

The effect of strategies-based instruction on student's reading comprehension of ESP texts.

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Abstract:

Reading strategies involve ways of processing text which will vary with the nature of the text, the reader's purpose, and the context of situation. Carrell, (1985) maintained that reading strategies can be taught and when taught, strategies help improve student' performance on tests of comprehension and recall.

The purpose of the present study therefore, is to evaluate the effects of explicit training of a selected number of cognitive reading strategies on students' comprehension of ESP texts. To this end, the reading strategies were taught to participants through the procedure put forward by Janzen (2002). The result was that participants in experimental group outperformed the control group in terms of comprehension of ESP reading texts suggesting that they benefited from the reading strategy trainings.

Key words: selected reading strategies, ESP texts, training reading strategies.

Introduction

ESL reading research has long been interested in reader strategies: what they are, how they contribute to better reading and how they can be incorporated into reading instruction. The interest in strategies stems in part from an interest in characterizing the process of reading rather than the product of reading (Alderson 2000). They indicate how readers conceive a task, what textual cues they attend to, and how they make sense of what they read and what they do when they do not understand (Block 1996). They range from simple fix-up strategies such as simply rereading difficult segments and guessing the meaning of an unknown word from the context, to more comprehensive strategies such as summarizing and relating what is being read to the readers background knowledge(Janzen 1996). Reading strategies are the *cognitive and meta cognitive actions that individuals either consciously decide to use or use automatically when attempting to access a written text.* (Macaro 2002).

Knowledge of strategies is important because the greater awareness you have of what you are doing, and then learning will be more effective. However, in most classrooms, learners are unaware of the strategies that could, otherwise be of help to them in their dealing with the reading materials.

For example, good readers distinguish between important information and details as they read and are better able to use clues in the text to anticipate information already stated. They are also able to notice inconsistencies in a text and employ strategies to make these inconsistencies understandable Barker and Brown (1984).

Reading strategies and ESP

In the context of "*English for specific purpose*"(ESP) however, Hudson (1991) examined whether the emphasis on reading for content improved reading comprehension as well as knowledge of reading strategy and general reading ability in an ESP project. He concluded that the content comprehension approach can improve reading comprehension as well as knowledge of grammar and general ability to read English for science & technology among the chemical engineering undergraduate students at the *Universidad de Guadalajara Mexico.*

In an instructional study by Dole, J A. Brown K.J and Trathen (1996) that included examination of both group and individual differences arising from strategy instruction, story content instruction, and basal control instruction on 67 fifth and sixth graders designated in a at-risk school, the results of ANOVA data analysis indicated that the strategy group

outperformed the other control groups when students were asked to read selections from their own.

The teaching methods of reading strategies have been extensively discussed e.g (Chamot and O'Malley 1994). In terms of teaching reading strategies in L₁, there have been certain successful examples such as the method used by Brown and Palincsar (1989) which involved the teaching of four reading strategies namely as summarizing, predicting, clarifying and asking questions. Various forms of this method were applied on L₂ readers and have been found helpful (Carrell 1990; Hewitt, 1995). However, perhaps one of the best approaches to explicit teaching of reading strategies has been put forward by Janzen (Janzen, J. 2002). In a study on teaching strategic reading, she excellently presented a procedure for explicit teaching of reading strategies which consists of five stages:

- General strategy discussion
- Teacher modeling
- Student's reading
- Analysis of strategies used by both teachers and/or students when thinking aloud.
- Explanation / discussion of individual strategies on a regular basis

As mentioned before, the procedure in the present study is to provide a selected group of students, reading ESP texts on a specific discipline (*Fisheries and Fisheries sciences*).

The hypothesis may be stated in the following way:

Providing reading strategies to students does result in improvement of their comprehension of ESP texts. To put it in another way, there is a meaningful difference in terms of understanding (identical) ESP texts between readers who received explicit trainings on how to use reading strategies while reading and those who did not receive such trainings.

The reading strategies taught in this study included

Previewing - identifying paragraph structure - connecting or using background knowledge - guessing meaning from the context - directing attention- inferring - questioning about the passages and then looking for answer. By ESP text, however is meant texts whose content area revolve around the Fisheries sciences and which required a discipline-specific schemata on the part of participants in this research.

Methodology

The participants

In order to find answer for the research question and identify the impacts of training reading strategies on students' reading comprehension of ESP text, two groups of participants each comprising of 32 female and male students studying “Aquaculture and Fisheries Sciences” in “*Mirza Koochak Khan Higher Fisheries Education Center*” were selected and assigned to two groups: Experimental group (group A) and control group (group B). It is to be noted that these students had already passed a 3- credits course on “General English with me” in earlier semester. In fact the results of their achievement exams (*Tab. 1*) administered at the end of the earlier course were utilized as a rough estimate of their language proficiency. In other words these achievement exams may be considered as a form of pre- test that could somehow reflect the relative homogeneity of the two groups in terms of language learning backgrounds. The duration of this study was 13 weeks (including 39 hrs).The age categories were nearly equal (23-42 years) in both groups which was a happy incident, in that the harmful effects of this otherwise unwanted variable could contaminate the research data.

- Material.

The reading materials designated for both groups were selected from "Textbook of Fish culture" (Huet, Marcel 1986) which is a well established technical book on aquaculture.

Table (1) shows the means, standard deviation, and variance of the two groups obtained in the achievement tests administered at the end of the earlier semester. In order to test whether the scores gained by the two groups are statistically significant, a simple T- test was utilized. As it may be noticed, the figures and the t-value show that there is not a meaningful difference between the two groups in terms of there knowledge of English regardless of any linguistic proficiency level that can be labeled to them. Therefore regardless of the actual language proficiency of these two groups of students, it may be stated that they were relatively similar in terms of general knowledge of English.

Table (1) The mean and variance of the scores obtained by both groups: A & B

	<i>Variable</i> 1	<i>Variable</i> 2
Mean	14.90625	14.21875
Variance	6.410282	7.015121
Observations	32	32
Pearson Correlation	0.224436	
Hypothesized Mean Difference	0	
df	31	
t Stat	1.205067	
P(T<=t) one-tail	0.118648	
t Critical one-tail	1.695519	
P(T<=t) two-tail	0.237296	
t Critical two-tail	2.039513	

t-Test: Paired Two Sample for Means

The experimental Group

(Group a)

Although it is estimated that it takes several years for L2 readers to develop as strategic readers (Beard El-Dinary, Pressley & Schuder 1992), it was decided in this study, to evaluate the effects of short-term training of certain reading strategies on student's reading comprehension of ESP texts. Because both groups were intended to be oriented toward the instruction of one skill (reading), the strategies used were mostly confined to reading. The procedure for explicit training of students on reading strategies was similar to what has already been put forward by Janzen; (Janzen, J. 2002) which include five stages .

Week One:

The procedure was that after the preliminary introduction of the related reading strategies a reading passage titled "*Techniques and method of fish cultivation*" was selected for the session then, it was followed by a brief account of the topic and anticipation of unknown vocabulary in the passages. The idea was to facilitate the linguistic decoding of the readers.

Modeling (by the instructor)

Example One:

Let's see what the topic is about. Ok, the title seems familiar to me. It is about methods of fish farming. I'd better focus on the first paragraph and look for the main idea of the passage either at the onset or the end of it since most of the time they appear there !Oh yes I am right ,here it is; "method are diversified and systems differ according to the fish species cultivated and techniques of fish farming".

Example Two

After such big statements, the passage must normally proceed to talk about details. Yes! Here it gives examples for each of the above major classifications of method, system and techniques of fish cultivation.

Example Three

There is a word here I don't know exactly its meaning; "artificial fertilization" this is contrasted with natural fertilization, so it must mean not real, fake or something like that!.

Example Four

What does this number 20 refer to?

It has been repeated several times in the passage. I must look through the passage & see why it has been repeated so many times. Oh I was right. It is an important piece of information because it refers to the temperature separating the two major types of fish culture: cold water fish culture & warm water fish culture.

Example five

I guess the word" distinction" must possibly mean difference since it can't mean anything else; the first and most Important distinction to be made between cold water and warm water fish cultivation

Reading by students

After my reading and overt using of the reading strategies, the students were asked to follow suit and apply similar strategies while reading the remaining part of the passage.

Students were encouraged to take greater risk and become volunteers in reading the passages and try using these strategies themselves. The following are examples of students reading:

-Do I know what the passage is talking about?

Let me first examine the main idea of the passage which is usually presented either in the start or end of the paragraph.

-This must be the main sentence of the paragraph:

"...the cultivation of cyprinids is the cultivation of carp. I know what carp is, so cyprinids must be the same as carps.

I know the carp. So I think cyprinid & carp have one meaning. Since it says they are the same:

-Fertilization increases fish production in fish ponds.....

This reminds me of what I heard in last week session when the professor was talking about the role of fertilization in the production of vegetation in water which can be used by fish. So it must be related to what the professor's lecture.

Explanation and discussion about strategies used.

At the end of reading tasks, the strategies used by both teacher and students were explicitly explained in detail through indication of the types of strategies used. For instance they were reminded of the fact that the teacher started the reading simply by quick survey of the text topic and identifying the main idea. It was mentioned for example that based on the type of presentation of material the student could see that the text started from general ideas and then proceeded to specific subjects and vice versa. Finally in order to summarize and give a clear picture of what have been done in that session a review of the strategies was presented in the form of the following Tables: (Tab. two and three).

Strategies focused on in the first week. (Table two)

Strategy	Purpose	Know-how
- previewing	Identify the topic & see whether you are familiar with it or not	By quickly looking at the text, finding out the main idea & the organization of the text.
Identify paragraphs structure	Whether the paragraph follows a deductive or inductive pattern	Focusing on the organizational structure of the paragraph & find out if the main idea has been stated either in the beginning or end of the paragraph.

Strategies worked in week two (Table three)

Connecting / using background knowledge	Relate new idea presented with what you already know about it.	By asking question about the topic: Do I know anything about it. How much
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		can I remember. Can I relate it to what I have in mind about this subject.
Guessing the meaning	Find out the meaning of new words	By considering the word in context. Focusing on the sentences before or after that particular sentence in which the new word is used. By considering parts of the word, e.g. prefixes, suffixes & stems.

Study Two – the control group (B) The procedure in group B.

The control group subjects shared many things with those in the experimental group including similar field of study, identical age and sex categories, the same reading materials and the same reading comprehension exams with similar questions, as well as equal period of class reading activities. Nevertheless, the only factor that made a distinction between them was the different kind of instructional method for reading comprehension of ESP texts.

The procedure followed in the control group to teach technical reading texts was based on the procedure typically followed in nearly majority of ESP courses in Iranian academic circles, which are characterized by absence of any sort of explicit teaching of reading strategies.

In line with the current procedures the students in control group were provided with the same reading materials as in earlier group but no mention was made about some of the useful reading strategies, instead the class started by a brief explanation about the topic followed by reading the passages paragraph by paragraph.

After reading out the whole text certain difficult sentence structures &/or unknown technical vocabulary were explained so as to facilitate the linguistic decoding of the reading material. Then students were asked to read the text themselves and later on provide their comments and understanding about the content of the reading passages either in the form of oral explanation or translation of the passages.

In this connection, several comments or translations were provided by students in the form class discussion and each time the final settlement on paragraph meaning was made by the teacher who often said the last word by providing his final comments or translation.

Results

After participating in a 13 week strategic reading instruction procedure presented during the research period, the experimental group differed statistically, as well as practically from the control group on most reading comprehension reading exams except for the first two sets of reading exams, as noticed in the bar graph as well as in the Appendix B.

However, in order to determine the practice effect and possible influence of training reading strategies on students' comprehension of ESP reading texts, two statistical procedures were applied in order to find an answer for the basic research question:

"Is the variance between the two means due purely to chance or are these differences due to different teaching methods used in the study?"

The research question can still be stated more bluntly in the following way:

Are there statistically significant differences between the reading comprehension performances of the two groups of participants assessed by the multiple-choice reading comprehension tests?

Of course, the hypothesis of the study implies that the variation (if any) should be attributed to strategies training.

ANOVA was conducted for both experimental group scores and control group scores.(appendix a). Except for the first two sets of reading exams which did not show any major difference in terms Averages (Exam 1 Ave $a = 13.75$, Ave $B = 12.93$) and (Exam 2 Ave $a = 13.81$ Ave $b = 13.5$) as well as variances (Exam 1 $V_a = 2.6$, $V_b = 2.38$) and(Exam 2 $V_a = 2.96$, $V_b = 2.73$) there appeared a cumulative difference among the average and the variances of these two groups mainly from the third exam onward in favour of the participants in experimental group wherein the ANOVA results revealed an overall significant differences: (Appendix A). Likewise a similar change is noticed in the exams 4 and 5 wherein we see a growing difference among the averages and variances of scores in the two groups.

Appendix A

<p>Exam 1</p> <p>Anova: Single Factor</p> <p>SUMMARY</p> <table border="1"> <thead> <tr> <th>Groups</th> <th>Count</th> <th>Sum</th> <th>Average</th> <th>Variance</th> </tr> </thead> <tbody> <tr> <td>Row 1</td> <td>32</td> <td>440</td> <td>13.75</td> <td>2.96</td> </tr> <tr> <td>Row 2</td> <td>32</td> <td>414</td> <td>12.93</td> <td>2.77</td> </tr> </tbody> </table> <p>ANOVA</p> <table border="1"> <thead> <tr> <th>Source of Variation</th> <th>SS</th> <th>df</th> <th>MS</th> <th>F</th> <th>P-value</th> <th>F crit</th> </tr> </thead> <tbody> <tr> <td>Between Groups</td> <td>10.56</td> <td>1</td> <td>10.56</td> <td>3.68</td> <td>0.059</td> <td>3.99</td> </tr> <tr> <td>Within Groups</td> <td>177.87</td> <td>62</td> <td>2.86</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>188.43</td> <td>63</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Groups	Count	Sum	Average	Variance	Row 1	32	440	13.75	2.96	Row 2	32	414	12.93	2.77	Source of Variation	SS	df	MS	F	P-value	F crit	Between Groups	10.56	1	10.56	3.68	0.059	3.99	Within Groups	177.87	62	2.86				Total	188.43	63					<p>Exam 2</p> <p>Anova: Single Factor</p> <p>SUMMARY</p> <table border="1"> <thead> <tr> <th>Groups</th> <th>Count</th> <th>Sum</th> <th>Average</th> <th>Variance</th> </tr> </thead> <tbody> <tr> <td>Row 1</td> <td>32</td> <td>442</td> <td>13.81</td> <td>2.67</td> </tr> <tr> <td>Row 2</td> <td>32</td> <td>432</td> <td>13.5</td> <td>2.38</td> </tr> </tbody> </table> <p>ANOVA</p> <table border="1"> <thead> <tr> <th>Source of Variation</th> <th>SS</th> <th>df</th> <th>MS</th> <th>F</th> <th>P-value</th> <th>F crit</th> </tr> </thead> <tbody> <tr> <td>Between Groups</td> <td>1.56</td> <td>1</td> <td>1.56</td> <td>0.61</td> <td>0.43</td> <td>3.99</td> </tr> <tr> <td>Within Groups</td> <td>156.87</td> <td>62</td> <td>2.53</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>158.43</td> <td>63</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Groups	Count	Sum	Average	Variance	Row 1	32	442	13.81	2.67	Row 2	32	432	13.5	2.38	Source of Variation	SS	df	MS	F	P-value	F crit	Between Groups	1.56	1	1.56	0.61	0.43	3.99	Within Groups	156.87	62	2.53				Total	158.43	63				
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Total	607.75	63																																																																																					

Upon inspection, we notice that the mean scores for each of the teaching methods in all six instances of reading exams (except for the first two sets of exams) are indicative of the fact that readers in experimental group A outperformed the control group subjects in comprehending the ESP reading texts. In this connection, and as shown in the barograph, from the second exam onward, there appears to be a considerable increase, among group A readers, in the comprehension of the ESP text materials.

The experimental data were subject to two- way analysis of variance (ANOVA) in order to test the research questions of the study: *Does provision of reading strategy training improve students' reading comprehension of ESP texts?*

Meanwhile the ANOVA analysis presented in appendix (A) indicate that the values of F-distribution in the case of reading exams 3-6 are markedly greater than the F-value at 0.1 level of significance.

A similar trend is also noticeable in the T-test analysis presented in appendix (b) suggesting that although the first two sets of reading exams did not result in any meaningful differences between the mean scores obtained in both groups :(t. stat= 1.9 and t .stat 0.78) the situation began to change in favour of the experimental group from the third reading comprehension exam which indicate the marked supremacy of experimental group over control group in terms of means, SD and T-value:(4.71). In fact this is the beginning of a steadily growing gap between the reading comprehension levels of the two groups. The t. stat value for the fourth, fifth and sixth instance of reading exams were: 9.9, 12.5, and 12.8 respectively .As marked difference was found to exist in the effectiveness of the instructional procedure applied in experimental group and the results obtained may be interpreted as proof to the effectiveness of the trainings provided in the experimental group, confirming the hypothesis of the study. In other words, the data show that there is a meaningful difference between the two kinds of teaching methods of ESP reading texts.

Although caution is needed when comparing the results of research findings across studies in regard to L2 reading performances, the present finding is similar to those of earlier research (Brown and Palincsar.1984;Hudson, T 1991; Sang,Mi-Jeong.1998). Meanwhile, the study presented here provides empirical support to the model of teaching reading strategies already presented by Janzen (2002) thus suggesting that it is possible to use the procedure used in this study in other ESP reading classes as well.

Appendix B

Exam 1

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	13.75	12.9375
Variance	2.967742	2.770161
Observations	32	32
Pooled Variance	2.868952	
Hypothesized Mean Difference	0	
df	62	
t Stat	1.918765	
P(T<=t) one-tail	0.02981	
t Critical one-tail	1.669804	
P(T<=t) two-tail	0.059621	
t Critical two-tail	1.998971	

Exam 2

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	13.8125	13.5
Variance	2.673387	2.387097
Observations	32	32
Pooled Variance	2.530242	
Hypothesized Mean Difference	0	
df	62	
t Stat	0.785831	
P(T<=t) one-tail	0.21748	
t Critical one-tail	1.669804	
P(T<=t) two-tail	0.43496	
t Critical two-tail	1.998971	

Exam 3

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	13.15625	11.1875
Variance	2.071573	3.512097
Observations	32	32
Pooled Variance	2.791835	
Hypothesized Mean Difference	0	
df	62	
t Stat	4.71309	
P(T<=t) one-tail	7.12E-06	
t Critical one-tail	1.669804	
P(T<=t) two-tail	1.42E-05	
t Critical two-tail	1.998971	
P(T<=t) two-tail	1.2E-16	
t Critical two-tail	1.998971	

Exam 4

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	16.53125	13.5
Variance	1.611895	1.354839
Observations	32	32
Pooled Variance	1.483367	
Hypothesized Mean Difference	0	
df	62	
t Stat	9.955371	
P(T<=t) one-tail	8.87E-15	
t Critical one-tail	1.669804	
P(T<=t) two-tail	1.77E-14	
t Critical two-tail	1.998971	
t Critical two-tail	1.998971	

Exam 5

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	16.875	11.65625
Variance	1.596774	3.974798
Observations	32	32
Pooled Variance	2.785786	
Hypothesized Mean Difference	0	
df	62	
t Stat	12.50698	
P(T<=t) one-tail	6.59E-19	
t Critical one-tail	1.669804	
P(T<=t) two-tail	1.32E-18	
t Critical two-tail	1.998971	
P(T<=t) two-tail	6.7E-20	
t Critical two-tail	1.996564	

Exam 6

t-Test: Two-Sample Assuming Equal Variances

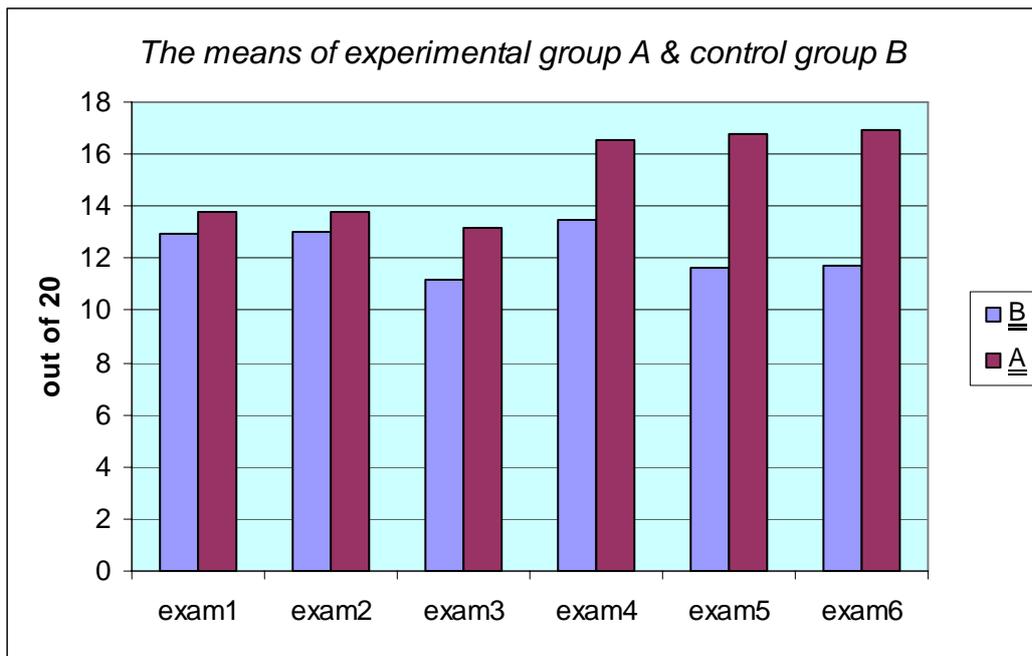
	Variable 1	Variable 2
Mean	16.9375	11.6875
Variance	1.995968	3.383065
Observations	32	32
Pooled Variance	2.689516	
Hypothesized Mean Difference	0	
df	62	
t Stat	12.80508	
P(T<=t) one-tail	2.28E-19	
t Critical one-tail	1.669804	
P(T<=t) two-tail	4.57E-19	
t Critical two-tail	1.998971	
P(T<=t) two-tail	2.12E-18	
t Critical two-tail	2.000298	

	exam1	exam2	exam3	exam4	exam5	exam6
B	12.93	13.05	11.18	13.5	11.66	11.69
A	13.75	13.81	13.15	16.5	16.79	16.937

Conclusion and Discussion

The research that has been presented here is quantitative in nature and is experimental in design. Its aim was to determine the effect of provision of trainings in reading strategies (i.e. Meta cognitive) and examine the extent to which it can improve readers' comprehension of ESP texts. As illustrated in the diagram and figures presented, the results of six class examinations on ESP reading texts (Aquaculture and fisheries science) held during the study for both groups A and B indicate a gradual transition in experimental group in terms of students' understanding of the reading texts. Indeed such understanding seems to be much more developed as the reading strategy trainings continued through the course of this study. However, we notice that there are not meaningful differences between the means of students reading comprehension in the first two instances of reading exams. This could possibly be accounted for by the fact that the trainings aimed at familiarizing the readers (in group A) with certain reading strategies were not well established and incorporated in their reading and that the idea of reading strategies was still a new phenomenon to most of them. Nevertheless, the results of the analysis of the raw scores, variance and mean of both groups and the T-Value obtained from the third instance of examination onwards clearly shows that the trainings in building the reading strategies of ESP texts began to bear fruits in that the readers in group A seem to have benefited from the trainings.

On the other hand, the relative fluctuations in the mean scores of subjects in control group B, as noticed in the bar graph may be due to the approach in teaching reading comprehension in this group which heavily relies on text-based processing and regard translations as equal to comprehension and fails to create the required interest in students to interact with the subject of reading text. The relative downward trend of student's performance in reading examinations also reveal that students in the control group might not have activated background knowledge about the topic of reading materials. It is interesting to note that since nearly all of the strategies designated to be taught to the participants in experimental group belonged to the *top-down processing* category, it was noticed that students in this group questioned the meaning of clauses and sentences less than the control group participants. Another interpretation for the relatively poor performance of the control group participants may be due to the fact that the related prior knowledge which plays a powerful role in the comprehension was not activated and learning strategies that enable students to link new information to prior knowledge did not function. It may be that the control group participants could not effectively establish a link between their related background knowledge and the information presented in the reading texts. In other words, the use of strategies in group A helped create an interaction between their *technical content schemata* and the linguistic elements of the written material which seems to be lacking in the control group. Therefore, students might not have been able to tap into the prerequisite prior knowledge without help and needed more teacher-directed activity to help accomplish the linkage. The explicit provision of reading strategy trainings for participants in group A might also have stimulated the *transfer* of these strategies from their native language to the current process of reading comprehension of reading texts, since as stated by Carrell (Carrell 1989,) if readers are in possession of *strategic schema* of reading, these behaviours would be expected to transfer from native to second language either at the same level or at a higher level to compensate for a lower linguistic level in English.



Although in this research, the instructional procedure demonstrated to be successful in improving comprehension, it may be premature to jump to any hasty conclusion since the study was not designed to compare the effectiveness of reading strategies training on students with varying degrees of language proficiency. However, the strategies training presented explicitly in the actual course of class activities apparently provided the students in group A with a more in-depth insight about the content of ESP texts. The readers in group A clearly monitored and later experienced themselves some of the covert and mental tricks proficient readers play in the process of reading. Majority of participants in experimental group demonstrated effective reading behaviour during the study. As can be seen in Appendix A and Appendix B, concerning ANOVA and the T-value obtained, it wouldn't be immodest to attribute the meaningful differences to the *treatment effect of the instructional procedure used* in experimental group wherein most of the participants seemed to have gained, at the end of the semester, an understanding about their own cognition as they read. It also implies that this group of participants acquired a good degree of understanding about their roles as readers. Another interpretation may be that they appreciated the need to orient themselves to the specific requirement of reading ESP texts that call for a fully activated discipline – specific schema. The findings of the research demonstrate that the model presented in this study may be applicable in other situations.

Suggestion

In the light of what the study has revealed and the confirmation of the research hypothesis, several directions for future research emerge. These include the need to refine and expand the particular methodology used here.

Moreover, it is hoped that the findings for the research will foster changes in the approach used in this research in teaching ESP courses currently implemented in the country. This will hopefully empower students to adopt a more versatile approach to reading ESP texts.

It is hoped that through explicit training in how to use reading strategies, awareness about the met cognitive aspects of reading strategy is established in such a way that it could ,in turn facilitate the transfer of strategies to new tasks.

So it would be logical to suggest that greater importance should be attached to the constructive role of strategy trainings which seems to be totally missing in majority of ESP classes in Iran. Therefore in order to facilitate the reading comprehension of readers such strategies should be incorporated within the normal syllabus and as part of the pre-reading tasks and teachers should be more attentive to these strategies and try to overtly teach the readers how to apply such tricks in actual process of reading.

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