



The Effect of Metadiscourse Awareness on L2 Reading Comprehension:

A Case of Iranian EFL Learners

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Abstract

This research attempts to investigate the degree of students' achievement in reading comprehension in English as a foreign language through explicit instruction in metadiscourse markers. For this purpose, 80 students studying at a language school (placed at intermediate levels of English language proficiency) were chosen to participate in the experiment. Every possible measure was taken to ensure that the participants lacked enough knowledge about metadiscourse. The participants were then randomly divided into four equal groups each containing twenty students. The first experimental group (EG1) included twenty participants who received instructions in both textual and interpersonal metadiscourse. The second experimental group (EG2) received instructions in only textual metadiscourse markers. The third experimental group (EG3) received instructions in only interpersonal metadiscourse. The control group received no specific instructions in metadiscourse and was only exposed to some input enhancement material and relevant exercises.

As a result of running a number of statistical procedures, instruction on metadiscourse revealed a positive effect on the participants' achievement in reading comprehension in English. The results of the study have some implications for materials designers; they can improve a learner's ability to understand and remember information from the text by improving it textually and interpersonally.

Keywords: Metadiscourse, Metadiscourse Markers, Textual Metadiscourse Markers, Interpersonal Metadiscourse Markers, Reading Comprehension

1. Introduction

Issues in second/ foreign Language have attracted the attention of researchers, language teachers, and educators. They have always been concerned with the question of how a learner develops listening, speaking, reading and writing. It seems that among so many questions, problems and discussions posed regarding these various language skills many of them have aimed at the acquisition and development of reading comprehension skill in ESL/EFL situations (Alderson, 2000).

Notions of reading comprehension have changed dramatically over the past decades. Reading approaches have moved from a behavioral perspective, which dominated the field from the turn of the century to the sixties and seventies, to a holistic or interactive approach, which began in the late seventies, and continues to shape our thinking about reading comprehension today. Practitioners of the interactive model view reading as a cognitive, developmental, and socially constructed task that goes beyond understanding the words on a page. In the past, reading was considered a relatively static activity. Meaning was embedded in the text, and the reader's job was to understand what was being transmitted via the words on the page. Current research views reading as a more dynamic process in which the reader constructs meaning based on information he/she gathers from the text. The text information as cited in

William's (1981), is presented at two levels; he points out that whenever an author writes more than a few words, he usually has to write on two levels: level of direction and the level of information. For example, look at the following sentences:

"He writes about the subject he is addressing, of course, foreign policy or the operation of a computer (the primary topic). "But he also tells his audience directly or indirectly how they should take his subject.

In the above two sentences, 'of course', 'but', and 'also' function as directives to the reader - they serve more to direct than to inform him. Also, in the preceding sentence, *for example*, it tells the reader how to connect that sentence to the previous ones. Williams (1981) uses the term metadiscourse to distinguish this kind of writing about reading from writing about primary topics.

Most texts contain some metadiscourse markers, without which, an author can not announce that he is changing the subject or coming to a conclusion, that what he is asserting is more or less reliable, or that his ideas are important. Without metadiscourse, he could not define terms or acknowledge a difficult line of thought, or even the existence of a reader (Cf. Crismore, 1989; Hyland, 2004; 2005). Metadiscourse awareness is based on a view of writing as a social engagement and, in academic contexts, reveals the ways writers project themselves into their discourse to engage readers, signal their guiding and organizing attempts, commitments, and attitudes (Hyland and Tse, 2004). Thus, motivated by the above introductory statements, the present study was intended to ascertain whether explicit instruction in elements of metadiscourse could affect EFL learners' achievement in reading comprehension.

2. Theoretical Background

Since reading is regarded as a chief goal in EFL contexts, it is necessary to have a few words on its importance in language learning. According to Anderson (1991), in schools today the major emphasis is usually placed upon the 'productive' skills of speaking and writing because they constitute easy standards for assessing achievement. Yet, as Jenkinson (1998) mentions, the reading process is one of the main vehicles for receptive learning, stressing that "books are still a prime source of knowledge" (p. 66).

Current views of reading regard reading as an interactive process that goes on between the reader and the text resulting in comprehension. The text presents words, sentences, and paragraphs that encode meaning: by activating metadiscursive skills (Crismore 1989).

But what is metadiscourse and what is the role of metadiscourse in reading comprehension? In considering the pragmatics of metadiscourse in academic context, Ken Hyland defines written metadiscourse as those "aspects of a text, which explicitly organize the discourse, engage the audience and signal the writer's attitude" (1998: 437). He further states that:

Based on a view of writing as a social and communicative engagement between writer and reader, metadiscourse focuses our attention on the ways writers project themselves into their work to signal their communicative intentions. It is a central pragmatic construct which allows us to see how writers seek to influence readers' understandings of both the text and their attitude towards its content and the audience (Hyland 1998: 437).

With metadiscourse awareness and strategies for using it, readers will better understand the author's text plan (Crismore, 1990). They will know whether they are reading the introduction, the body or conclusion of a text; they will know when the author has shifted to a different topic or defined a text; they will understand that an author is conceding his point or that he considers certain ideas more important than others.

Attention must be paid to giving students metacognitive awareness of metadiscourse and strategies for its use so that they may understand how to take the author, maintain schemas by connecting sentences, shift topics, recognize an introduction, transition, and a conclusion, recognize the author's attitudes and whether he is being subjective or objective, and recognize the relevance signals and circumstances, which define the rhetorical situation of the text. Readers become independent readers and are able to represent and encode the discourse into their long-term memory (Crismore, 1990).

Following the Hallidayian school of language, Hyland (1998) distinguishes between textual metadiscourse –or those "devices which allow the recovery of the writer's intentions by explicitly establishing preferred interpretations of propositional meanings" (p: 441) – and interpersonal metadiscourse –which "alerts readers to the author's perspective towards both the propositional information and the readers themselves" and as such is "essentially interactional and evaluative" (p. 443). Taxonomy of textual and interpersonal types of written metadiscourse proves to be very useful when teaching different language skills in EFL courses. In fact, it is worth pointing out that raising students' awareness of metadiscourse techniques in reading courses can be approached from two convergent disciplines: cognitive theory and pragmatics (Crismore, 1990).

From the perspective of cognition, metadiscourse will necessarily focus on text processing. In particular, through textual metadiscourse readers can reconstruct the organizing structure of the text, identify the logical linkage of contents thus processing the flow of information more easily and can also activate those conceptual schemas involved in communication of the meaning. If regarded from the premises of sociology and pragmatics, attention can be drawn to the process of interaction between author (s) and reader(s). Accordingly, interpersonal metadiscourse allows the audience to understand author's implicatures and presuppositions as well as author's stance while considering the social framework of the speech act.

Using metadiscourse means that the author has foreseen the audience's interactive frames and knowledge schemas, and that s/he has made the necessary amendments and additions to the information flow. If, as members of the same discourse community, both authors and readers use similar interpretive mappings, effective comprehension will cope with the reader's expectations in terms of contents, contextual resources and disciplinary knowledge and, as Wilson and Sperber (2004) would state, will therefore look for maximal relevance. As a result, using metadiscourse allows readers to understand discourse texture and intertextuality, to share pragmatic presuppositions, to infer intended meanings, and to interpret the institutional and ideological ties underlying the text.

Research on the effect of metadiscourse on reading and writing reveal different and sometimes intriguing results. For instance, researchers (e.g. Crawford Camiciottoli, 2003) concluded that some metadiscourse items do not always result in higher reading comprehension, because other factors may interact with metadiscourse and affect comprehension.

On the other hand, in L2 instructional contexts, it has been argued that knowledge of metadiscourse is particularly useful in helping learners of English with the difficult task of grasping the writer's position when reading authentic materials. In her exploratory study, Crawford Camiciottoli (2003) describes an exploratory classroom research with a group of Italian university students to gain further insight into the effect of metadiscourse on ESP reading comprehension. Two groups of students read selected extracts from two versions of the same text differing according to quantity and type of metadiscourse. The findings suggest that a more pronounced use of metadiscourse may be associated with improved comprehension. Although the findings of some studies (e.g. Crawford Camiciottoli, 2003; Intaraprawat & Steffensen, 1995; Vande Kopple, 1985) do not provide clear evidence that the presence of metadiscourse in a text improves comprehension, they do suggest that it has a facilitating role, and is therefore a topic that merits further study.

To sum up, it can be actually figured out that metadiscourse knowledge has a key role in understanding texts no matter whether reading occurs in L1 or L2. So, this role was further investigated through an experimental study which will be explained in the following sections.

3. Purpose and research questions

The primary aim of this research was to provide EFL teachers with a straightforward and clear view of how explicit instruction in metadiscourse may help to enhance learners' achievement in reading comprehension.

Thus following the same line of inquiry and interest, the present research specifically aimed to investigate the effect of explicit instruction in metadiscourse on reading comprehension in Persian learners of English.

Regarding the objectives of the present investigation, the research questions addressed in this study are as follows:

- 1). Does instruction on metadiscourse affect Iranian EFL learners' achievement in reading comprehension?
- 2). Which types of metadiscourse affect learners' reading comprehension more?
- 3). Does instruction in metadiscourse affect learners' achievement in other language components?

Based on the literature above and according to our experience, it was hypothesized that metadiscourse awareness has effects on reading comprehension in L2. Therefore, the following null hypotheses were formulated:

- 1). Explicit instruction in metadiscourse does not affect Iranian EFL learners' achievement in reading comprehension.
- 2). All types of metadiscourse markers do not affect differently in terms of their effect on learners' reading comprehension ability.
- 3). Explicit instruction in metadiscourse does not affect participants overall achievement in other language components.

4. METHODOLOGY

4.1 Participants

The population from which the participants were selected for this study included Iranian EFL learners, who enrolled in language institutes in Isfahan, and whose first language is Persian. To begin data collection, almost all the students at the intermediate levels of English were initially considered to participate in the study. A cohort of about three hundred students who had voluntarily agreed to take part in this study were all female students whose age range was between seventeen and twenty-five. After determining their age, sex, and language proficiency level, about one hundred students were initially chosen to take part in the study based on their scores on two placement tests.

The participants were, then, randomly assigned to four groups whose description will appear as follows. Only about eighty students who had already been placed at the intermediate levels of English proficiency (through the placement test) and were unfamiliar with metadiscourse (assessed through a reading comprehension test) were randomly chosen to be included within the groups described above. In order to assure the homogeneity of the participants' levels of proficiency in all the four groups of instruction, a One-way ANOVA was later run on the placement test results for the participants in each group. The results of the ANOVA are shown in the Table below.

Insert Table 1 Here

As illustrated in the Table above, the F-observed was not significant between groups. That is, the result indicated that the four groups involved in this study were similar regarding their levels of proficiency. One main reason for choosing only eighty of our large number of candidates was related to classroom space, since classes at the institute could nearly provide enough room for, at most, twenty students. The other reason was to allow and arrange for equal numbers of students in each group and, therefore, keep the number of participants the same among the four groups in the study. The table and chart below clearly show the quality of distribution among the groups in the study.

Number and distribution of participants in each of the four groups are shown in the following Figure:

Insert Figure 1 Here

According to the objectives and design of the study, the participants were randomly assigned to three experimental groups and one control group. Their characteristics will be described as follows:

- 1) The first group, i.e. experimental group (1; EG1), which was supposed to receive the treatment in the form of both textual and interpersonal metadiscourse markers, described in the Materials section below;
- 2) The second group of learners, comprising experimental group (2; EG2), which had to receive instructions in just textual metadiscourse markers;
- 3) The third group of learners, comprising experimental group (3; EG3), which had to receive instructions in just interpersonal metadiscourse markers. The results obtained from this group were then compared to the results and findings of the first and second experimental groups;
- 4) And the fourth group, as the control group (CG), which was to receive no specific instruction in metadiscourse and was to be exposed to ineffective instruction (placebo).

4.2 Materials

As to the purpose of the study, five types of tests were prepared. They included: (1) OPT for matching the participants on their levels of proficiency in each group; (2) a pretest on metadiscourse knowledge to check for initial differences among participants; (3) a pretest on reading comprehension; (4) a post-test on metadiscourse knowledge and (5) a reading comprehension post-test to measure the participants' achievement as a result of the treatment. More information about these instruments will be provided in the following order.

The first instrument (OPT) was used in order to match the participants in terms of their proficiency in the four groups under investigation. As it was pointed out in the previous section, the placement test used for choosing the learners who were supposed to take part in this study was one already designed and established by the Language Center at Oxford University and employed for institute placement purposes by the Testing and placement Committee at the institute. This placement test consisted of about 50 multiple-choice question items which the students were supposed to answer by choosing one option among three other options. The test comprised different types of items including both the components and skills of the English language. The second instrument prepared was a pretest on metadiscourse knowledge. The metadiscourse pre-test was administered to all the participants before going through grouping procedures and the relevant courses of instruction; it contained a passage adapted from the book "Reading for intermediate students" by Oxford University Press. The participants were required to underline metadiscourse markers. If the participants underlined words that had propositional meaning, they were included in one of the groups of study at random; otherwise they were eliminated.

Students in the first experimental group, to gain awareness and mastery of metadiscourse knowledge were provided with a list of definitions and examples of both textual and interpersonal metadiscourse proposed by Vande Kopple (1985). They were given the opportunity to give(LIST?) synonyms for the types of metadiscourse and generate sentences using them. Students were given sentences with the metadiscourse markers deleted and were asked to supply the markers. They were given passages with metadiscourse markers and were asked to identify metadiscourse to be written down explaining the function of each marker on a sheet of paper. Students were required to use each type of metadiscourse markers (textual and interpersonal) in various types of sentences (simple, compound, complex, compound-complex and declarative, imperative, question) and also in larger units-paragraphs and passages. The students in the second experimental group were provided with similar treatments but were exposed to only textual metadiscourse markers. The third experimental group received the same instructions in terms of interpersonal metadiscourse markers only. As for the participants in the control group, they received no specific instruction in metadiscourse.

The reading comprehension post-test, examined the participants' achievement in reading comprehension at the end of their relevant courses of instruction. The participants' scores on this test were compared between and among the groups to find points of differences and significance in each. The participants were also given a 12-item metadiscourse post-test (see appendix) to evaluate their ability in recognizing metadiscourse markers in a text.

As for the scoring procedures, since each reading comprehension test contained four passages each comprising 5 questions, the maximum score was decided to be twenty, i.e. one mark for each correct answer and 0 for incorrect one, and each metadiscourse test contained a passage including 12 metadiscourse markers, the maximum score was decided to be twelve, i.e. one mark for recognizing each metadiscourse marker correctly and 0 for incorrect recognition. As a result, the analysis of the results from the tests and their comparisons are presented in the following section.

5. Results

In order to investigate the aforementioned null hypotheses, a number of descriptive and inferential statistical procedures were used. The results obtained through such analysis will be explained and delineated in the following section.

To begin with, first descriptive statistics was run in order to obtain sample statistics concerning the results of pre-tests within experimental and control groups. The descriptive statistics of the pretest results will be shown in Tables below. The maximum score for each test was decided to 20. The first pretest was a reading comprehension measure, which aimed at investigating the equality among groups before the treatments were given. As can be observed in the Table below, the groups are somehow similar in their scores on this pretest.

Insert Table 2 Here

The second pretest was to make sure of the initial differences among the four groups concerning the participants' knowledge about metadiscourse before the experiment. The following Table shows descriptive results obtained in this test.

Insert Table 3 Here

As can be observed in the above Table, the groups are also similar in their scores on the second pretest. It can be seen from the information provided in the sections below that the participants did better on the posttests as compared to the results on the pretests discussed above but to varying degrees of success. The following sections represent the data analysis confirming this remark

After all the groups in the study went through necessary treatment/placebo, they were asked to take a reading comprehension test containing four passages with five questions. Their scores on this test were then calculated and analyzed, the results of which appear in the tables and diagrams below:

Insert Table 4 Here

As is clearly depicted in the above Table, the first experimental group (that received instructions in both textual and interpersonal metadiscourse) did much better than the other three on this posttest. In addition, the second experimental group whose members received instructions in only textual metadiscourse markers performed better on the reading comprehension test than the third experimental that received instructions in only interpersonal metadiscourse markers and the third experimental group performed somehow better than the control group which scored the lowest on the test.

After the administration of the first posttest, the participants were asked to take a reading test in order to measure their ability in understanding elements of metadiscourse in a text. The statistics for the second posttest are shown in Table 5 below.

Insert Table 5 Here

As can be seen, descriptive statistics are very much similar to those obtained on the reading comprehension posttest. It is clear that the first experimental group is still in the lead, with the second experimental group following, and the third experimental group and the control group remaining in the last position

The inferential statistics (T-Test and analysis of variance) were run in order to capture the population parameters so as to set the grouping for the investigation of the stated null hypotheses. The findings obtained through such analysis will be explained and delineated in the following paragraphs.

A comparison between the reading comprehension pretest results and the results from the reading comprehension posttests for all the four groups in the study shows great improvement in the learner's reading comprehension to varying degrees. First the Paired – Samples T-Test procedure with .05 level of significance was set to see whether there exists any significant difference in terms of the subjects' gains before and after the treatment within each group. The data consisted of two measures taken by the same subjects, one before and one after the courses of instruction took place. The results of the paired TTest are shown in the Table below:

Insert Table 6 Here

The descriptive Table above displays the mean, sample size, standard error for the experimental groups. The mean column in the paired – Samples T-Test Table displays the average difference between the pre – and post – tests. By looking at the column for means, one can easily infer that across all twenty subjects in the first experimental group, level of achievement highly increased (between one to three points on average) after receiving the treatment

By further comparing the results of all the four groups in their relative T-Test table, it can clearly be observed that the first experimental group was more affected by the treatment than the other groups. Although the second experimental group had less progress than the first one, it did, however, a better performance on posttests than both the third experimental group and the comparison group. The standard deviations for the pre – and post – tests for each of the four groups reveal that subjects' achievement vary significantly with respect to the treatment they received in each group.

The significance (2-tailed) column displays the probability of obtaining a t statistic whose value is equal to or greater than that of the obtained t statistic. Since the significance Value for each pair in the table is much less than 0.05 ($p < 0.05$), we can conclude that the average for each level is not due to chance variation at all, and the change can be safely attributed to the relevant treatments for each group.

Applying more inferential statistics was deemed essential to provide further empirical and statistical information for supporting or rejecting the first null hypothesis regarding the first experimental group's success in reading comprehension over the comparison group that received no specific instructions in metadiscourse. For this reason, a One – way ANOVA was run on the results of the reading comprehension posttest and the groups were compared to locate the point(s) of significance between and among the groups in the study.

The ANOVA Table beneath contains within and between group descriptive statistics, F value, and significance for the first experimental group and the comparison group results on the reading comprehension posttest. The between groups (combined) test has a value below 0.05 (.000), and therefore a significant value for F, indicating that there is a significant relationship between grouping and results on the reading comprehension posttest.

Table7. ANOVA table depicting between and within group descriptive statistics and significance for the first experimental group and the comparison group post-test results. ($p < 0.05$).

As we have already evidenced, these results coincide with what is observed in the reading comprehension and metadiscourse post-tests. The significance value of the observed F in above ANOVA Table is 0.00; thus we are able to reject the first null hypothesis. That is, explicit instructions in metadiscourse had a positive effect on the participants' performance on reading comprehension in English. Now as the value of observed F indicated that the groups differ in some way, we need to learn more about the structure of the differences in order to be able to reject the second null hypothesis. For this purpose, a one-way ANOVA was run, whose final results are shown in Table below.

Insert Table 8 Here

After the significant F was found, Scheffe post hoc test was used to draw sound statistical conclusions based on the observed results. Fishers LSD post hoc test was also used in order to ensure that the results obtained from the Scheffe test were valid and reliable, since LSD provides a rather stronger view of the data than Scheffe.

Insert Table 9 Here

As the closer study of the above Table shows, we have gained significant results for all our three comparisons among the groups. The “Mean Differences” column helps to “see” the differences between and among group statistics. As the above Table shows, subjects in the second experimental group (EG2) performed significantly better on the reading comprehension posttest than the comparison group (a mean difference of about 3 points), and the third experimental group (EG3) performed somewhat better on the reading comprehension posttest than the comparison group (a mean difference less than one point).

The results obtained, therefore, reject the second null hypothesis, that all types of metadiscourse markers do not affect reading comprehension in Persian learners of English.

Similar statistical operations, as those of the reading comprehension posttest, were carried out on the statistics obtained from the metadiscourse posttest results in order to gain further empirical evidence for rejecting or confirming the first null hypothesis regarding the effect of explicit instruction in metadiscourse on learners' achievement in reading comprehension in English. The results are shown in the following Table:

Insert Table 10 Here

Because the observed variability between groups was found to be statistically significant, Scheffe post hoc test and Fisher's LSD test were also used to locate exact sources of difference among groups. The following table gives a precise sketch of the results of the Scheffe posthoc tests:

Table11. Multiple Comparisons among the four groups on the metadiscourse posttest results using Scheffe and Fisher's LSD posthoc tests ($p < 0.05$)

A second look at the metadiscourse posttest ANOVA Tables above demonstrates roughly similar results gained upon examining both test's statistics. That is, the participants in the first experimental group could recognize metadiscourse markers much better than the participants in the other groups.

It is easy to see that the significance value of the observed F in the above ANOVA Table and the significance values obtained from the analysis of the metadiscourse posttest results through post hoc tests are 0.00 ($p < 0.05$). Also, as observed earlier, the significance value of the observed F for the reading comprehension posttest was highly significant, too. These significant results from both types of analyses allow us to safely reject the first null hypothesis regarding the success of metadiscourse awareness in causing learners' achievement in reading comprehension.

In order to investigate the third null hypothesis a one-way ANOVA was also run on the results of the language achievement test that was given to the participants at the end of the term. The ANOVA table beneath contains within and between group descriptive statistics, F value, and significance for group results on the language achievement posttest:

Insert Table 12 Here

As the ANOVA results show in the Table above, the between groups test has a value below 0.05 (.000), and thus a significant value for F, indicating that there is a significant relationship between grouping and results on the language achievement posttest. So, the obtained finding in the above Table rejects the third null hypothesis. That is, explicit instructions in metadiscourse had a positive effect on the subjects' language achievement in English.

As a consequence of running different inferential statistics, a number of findings emerged, which will be fully delineated and discussed in the following section.

6. Discussion and Conclusion

According to the findings obtained in the light of running different statistical tests, all three null hypotheses were rejected. And certain significant findings were obtained which are presented here from most to less important ones.

- Explicit instructions in metadiscourse improved learners' reading comprehension;
- Textual metadiscourse markers improved learners' comprehension better than interpersonal metadiscourse markers;
- Interpersonal metadiscourse markers affect learners' comprehension but not ARE NOT as EFFECTIVE AS textual metadiscourse markers;
- Metadiscourse awareness in EFL courses can affect learners' other language skills and components (language achievement).

As has been mentioned several times throughout, the field of teaching/learning, in its rather long history, has witnessed various educational methods and approaches informed by different theories (Hudson, 2007).

In this study, the explicit way of teaching metadiscourse was applied, and with the help of data analysis and discussion went above, a number of intriguing findings were obtained. Following our findings, our concluding remarks want to elicit that,

- 1) Instruction on metadiscourse influenced the subjects' consciousness efficiently so as to boost their ability of reading comprehension, and thus led to their significant performances on the post-test.
- 2) Although instruction on all metadiscourse markers affected the subjects' performances, awareness on textual markers seemed to be note-worthy in relation to interpersonal ones.
- 3) From the overall findings, it can be figured out that instruction on metadiscourse awareness not only affected the subjects' performances on reading comprehension, but also enhanced their achievement in all aspects of L2 focused during the course of experiment.
- 4) In line with current findings, our results have proved how metadiscourse contains an enormous potential for teaching and learning reading skill. This study is still too limited, but it can be seen as a first contribution to the topic. Work can also be carried out in a more extensive way by selecting participants from other native language backgrounds to see whether the same problems.

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Appendix

Metadiscourse Posttest

Read the following passage and underline metadiscourse markers and label their type as to whether they are textual or interpersonal.

The child in the hospital bed was just waking up after having his tonsils taken out. His throat hurt, and he was scared. However, the young nurse standing by his bed smiled so cheerfully that the little boy smiled back. He forgot to be afraid. The young nurse was May Paxton and she was deaf.

May Paxton graduated from the Missouri School for the Deaf at Fulton near the year 1909. Three years later she went to see Dr. Katherine B. Richardson about becoming a nurse. Dr. Richardson was one of the founders of Mercy Hospital of Kansas City, Missouri. She had never heard of a deaf nurse. Dr. Richardson told May that her salary would be very small and that the work would be arduous. However, May said that hard work did not frighten her. Dr. Richardson was impressed with her, and accepted May as a student nurse. Dr. Richardson never regretted her decision. In fact, she was so pleased with May's work that she later accepted two other deaf women as student nurses. The first was Miss Marian Finch of Aberdeen, South Dakota, who was hard of hearing. The second was Miss Lillie "Bessie" Speaker of St. Joseph, Missouri. These three were called "the silent angels of Mercy Hospital" during the time they worked there.

May and Marian did not know each other before Marian was hired by the hospital. When Marian first came to the hospital, Dr. Richardson introduced May to Marian. She showed them to the room they were to share. During the next two days, the two girls wrote notes to each other. Finally, other nurses asked Marian if she knew that May was deaf. Marian ran to the bedroom and asked May in sign if she really was deaf. May answered in sign. Then, as the joke sunk in, the two girls burst into laughter. May was always conscientious about following orders. Only once did she disobey Dr. Richardson. It took a lot of time to care for all the sick children, as a result, Dr. Richardson asked the nurses not to take the time to hold the new babies when they were crying. However, May hated to see the babies cry. When Dr. Richardson was not around, she found time to hold them. This small change helped the nursery to run much more smoothly. When Dr. Richardson discovered what May was doing, she recognized that May's actions had improved the nursery, and decided to overlook May's disobedience.

In spite of their success, none of the girls finished the nursing program. Marian had to go back to South Dakota because of a family problem. Illness forced Bessie to give up her nursing career. May decided to give up nursing for marriage, and married Alexander Benoit. Dr. Richardson often spoke of her faith in the girls' ability to learn nursing. She wrote to May, "For three years, you have been with us ... It is wonderful to me that no man, woman or child ever, to my knowledge, made a complaint against you ..."

Adapted from: Goodstein, A. & Walworth, M. (1979). *Interesting Deaf Americans*. Washington, DC: Gallaudet University. Used with permission from the Gallaudet University Alumni Association.
Revised by Vivion Smith and Ellen Beck

Table1. One-Way ANOVA determining group homogeneity between groups in the study

<i>*Source of Variation</i>	Sum of Squares	d.f	Mean Square	F	Sig.
Between Groups	38.700	3	12.19	.353	.787
Within Groups	2775.100	76	36.514		
Total	2813.800	79			

Table2. Descriptive statistics for each group's performance on the reading comprehension pretest: Reading comprehension

	Groups			
	comparison	Experimental (1)	Experimental (2)	Experimental (3)
Mean	14.05	14.15	13.80	13.90
Std.Deviation Descriptives	2.114	2.183	2.215	2.100
Variance	4.471	4.766	4.905	4.411
Maximum	18	19	18	18

Table3. Descriptive statistics for each group's performance on the metadiscourse pretest:

	Groups			
	Control	Experimental (1)	Experimental (2)	Experimental (3)
Mean	4.20	4.15	4.20	4.15
Std.Deviation	2.042	2.346	1.963	2.033
Variance	4.168	5.503	3.853	4.134
Maximum	9	9	9	8

Table4. Descriptive statistics for each group's performance on the reading comprehension posttest.

	Control	Experimental (1)	Experimental (2)	Experimental (3)
Mean	13.925	16.50	16.750	14.350
Std.Deviation	2.41	2.322	2.226	2.116
Variance	4.165	5.395	4.955	4.476
Maximum	18	20	19	18

Table5. Descriptive statistics for the results on the second posttest.

	Groups			
	Control	Experimental (1)	Experimental (2)	Experimental (3)
Mean	4.10	7.70	7.50	5.75
Std.Deviation	2.075	2.812	2.838	2.807
Variance	4.305	7.905	8.053	7.882
Maximum	9	12	12	11

Table6. Paired – Samples T-Test showing significant difference in the Three experimental and comparison group's performance on the reading comprehension pre-and post-test ($p < 0.05$).

ANOVA

Post-test

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	98.331	2	49.166	26.015	.000
Within Groups	103.944	55	1.890		
Total	202.276	57			

Table8. ANOVA table depicting between and within group descriptive statistics and significance for the second experimental group, third experimental group, and the comparison group posttest results (P<0.05).

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	G1-Pre&G1-Post	-3.80	1.93581	.43286	-4.706	-2.894	-8.779	19	.000
Pair 2	G2-Pre&G2-Post	-2.90	1.74416	.39001	-3.716	-2.084	-7.436	19	.000
Pair 3	G3-Pre&G3-Post	-.650	2.41214	.53937	1.779	.47892	-1.205	19	.043
Pair 4	G4 - NONE	-.167	2.20294	.51924	-1.262	.92883	-.321	17	.752

Table9. multiple comparisons among groups using Scheffe test and LSD post-hoc Dependent variable: score

(I)Teaching M (J) Teaching M		Mean Difference (I-J)	Std.Error	Sig.	Confidence Interval%95		
					Lower Bound	Upper Bound	
Scheffe	Control Group 3	-2.150*	.6732	.009	-3.842	-.458	
	G Group 2	-.425	.6732	.820	-2.117	1.267	
Group 2	Group 3	Control G	2.150*	.6732	.009	.458	3.842
		Control G	1.725	.6732	.045	.033	3.417
Group 3	Group 2	Control G	.425	.6732	.820	-1.267	2.117
		Control G	-1.725*	.6732	.045	-3.417	-.033
LSD	Control G	Group 2	-2.150*	.6732	.002	.802	3.498
	Group 3	Group 2	-.425	.6732	.013	.377	3.073
Control G	Group 2	Group 3	2.150*	.6732	.002	.802	3.498
		Group 3	1.725*	.6732	.013	.377	3.073
Group 3	Control G	Group 2	.425	.6732	.530	-.923	1.773
		Group 2	-1.725*	.6732	.013	-3.073	-.377

*.The mean difference is significant at the .05 level

Table10. ANOVA Table depicting between and within group descriptive statistics and significance for the metadiscourse posttest results (p<0.05)

Post-test:Metadiscourse

	Sum of Squares	d.f	Mean Square	F	Sig.
Between Groups	170.738	3	56.913	8.089	.000
Within Groups	534.750	76	7.036		
Total	705.488	79			

Table12. ANOVA Table depicting between and within group statistics and significance for the language achievement posttest results (P<0.05)

Posttest:Language achievement

	Sum of Squares	d.f	Mean Square	F	Sig.
Between Groups	501.250	3	167.083	7.049	.000
Within Groups	1801.500	76	23.704		
Total	2302.750	79			

		Teaching Method			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Control G	20	25.0	25.0	25.0
	Group 1	20	25.0	25.0	50.0
	Group 2	20	25.0	25.0	75.0
	Group 3	20	25.0	25.0	100.0
Total		80	100.0	100.0	

Visual representation of participants' grouping distribution

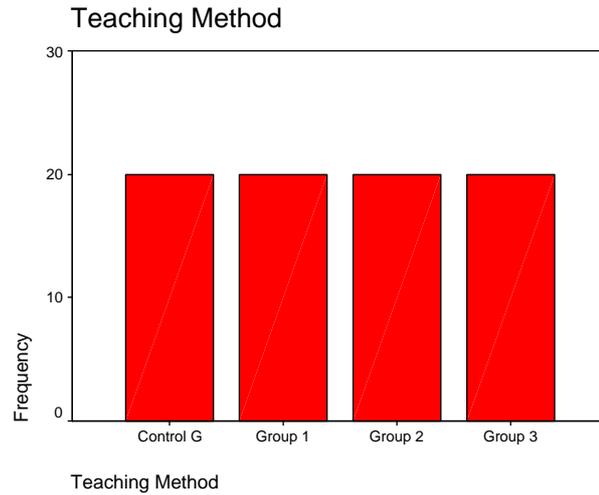


Figure 1.