

## The Effect of Discourse-based Grammar Teaching on Reading Comprehension Ability in Iranian EFL Context

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### ABSTRACT

Reading is one of the most important activities in language classes. It helps the learners to enhance their world knowledge. Successful reading comprehension depends on a plethora of factors. One of which is grammatical knowledge. The purpose of this study was to examine the role of discourse-based grammar teaching in EFL context and its impact on developing upper intermediate EFL learners' reading comprehension ability. In order to evaluate the effect of discourse-based grammar (independent variable) on the EFL learners' reading comprehension ability (dependent variable), 50 upper intermediate English language learners were selected randomly from 2 English language Institutes. All subjects were pretested for their homogeneity in terms of language proficiency. Then, they were assigned into 2 groups. The experimental group was treated with discourse-based grammar teaching for 10 sessions, two sessions each week, and the control group just received the traditional grammar instruction. Analysis of covariance (ANCOVA) was run to probe the research question. The analysis showed that there was a significant difference between the two groups on the reading comprehension scores ( $F_{(1, 41)} = 26.54, p = 0.000 < 0.05$ , partial eta squared = 0.387 representing a medium effect size). Additionally, there was a significant difference between the two groups' means on the posttest of reading while controlling for the possible effects of the pretest. The means of the scores for the experimental and control group are 14.81 and 12.96, respectively. Therefore, it is concluded that the treatment on experimental group caused significant improvement in their reading comprehension ability.

**Key words:** Discourse, EFL Learners, Discourse-based Grammar Teaching, Reading Comprehension, Authentic Materials

### INTRODUCTION

Studies on foreign language learning indicated the unique complexity of L2 reading. L2 reading which is receiving and interpreting information encoded in L2 via the medium of print (Urquhart & Weir, 1998) involves various factors, i.e. "orthography, vocabulary, grammar, background knowledge, and metacognitive strategies (Jung, 2009). The current study sought to investigate how grammatical competence makes a contribution to L2 reading comprehension. More specifically, it aimed to evaluate the impact of discourse-based grammar teaching on Iranian EFL learners' reading comprehension ability. It is undeniable that grammar influences EFL learners' reading comprehension either directly or indirectly. However it has not received much attention by the researchers (Urquhart & Weir, 1998). This may be related to two factors: nature of reading as a receptive skill for comprehending the text. It seems that grammatical competence has less to do with understanding a text than other components such as vocabulary, background knowledge and reading strategies. The second dominant factor is the emergence of Communicative Language Teaching (CLT)

which downgraded the role of grammar not only in L2 reading but also in language teaching/learning process in general. CLT, rather, put emphasis on macro language skills and communicative functions (Urquhart & Weir, 1998).

### REVIEW OF RELATED LITERATURE

#### A Brief History of Teaching Grammar

Grammar has had a dominant role in EFL classrooms but its teaching methods have varied significantly. Hall (2011) states that teaching methods reflect the spirit of the times such as social values, hence they are context-dependent. Not only have the methods of grammar teaching changed but language teaching in general. Current view of language and the role of the learner in language learning process have dictated the methods of teaching grammar.

In the history of EFL teaching methods, various trends in grammar teaching have been emerged to enhance learners' competence in a foreign language, including Grammar-Translation Method (GTM), Direct Method (DM), Audio-lingual Method (ALM), Communicative Language

Teaching (CLT), etc. For centuries, the main focus of grammar teaching was on written form of language and grammar was seen as a set of rules. Language teaching was equated with grammar teaching. This era was grammar-translation method (GTM) or Classical method era which is still popular among teachers worldwide, especially in situations in which the main purpose of language learning is reading, writing, and translation (J.C. Richards, 2015). Traditional grammarians highlighted the study of linguistic forms in isolation. Learners were asked to memorize the rules and use them in sentence-level exercises with a complete absence of the real communicative activities. The drawbacks of traditional method of grammar teaching and the emergence of two schools in linguistics and psychology, structural and behavioristic school, altered the focus of attention from explicit teaching of grammar to implicit one. In the 1960s, under the influence of Chomsky's work and cognitive psychology, the trend swung back to the explicit teaching of grammar.

The 1970s was marked with another major shift in grammar teaching, the emergence of CLT forced the pendulum back to more implicit grammar teaching. This movement set communication as the aim of language instruction. Again grammar was deemphasized reflecting the view that fluency has priority over accuracy or accuracy would be acquired naturally overtime. Advocates of this trend such as Krashen believed that grammar instruction is detrimental to language learning. Krashen (2002) states that: "Language does not require extensive use of conscious grammatical rules, and does not require tedious drills. Acquisition requires meaningful interaction in the target language in which speakers are concerned not with the form of their utterances but with the messages they are conveying and understanding" (p. 397, cited in El-Dakhs, D, 2014). Krashen's view came to be known as strong version of CLT in which grammar instruction is completely excluded. Following Krashen, Michael Lewis introduced lexical approach which was an alternative to grammar-based teaching approaches. He highlighted the role of lexis in language learning instead of grammar. Nowadays SLA researchers reconsidered the role of grammar teaching in the light of Schmidt's noticing hypothesis and Consciousness-raising. Schmidt (2001), proposing that noticing is a crucial condition for language learning to happen, added that language learners may not acquire formal features via solely language exposure. Without consciousness-raising, learners may be unable to use the input to which they are exposed as intake for learning (El-Dakhs, 2014). These hypotheses and some other studies including studies on French immersion in Canada showed that grammar instruction need to be included in language teaching classes. Therefore, what is important now is that this dilemma for language teachers and researchers has been resolved. The question now is not "Should we teach grammar?" The question is "How can grammar be taught effectively?" (Thornbury, 1999). Two main approaches for teaching language forms are briefly dealt with in the following section.

### Form-Focused and Meaning-Focused Instruction

The term "form-focused instruction" (FFI) is defined by Ellis (2001:2) as "any planned or incidental instructional

activity that is intended to induce language learners to pay attention to linguistic form". The form-focused instruction encourages the learner to focus on the formal features of the language while meaning-focused instruction encourages semantic processing. Trosburg (1994) made a distinction between form-focused and meaning focused instructions. She maintained that in form-focused instruction, learners were engaged in activities designed to teach predetermined grammatical features while in meaning-focused instruction, learners are engaged in activities the purpose of which is the exchange of meaning and in which there is no deliberate effort to achieve grammatical correctness. It favors incidental acquisition of the target language. According to Norris & Ortega (2001), meaning-focused approach to second language instruction corresponds with the non-interface view, by providing exposure to rich input and meaningful use of the target language. Krashen and Terrell's Natural Approach, some content-based ESL instruction and immersion programs are examples of meaning-focused instructional approach.

### Traditional Grammar Teaching

Traditionally, grammar teaching was assumed to be presenting and practicing of grammatical items out of context. This view is promulgated in many textbooks. Ur (1996), for example, in her chapter titled "Teaching Grammar" has units on "presenting and explaining grammar" and "grammar practice activities." Hedge (2000) in her chapter titled "Grammar" similarly merely considers "presenting grammar" and "practicing grammar." This hardly entails an overly broad definition of grammar teaching. It is crystal clear that teaching grammar has presentation and practice phases. However, this is not the whole picture. "Grammar teaching can involve learners in discovering grammatical rules for themselves (i.e., no presentation and no practice). Grammar teaching can be conducted simply by exposing learners to input contrived to provide multiple exemplars of the target structure" (Ellis, 2006, p.84). It can also be done via exposing learners to authentic context and conscious awareness. In sum, "grammar teaching involves any instructional technique that draws learners' attention to some specific grammatical form in such a way that it helps them either to understand it metalinguistically and/or process it in comprehension and/or production so that they can internalize it". (ibid, p.84).

Traditional methods of teaching grammar which was almost the dominant method in the twentieth century relied on the sentence as a unit of analysis. This view was Chomsky's Grammar theory claiming that a competent language user is the one who produces well-formed sentences. However, this belief ended in the production of individual, decontextualized sentences among foreign language learners. This trend led applied linguists, researchers and educationists to consider other factors contributing to the meaning conveying, and to the ability of using the language. As a result, CLT "appeared in the second half of the twentieth century, giving importance to the communicative functions of language use as an integral part of the teaching program". This trend focused on "discourse" as the basic unit of analysis and took into

account the importance of context in which this discourse occurs (M. Elkouti, 2017).

### Discourse-based Grammar Teaching

Celce-Murcia & Olshtain (2001) state that the term “discourse”, having a variety of definitions, appeared in the second half of the 20<sup>th</sup> century as the basic unit of analysis. They define it as:

“...an instance of spoken or written language that has describable internal relationships of form and meaning that relate coherently to an external communicative function or purpose and a given audience/interlocutor. Furthermore, the external function or purpose can only be determined if one takes into account the context and participants (i.e. all the relevant situational, social, and cultural factors) in which the piece of discourse occurs” (p. 4, cited in M. Elkouti, 2017).

With the advent of communicative language teaching (CLT), the role of discourse has become increasingly important in language teaching. Pennycook (1994a) asserts that “today it is rare to find people involved in language teaching who are unaware of the significance of discourse for teaching reading, writing, intonation or spoken language, and for the evaluation of students’ communicative competence” (cited in Trappes-Lomax, 2004, p. 152).

As Canale and Swain (1980) argue, communicative competence entails four dimensions: grammatical competence, discourse competence, sociolinguistic competence, pragmatic and strategic competence. However, they are viewed as discourse competences because they “account for the ability of members of speech communities to put language to use” (Trappes-Lomax, 2004). Celce-Murcia and Olshtain (2001) also maintain that the most important dimension in Canale and Swain’s (1983) model of communicative competence is discourse competence, stating that it is “in and through discourse that all of the other competencies are realized. And the manifestation of the other competencies can best be observed, researched, and assessed” (ibid, p. 16). McCarthy and Carter (1994) obviously declare:

“...an integrative view wherein the over-arching perspective of language as discourse will affect every part of the syllabus, including any conventional system components and functional/speech act components, however they are treated, whether as a series of layers of language, or as realizations within general specifications of discourse strategies” (cited in Trappes-Lomax, ibid, p. 12).

Discourse-based grammar teaching puts emphasis simultaneously on three dimensions of grammatical structure. That is, ‘form, meaning and use’ within an authentic context. The rationale behind this approach is that when a new form is introduced in authentic context via conscious awareness or noticing techniques, it helps learners to grasp ‘form, meaning and use’ simultaneously. Empirical studies point out this enables the learners to use the given form in real situations when it is needed. Therefore, they will become communicatively competent.

Celce-Murcia and Olshtain (2005) say that:

“Discourse-based approaches to language teaching allow for target language engagement that focuses on meaning and real communication. Such real commu-

nication can, of course, be carried out in speech or in writing with a variety of communicative goals. Learners of different age groups and different levels of language proficiency should have, according to such an approach, many opportunities for natural exposure to the target language during the course of study, as well as many opportunities to use the language for meaningful purposes” (p. 734/735, cited in M. Elkouti, 2017).

### Reading

Reading is one of the most important activities in language classes. It enables the learners to work at their own pace and to enhance their world knowledge. It also assists them to consolidate their knowledge of the language. Reading is a means of getting information from different sources including scientific and literary books, journals as well as the Internet. Successful reading comprehension relies on a plethora of factors including the grammatical knowledge that the reader has. It is influential in comprehending texts, both for the first language (L1) and for the other languages (L2 or L3) acquired (e.g., Grabe, 2005, 2009; Jeon & Yamashita, 2014, cited in A. K. Steinlen, 2017). The hallmark of skilled reading is considered to be the ability to read fluently and with sufficient comprehension.

### Empirical Studies

Literature review indicated that there is a paucity of empirical studies on the impact of grammar knowledge on learners’ reading comprehension. Grabe (2009, cited in A.K. Steinlen, 2017) claims that the separation of grammar and reading, as an instructional issue, may be due to the emergence of communicative language teaching in which the role of grammar is downgraded.

There has been no consensus on the role of L2 grammar in L2 reading comprehension. For example, some researchers have claimed that having grammar knowledge for L2 readers is crucial up to a certain point. Factors such as top-down schema knowledge, inferencing, and contextual knowledge play more important roles in comprehension (e.g., Celce-Murcia & Olshtain, 2001). Other researchers such as Grabe, (2009) argue in favor of a strong relation between grammar and reading in L2 acquisition. They consider grammar knowledge as the building block of L2 reading comprehension, even at very advanced levels of L2 comprehension. Jeon and Yamashita (2014), in a meta-analysis of L2 reading comprehension and its correlates, found that L2 grammar knowledge was indeed one of the three strongest correlates of L2 reading comprehension (apart from L2 vocabulary and L2 word decoding). Prajnaparamita (2013) conducted a research to examine the relationship between grammar ability and reading comprehension among fourth semester students of English education department in Yogyakarta State University, focusing on subject –predicate construction, noun phrase understanding and word recognition and reading comprehension ability. He found that there is a positive and significant relationship between grammar ability and reading ability. In other words, grammatical



competence in terms of subject predicate construction, noun phrase understanding and word recognition ability has significant roles in the reading comprehension ability. That is: the more grammar knowledge learners have, the higher their score would be in reading comprehension.

Most researchers leading an investigation into the role of grammar in L2 reading examined the issue by measuring the correlation between learners' 12 reading comprehension ability and their grammatical knowledge (Urquhart & Weir, 1998). For example, Alderson (1993), having reviewed the collected data from the English Language Testing Services (ELTS) Revision Project, noticed a substantial correlation between the scores on the reading test and grammar test, which led him to the conclusion that grammar knowledge had a key role in L2 reading. Similarly, Kuhn and Stahl's (2003) study revealed that teaching L2 readers to parse sentences into meaningful phrases and providing them with already syntactically segmented texts promoted L2 reading comprehension to a significant level. That is to say, "the abilities to identify syntactic roles of words, dissect sentences into meaningful chunks, and recognize the syntactic structure of a sentence seem to contribute to the construction of meaning from the text" (Jung, 2009, p.33).

While some others, such as Barnett; Barry & Lazarte, strived to provide evidence for the role of grammar in L2 reading comprehension by comparing the impact of grammar knowledge with that of other L2 reading components including prior knowledge and vocabulary. Barry and Lazarte (1995, cited in Jung, 2009) studied 'the effect of additive embedded clauses on the recall performance of two groups of L2 Spanish readers: those with high topic knowledge and those with low topic knowledge'. Their study demonstrated that syntactic complexity of sentence structures overshadowed the privilege of having background knowledge. Also, Barnett's (1986) study indicated that "both syntactic and vocabulary affect reading comprehension, but unduly stressing vocabulary-building or inferencing skills may very well not help those students who lack adequate syntactic knowledge (p.346 cited in Jung, 2009). In other words, Barnett's study delineated the importance of grammar in promoting learners' reading comprehension ability. In short, reading has been an important issue of English language teaching and learning process. "Despite advances that have been made in our understanding of the nature of second language reading, many students still read in English with difficulty" (Richards, 2015). This is due to the inadequacy of grammatical knowledge, vocabulary knowledge, and prior knowledge (Richards, 2015).

The main thrust of the current study was to address the impact of grammatical knowledge on EFL learners' reading comprehension. More specifically, the study intended to delve into the impact of discourse-based grammar teaching on Iranian upper-intermediate EFL learners' reading comprehension ability. To this end, the following research question was asked "Do the upper-intermediate learners, taught through discourse based-grammar teaching, outperform those who are receiving traditional grammar instruction in Iranian EFL context in reading comprehension?"

## **METHODOLOGY**

### **Design of the Study**

A quasi-experimental design was devised to evaluate the effect of discourse-based grammar teaching on reading comprehension ability of Iranian upper-intermediate EFL learners. Its independent variable was discourse-based grammar teaching and the dependent variable of the study was the upper intermediate EFL learners' reading comprehension. To this end, 50 upper intermediate English language learners were selected randomly from 2 English language Institutes. All subjects were pretested for their homogeneity in terms of language proficiency. The students were assigned into 2 groups randomly. The experimental group was treated with discourse-based grammar teaching for 10 sessions, two sessions each week, and the control group just received the traditional grammar instruction; that is, decontextualized grammar teaching.

### **Participants**

The study sought to investigate the effect of discourse-based grammar teaching on reading comprehension ability of Iranian upper-intermediate EFL learners. Two placement tests were used to determine the homogeneity of the participants. One of them was used by the institutes in Ardabil, Iran, named A & B. To increase the validity, the researcher administered another placement test. To this end, a total of 50 upper-intermediate EFL learners were randomly selected. The justification for choosing upper-intermediate EFL learners comes from the fact that they need adequate linguistic and "discoursal knowledge to cope with the meaning resources at the local and global levels of texts" (Lotfipour-Saedi, 2006, cited in Assadi Aidinlou, 2011). They were pretested. Pretest included four passages taken from full-fledged TOEFL exams. Each passage entailed five multiple choice questions. The subjects, being 15-17 years old, comprising both male and female, before exposing to the treatment, were assigned into 2 groups randomly. A chance procedure, tossing a coin, was used to decide which group gets which treatment. The groups were statistically equivalent before treatment. There were 25 learners in each group. After getting ascertained of the homogeneity of the groups, the researcher treated the experimental group with discourse-based grammar teaching for 10 sessions, two sessions each week; each session took 90 minutes and the control group just received the traditional grammar instruction; that is, decontextualized grammar teaching for 10 sessions. The same teacher taught both classes.

In the long run, in order to find out the impact of discourse-based grammar teaching on reading comprehension ability of Iranian upper-intermediate EFL learners, a post-test was administered to both groups. The measuring instrument, similar to pretest, consisted of four passages taken from TOEFL exams. Participants' reading comprehension ability at each phase of the study were evaluated. Finally, the results of the pre-test and post-test were analyzed through the analysis of covariance (ANCOVA).

## Procedure

This study sought to take the learners beyond the sentence-level and made them familiar with the contextualized use of grammar. In discourse-based grammar teaching, the teacher taught grammar rules derived from authentic written materials, based on the subjects' level of proficiency and their needs, such as newspaper article, magazine, an extract from a book, a letter or story; that is, teaching grammar in context, a unit of language longer than a single sentence. Since one of key tenets of a discourse based approach is that "no single set of linguistic features will be appropriate for all students" (Celce-Murcia & Larsen-Freeman, 1999, p. 584).

In order to answer the research questions, the researcher used modified version of Mohamed Abu-Ramah's pedagogical discourse-based model for teaching grammar. The model, shown in Figure (1) below, made use of the principles of consciousness-raising tasks and noticing hypothesis and it highlighted three elements: authentic texts chosen on the bases of the learners' needs and their level of proficiency for communicative contextualization, communicative purpose and McEldowny's (1992b) "clustering".

Communicative contextualization is an essential principle which claims that we should teach a grammatical form in authentic context relying on the needs and proficiency level of the learners. The authentic concept is of prime importance in making a grammatical item comprehensible. Grammatical structure is produced and understood in context.

The second element of the proposed model is communicative purpose. It means that language functions are divided into three broad communicative purposes (McEldowney, 1992b: 30). They are narrative, instruction and description. Description is divided into sequenced description (natural process and man-controlled process), and non-sequenced description (free-standing and embedded). The following are some examples illustrating these broad communicative purposes:

1. Narrative: "Yesterday Hamed woke up at six o'clock. He washed and prayed. Then, he had breakfast with his family. He was happy because it was the weekend."
2. Instruction: "To make a kite get some string, a hard paper and two sticks. Tie the two sticks together...."
3. Description of a natural process: "In the nitrogen cycle the plants get their nitrogen from the soil and change

it into proteins. Animals eat the plants and their bodies extract the energy from the proteins."

4. Description of a man-controlled process: "Milk is brought from the farm. Next, it is boiled and pasteurized. Finally, it is bottled and distributed to the super and supermarkets." (McEldowney, 1992, cited in Ramah & S. Daif-Allah, 2009).

After categorizing the communicative purpose of language functions, basic simple forms frequently used with each communicative purpose can be established. For example, the present simple is assigned to natural process and free-standing description; the passive form is assigned to the man-controlled process, and the non-finite stem (imperative form) is assigned to instruction.

The third element of the proposed model is clustering which means that after teaching the basic grammatical form, the other grammatical forms that can cluster around the basic one to express other minor language functions will be focused on such as sequence markers, prepositional phrases (time & place), pronouns and question words: when, where, what, etc. (McEldowney, 1992).

In this study, a partial list of grammar rules that are context-sensitive were dealt with at both discourse level and sentence level. That is: tense-aspect-modality choice, reference, subordinate clauses (full and reduced), passive versus active voice, use of marked construction types (wh-clefts & it-clefts) and choice of logical connectors.

## Practical Steps to Apply Discourse-based Grammar Teaching

Discourse-based teaching grammar model involved teaching grammar through the following stages: the first stage was exposing the learners to the authentic materials illustrating the pattern that the teacher intended to teach. Different types of text genres were used to present different grammatical rules. This stage was followed by noticing and consciousness-raising activities in which different strategies were used to draw the learners' attention to the specific forms. This was done through highlighting techniques, e.g. color coding, bold facing and underlying in written input (Lyser, 2011). Nassaji & Fotos (2011) claim that textual enhancement (underlying, italicizing, capitalizing) was used to help students to notice forms they may not be aware of. However, this was not adequate and required coupling with questions that motivated the learner to analyze the function of the highlighted items in text. Richards J. & R. Reppen (2014, p.14) acknowledge that "this kind of activity raises awareness of the target forms and their use and also involves the learners in the process of discovery". The third step was teaching grammar in "clusters" where appropriate, rather than systematically isolating one structure at a time. It means that along the basic grammatical items, the other grammatical forms that can cluster around the basic ones to express other minor language functions were focused on. The fourth stage was asking questions to elicit the pattern from the learners and writing them on the board. The next stage was to employ various techniques such as pictures, demonstration in case of action verbs, to show the meaning of the form for general comprehension

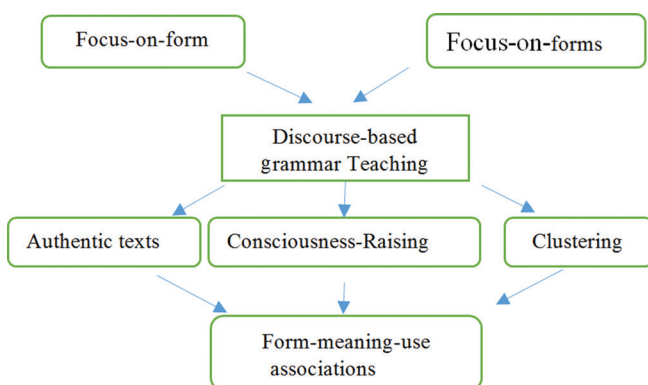


Figure 1. Modified version of discourse-based grammar teaching model

of the text. That is, the teacher asked the learners to read the text, then he gave some sentences taken from the text to be unscrambled. The sixth stage was to provide activities that permitted the learners to express themselves using the newly taught grammatical form in writing and evaluate and correct each other's writing. Finally, the instructor asked students to write a well-organized paragraph about their own life using the newly taught pattern as a homework assignment. In this way learners were given opportunities to discover form-meaning-use associations that are not always apparent in sentence-level presentation.

## DATA ANALYSIS PROCEDURE

### Introduction

The present study sought to investigate the impact of discourse-based grammar teaching on upper-intermediate EFL Iranian learners' reading comprehension ability. In this regard, the following research question and hypothesis were considered:

#### Research Question

*Do the upper-intermediate learners, taught through discourse-based grammar teaching, outperform those who are receiving traditional grammar instruction in Iranian EFL context in reading comprehension ability?*

#### Research Hypothesis

*There is no significant difference between discourse-based grammar teaching and traditional grammar instruction in promoting Iranian upper-intermediate EFL learners' reading comprehension ability.*

The practical phase of this study began with examining the homogeneity of the participants, followed by administering a pretest and posttest. Using the data collected in the participant selection phase and the post-treatment phase, the researcher conducted a series of pertinent calculations and statistical routines whose results were presented in this section. The data and reports pertinent to all these analyses were presented in the following sections.

### Pre-experimental Phase

In order to select the participants of the study, the researcher used a PET test. However, prior to the selection phase, the PET test was piloted to make sure that it could be used confidently for this screening and the internal consistency of the PET scores gained from the participants in the piloting phase was estimated through using Cronbach's alpha coefficient, which is .757.

### Using the Piloted PET Test to Examine Initial Homogeneity

The PET test was administered to a group of 25 EFL learners bearing almost the same characteristics as the target sample. All items went through an item analysis procedure, including item discrimination, item facility, and choice distribution. Fortunately no defective item was found.

After the piloting phase, PET was administered to 50 participants in control and experimental groups. The results obtained are presented in Table 4.1.

Based on the values reported in Table 4.1, the skewness ratio values for both distributions ( $0.269/0.464 = 0.58$ ;  $0.519/0.464 = 1.12$ ) fell within the range of  $-1.96$  and  $+1.96$ . This point provides support for the normality of distribution for the scores (Tabachnick & Fidell, 2007). Moreover, the mean scores of the two groups were very close to each other. In order to make sure that the slight difference was not significant, an independent samples t-test was run.

It was also needed to check the assumption of homogeneity of variances. This assumption was met (*Levene's*  $F = 0.022$ ,  $p = 0.882$ ). The obtained results indicated that there was no statistically significant difference between the mean score of the two groups' participants on the language proficiency test, PET, ( $t(48) = 0.16$ ,  $p = 0.087 > 0.05$ ). Based on the obtained results, it was concluded that the participants in the groups did share the same level of ability in language proficiency; thus, they were considered homogenous.

### Experimental Phase

After making sure that the two groups were homogenous in terms of language proficiency, the experimental phase initiated. Two pretests and posttests were administered to the participants of both groups in this phase.

### Administration of Reading Tests

The dependent variable of the current study is reading comprehension ability. The participants' abilities, in this regard, were also measured before and after the treatment using a multiple choice reading comprehension test. Tables 4.2 and 4.3 present the descriptive statistics of the obtained results.

The distribution of scores in both pretest ( $-0.556/0.464 = -1.19$ ;  $-0.548/0.464 = -1.18$ ) and posttest ( $0.171/0.491 = 0.35$ ;  $-0.436/0.481 = -0.91$ ) of reading comprehension among two groups also showed that the skewness ratios fall within the legitimate range of normal distribution, i.e.,  $\pm 1.96$ .

**Table 4.1.** Descriptive statistics of PET scores for the two groups

	N	Minimum	Maximum	Mean	Standard deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Standard error
Experimental	25	37.00	70.00	52.1800	9.33952	0.269	0.464
Control	25	39.00	72.00	52.6200	9.71605	0.519	0.464
Valid N (listwise)	25						

The missing numbers of participants in posttest were also three for the experimental group and two for the control one.

### Checking the General and Specific Assumption

Considering the nature of the data and research question in the present study, Analysis of Covariance (ANCOVA) was also run to probe the research question posed in this study. Before running the ANCOVA test, general and specific assumptions, "linearity, homogeneity of regression slopes, and equality of variance" Tabachnick and Fidell (2007), applied to all parametric tests were checked.

### Answering the Research Question

After checking the preliminary assumptions, the ANCOVA tests were run in order to answer the research question raised in this study

*Q: Do the upper-intermediate learners, taught through discourse based-grammar teaching, outperform those who are receiving traditional grammar instruction in Iranian EFL context in reading comprehension?*

The main result of the analysis was presented in Table 4.4. This test indicated whether the two groups are significantly different in terms of reading comprehension performance (the scores when controlling for the impact of pretest scores).

As reported in Table 4.4, after adjusting the posttest scores for the possible effects of the pretest, there was a significant difference between the two groups on the reading scores ( $F_{(1,41)} = 26.54, p = 0.000 < 0.05$ , partial eta squared = 0.387 representing a medium effect size). It was also concluded that there was a significant difference between the two groups' means on the posttest of reading comprehension while controlling for the possible effects of the pretest. Table 4.5 presents the adjusted mean report on reading

**Table 4.2.** Descriptive statistics of reading pretest scores

	N	Minimum	Maximum	Mean	Standard deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Standard error
Experimental	25	7.00	16.00	12.4400	2.36432	-0.556	0.464
Control	25	8.00	15.00	12.1600	1.99332	-0.548	0.464
Valid N (listwise)	25						

**Table 4.3.** Descriptive statistics of reading posttest scores

	N	Minimum	Maximum	Mean	Standard deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Standard error
Experimental	22	12.00	18.00	14.9091	1.47710	0.171	0.491
Control	23	9.00	16.00	12.8696	1.81670	-0.436	0.481
Valid N (listwise)	22						

**Table 4.4.** The ANCOVA test results for the control and experimental groups' reading comprehension scores

Source	Type III sum of squares	Df	Mean square	F	Sig.	Partial Eta squared
Corrected model	104.720a	2	52.360	36.361	0.000	0.634
Intercept	80.130	1	80.130	55.646	0.000	0.570
Re.Pretest	57.947	1	57.947	40.241	0.000	0.489
Group	38.230	1	38.230	26.549	0.000	0.387
Error	60.480	42	1.440			
Total	8818.000	45				
Corrected total	165.200	44				

a. R squared=0.634 (Adjusted R squared=0.616)

**Table 4.5.** The adjusted marginal means on reading achievement scores

Group	Mean	Standard error	95% confidence Interval	
			Lower bound	Upper bound
Experimental	14.812 <sup>a</sup>	0.256	14.295	15.330
Control	12.962 <sup>a</sup>	0.251	12.456	13.468

a. Covariates appearing in the model are evaluated at the following values: Re.Pretest=12.2222.



achievement scores for each group. Here, the effect of the pretest scores has been statistically removed.

The results indicated that the effect of pretest scores were controlled, the mean of the scores for the experimental and control groups are 14.81 and 12.96, respectively. Therefore, it can be concluded that the treatment on experimental group caused significant improvement in their reading comprehension. In other words, the null hypothesis, which stated “*There is no significant difference between discourse-based grammar teaching and traditional grammar instruction in promoting Iranian upper-intermediate EFL learners’ reading*”, was rejected.

## DISCUSSION

The current study set out to examine whether discoursed-based grammar teaching impacts beneficially upon students’ reading comprehension ability, and addressed a null hypothesis: there is no significant difference between discourse-based grammar teaching and traditional grammar instruction (teaching grammar at sentence-level) in promoting Iranian upper-intermediate EFL learners’ reading comprehension ability. Statistical operations and analyses in the preceding sections revealed that discoursed-based grammar teaching is effective in promoting the reading comprehension ability of EFL students. However, further analysis revealed that the intervention was differentially experienced by learners, with discourse-based group learners benefiting more whereas traditional method group benefited less. The results indicated that the means of the scores for the experimental and control groups are 14.81 and 12.96, respectively. The study also demonstrated that students’ participation in classroom activity in experimental group to a large degree increased and the class turned out to be lively and motivating which is in line with Cots’ (1996) claim in that teachers’ task is to help their learners to become efficient and effective participants in real communicative situation and that this involves more than the knowledge and skills necessary to manipulate the structures of a language. It is concluded that the treatment on experimental group caused significant improvement in their reading comprehension ability. Therefore, the hypothesis was rejected.

The findings of this study are in line with Sinclair (1991) and Hunston & Francis (1998, cited in Lee, 2004). They consider lexis and grammar inseparable in nature and completely interdependent. As with Willis (1993) who notes that grammar and lexis are two ways of picturing the same linguistic objective. That is, the lexis consists of word-meaning patterns, while the grammar consists of structures, and categorizes words according to such structures. He argues that language learners have to work simultaneously with the grammar and the lexicon (ibid, 84), and with Prajnaparamita’s (2013) research on the relationship between grammar ability and reading comprehension among fourth semester students of English education department in Yogyakarta State University, focusing on subject–predicate construction, noun phrase understanding and word recognition and reading comprehension ability which indicated that there is a positive and significant relationship between grammar knowledge and reading ability. In other words, grammatical competence in terms of subject predicate construction, noun phrase under-

standing and word recognition ability has significant roles in the reading comprehension ability. That is: the more grammar knowledge learners have, the higher their score would be in reading comprehension. The result is also consistent with Jung’s (2009) and Grabe’s (2009) claims that knowledge of grammar directly or indirectly affects learners reading comprehension. Additionally, this empirical study provided an evidence for Nunan organic approach to teaching grammar in which Nunan (1998 p. 102) contends that authentic texts and contexts give learners “the opportunity of seeing the systematic relationships that exist between form, meaning, and use”.

In addition, the Structural Deficit Hypothesis (SDH) attributes difficulties in the acquisition of reading to syntactic processing deficiencies (Stein, Cairns & Zurif, 1984, cited in Akbari, 2014). The SDH claims that an absence of grammatical knowledge or lack of processing ability interferes with higher level text comprehension. It is also believed that syntactic awareness helps readers in fulfilling their reading comprehension tasks effectively. Koda (2005) states that all difficulties L2 readers experience are attributable to inadequate linguistic knowledge (cited in Akbari, 2014). However, the results of this study are at odds with Alderson (2000) who argues that L2 learners do not need grammar knowledge for effective reading. As with Bernhardt (2000) who reviewed adolescent and adult second-language literacy studies and one of her conclusions was that second language reader’s text comprehension could not always be predicted by the syntactic complexity of the text. Although there is a controversy about the role of grammar on reading comprehension ability, on the basis of this study, it can be argued that discourse-based grammar teaching promotes learners’ reading comprehension ability more than traditional method of teaching grammar (teaching grammar at sentence-level).

## CONCLUSION

The present study aimed to evaluate whether discoursed-based grammar teaching (teaching grammar rules derived from authentic written materials) impacts beneficially upon students’ reading comprehension ability, and addressed a null hypothesis: there is no significant difference between discourse-based grammar teaching and traditional grammar instruction (teaching grammar at sentence-level) in promoting Iranian upper-intermediate EFL learners’ reading comprehension ability. To this end, a quasi-experimental design was used. The statistical operations and analyses in the preceding sections revealed that discoursed-based grammar teaching proved to be effective in developing the reading ability of the learners. Therefore, the hypothesis was not confirmed. The current study demonstrated that the discourse-based grammar teaching provided an opportunity for the learners to attend all three components of grammar: form, meaning, and use simultaneously and become efficient and effective participants which is the main task of the language teachers (Cots, 1996). The result also showed that traditional grammar instruction which highly put emphasis on the learning and categorizing of forms in decontextualized activities lagged behind in creating lively and exciting classroom and in promoting the learners’ reading comprehension ability.



The findings of this study may have important pedagogical implications for both materials developers and language teachers and contribute to solving one of the educational problems, especially EFL learners' reading problems.

As is the case with most research studies, this study has also got its limitations besides its possible contributions. One of the limitations of the present study was related to the target of the study which entailed a partial list of context-sensitive rules. Secondly, learners' earlier learning experiences were not considered in this study. It could have been better if the researchers prepared a questionnaire to find out whether the participants had any prior knowledge of discourse-based grammar teaching approach or not. Thirdly, in discourse-based grammar teaching, grammar is not taught in isolation but embedded in a broader discursive context. It requires sufficient input for exposure, but providing sufficient exposure consonant with the proficiency level of the learners is a problem in EFL Iranian context. However, this study offers a fruitful impetus for further research which explores the issue in other contexts and populations with different levels of reading ability, age ranges, and gender aimed at identifying the effect of grammar on reading ability.

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