistical procedure of the *t*-test was used to determine the differences between the groups. Since there were two groups in the study, the statistical design of the study was independent *t*-test.

4. Data Analysis

Throughout the study two *t*-tests were administered. According to Hatch and Farhady (1981) if the *t*-observed is higher than *t*-critical, our hypothesis is approved

Table 2: *t*-test for Both Groups' performance on the proficiency pretest

Groups	Mean	SD	N	Df	t obs	t crit
Group 1	54.92	23.941	25	24	.124	1.71
Group 2	54.08	23.930	25	24		
Total			50	48		

$P < 0.05$

As the above results indicate, *t*-observed is much smaller than the *t*-critical at the $p < 0.05$ level of significance. Accordingly, it can be concluded that the difference between two groups is not meaningful and both groups are nearly homogeneous. The means for both groups are illustrated in Figure 1.

Five weeks later, after experiencing different treatments, both groups were given a similar post-test. As Table 3 represents, the calculated mean and the standard deviation were respectively 44.28 and 12.22 for control group, and 69.72 and 13.75 for experimental group. The t_{obs} was reported as 6.9. The means for both groups are illustrated in Figure 1.

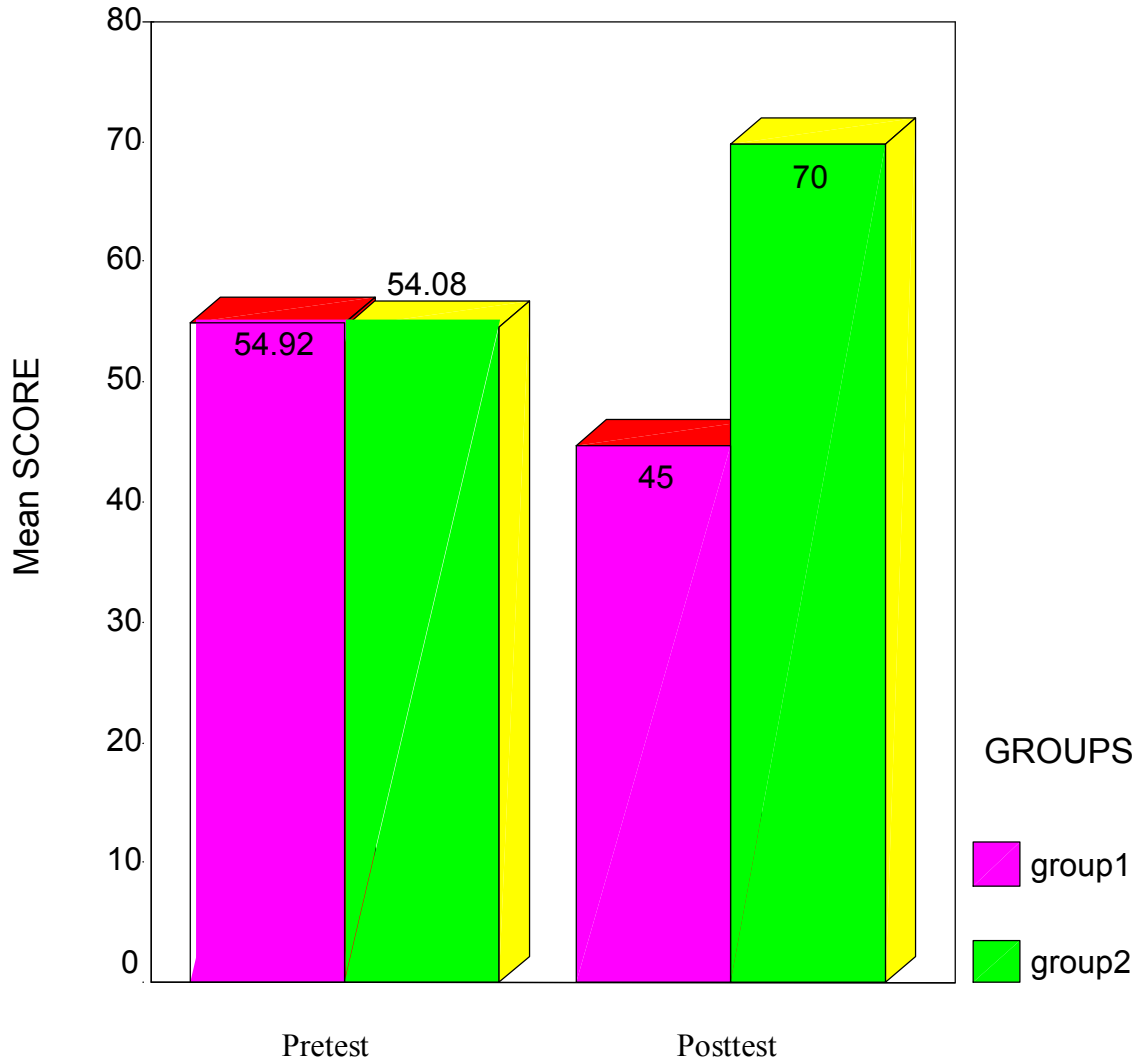
Table 3: *t*-test for Both Groups' performance on the post-test

Stems	Mean	SD	N	Df	t obs.	T crit.
G1	44.28	12.22	25	4	-6.9	1.71
G2	69.72	13.75	25	4		
Total			50	8		

$P < 0.05$

According to t -test principles, if the calculated t -test exceeded the critical value (1.71) at the ($P < 0.05$) level of probability for df of 48, the null hypothesis might be rejected.

Figure 1: Comparison of groups' performance on pretest and posttest.



5. Interpretation

Considering $t_{obs} = .124 < t_{crit} = 1.71$ at pre-test stage and $t_{obs} = 6.9 > t_{crit} = 1.71$ a remarkable difference can be observed between the two groups at the post-test stage.

Comparing the two mean scores through t -test calculations, since the groups scored differently on the posttest, and the difference was statistically significant, the null hypothesis was justifiably rejected. Accordingly student-generated questions proved to be more effective and more successful in exerting desirable effects on promoting students' reading comprehension.

Although the two groups were not significantly different at the outset of the study; they behaved differently on the final test. Therefore, it seems justifying to hold the idea that student-generated questions have served the intended purpose. It seems reasonable to claim that the final calculated t -test (6.9) at the $p < 0.05$ level of probability is due to the student-generated questions.

That is, the group who participated in student-generated questions outperformed the group participating in the author-generated questions. As a result it can be concluded that student-generated questions are far better than those of the author-generated ones in enhancing reading comprehension.

6. Conclusion

The present study focused on two types of approaches which can be useful and effective in boosting Iranian students' comprehension level: passages followed by student-generated questions and passages followed by author-generated questions. It was found that student-generated questions would reinforce and improve the learners' comprehension level more effectively than those of author-generated ones.

Dealing with the first type of questions, students are actively participating in making questions; therefore, it might be easier and more comfortable for them to find answers for the questions. It is also clear that when students come across familiar questions and use their schema to answer the questions which are in fact self-made questions, they can find answers more strongly. Another reason for the effectiveness of this approach is the fact that students peruse and pose their own questions in far greater depth and with greater care. One more possible reason might be the effect of pair group activity which makes recall and answering easier to the learners. Therefore, teachers and researchers are highly suggested to enhance their students via such type of questions.

7. Implications of the Study

The findings of this research can be beneficial to language teachers in order to adapt effective methods in teaching reading comprehension. It can also be beneficial to material developers and course designers in determining the better needed techniques to achieve the objectives.

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