Substitution as a Device of Grammatical Cohesion in English Contexts

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The present study set out to investigate the effect of teaching substitution as a kind of grammatical cohesion on the true identification of confusing substitution elements with cohesive or non-cohesive roles in different contexts and also the production of modal, reporting and conditional contexts through clausal substitution acquaintance. To this end, the following procedures were taken. First 120 male and female EFL students were selected from Iranshahr Azad University. Having administered the language proficiency test, researchers selected 80 students as intermediate subjects according to their TOEFL band scores. First, pretests of cohesion identification (substitution) and production of modal, reporting and conditional environments were administered to both control and experimental groups. Then, the experimental group was exposed to the teaching of the above-said above-mentioned cohesive device. Finally, post-tests of substitution elements’ identification and modal, reporting and conditional contexts’ production through clausal substitution familiarity were

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administered. The results showed that cohesive device
treatment helped students on the true identification of
substitution elements. Another finding proved that EFL
students might have no difficulty in learning certain rules or
classification of rules and application of their clausal
substitution knowledge in creating modal, reporting and
conditional contexts. Our findings can have implications for the
field of language learning and teaching.
Keywords: Cohesion, Cohesive devices, Modal, Reporting,
Conditional Contexts

Language proficiency has traditionally been defined in terms
of skills and components. These models distinguished skills
(listening, speaking, reading, and writing) from components of
language (grammar, vocabulary, phonology), but did not indicate
how skills and knowledge are related. A more serious limitation of
skill / components model was its failure to identify the complete
framework of language use which refers to the context of discourse
and situation (Bachman, 1990). Recent frameworks of
communicative competence have included several different
components associated with what is called language competence
(Bachman, 1990; Bachman and Palmer, 1996).

According to Gascoigne (2005), these competencies help
readers employ a huge number of various strategies and tasks in
order to ease reading comprehension. Textual competence includes
“the knowledge of conventions for joining utterances together to
form a text which is essentially a unit of language, spoken or
written, consisting of two or more utterances or sentences that are
structured according to rules of cohesion and rhetorical
organization” (Bachman, 1990, p.88). Due to the important role of
textual competence, Mu (2006) asserts that English instructors
should be aware of issues which exist in communicative
competence and reinforce students’ awareness of textual
competence within the communicative English classroom.
Figure 1. Components of language competence adopted from Bachman (1990).

Regarding the significant role that a text plays in reading comprehension, a great deal of attention has always been paid to text processing in the field of discourse research. In reading comprehension, researchers are concerned with mechanisms of textual cohesion. Moreover, they offer assumptions to account for the knowledge of coherence in the mind the reader (Yeh, 2004). Many educators have identified the central role of cohesion in relation to second language reading and writing skills. Studies have shown that second language learners are not able to comprehend a given text better than native speakers in the case of absence of cohesive devices within the text (Mojica, 2006). To highlight the role of cohesion as an inevitable part of textual factors, Halliday & Hasan (1976) claim that it includes the ways which help us to show the semantic association among different parts of the text. Halliday & Hasan (1976) state that cohesion refers to dependencies of some elements in texts on other ones in order to interpret them truly. Pandian and Assadi (2010) claim this definition takes into consideration “the presence of semantic ties (elaboration, extension and enhancement) between linguistic items on one hand, and their interdependency (paratactic, hypotactic or cohesive) in the continuity of the text on the other hand” (p.71).

According to Halliday & Hasan (1976), the potential for cohesion is based on the fact that the organized resources including
reference, ellipsis, substitution, and so on exist within the language itself. Since cohesion is to a certain extent conveyed both through grammar and vocabulary, we can therefore refer to them as grammatical cohesion and lexical cohesion (Halliday & Hasan, 1976). McNamara, Louwerse & Graesser (2005) clarify the meaning of cohesion and coherence as follows: both stand for how words, constituents, and opinions which are conveyed in a text are associated with specific levels of language, discourse, and word knowledge. Rapp et al. (2007) claim that by cohesion the constituents are arranged in explicit linguistic elements (i.e. words, features, signals, constituents) and their combinations. Coherence, however, results from an interaction between text cohesion and the reader. Coherence reflects the degree to which appropriate, meaningful connections are established between elements of text and the readers' prior knowledge (Rapp et al, 2007).

Halliday & Hasan's Cohesion in English (1976) stimulated many studies such as Lubleska (1991), Chung (2000), Al-Jarf (2001), Cain (2003), Moreno (2003), Morris (2004), Yeh (2004), O'Reilly and McNamara (2007) to be conducted in the area of cohesion. The following is a brief account of some of these studies:

Demel (1990) investigated the relationship between overall comprehension and the comprehension of co-referential pronouns for second language readers of English. The results suggested that the problem with co-referential ties misunderstanding is caused when the relation between a specific pronoun and a particular descriptive expression is misapprehended. A comparison of L2 data with that of L1 revealed that comprehension problems regarding anaphoric relations are two-pronged. First, L2 readers encounter difficulties when they are unfamiliar with the descriptive expressions used as the antecedent of a coreferential pronoun. Second, lack of comprehension of these expressions may be indicative of a lack of knowledge of the target culture.

Lubleska (1991) studied some samples of materials intended to make advanced learners read more efficiently than before for academic purposes. The materials held learners' attention on the role of different cohesive devices concerning with various parts of
a text. The aim was to sensitize the learners to the ways these devices can enable them to realize a text. This goal was achieved through the employment of discovery exercises applied to an authentic text. After working through these exercises, the learners sharpened awareness of the need to keep checking, as they read a text, that they have (had) interpreted its cohesive devices in a way that made sense in the context of the text as a whole.

Taboada (2000) conducted a study on cohesion in a bilingual corpus. The findings showed that the comparison of the number of cohesive links used for each language presented an equal ratio (0.068) of cohesive elements to words in both English and Spanish. The type of cohesive ties that the subjects used was also very alike in both languages. Lexical cohesion and the use of repetition of the same item was the most extensively used kind. Lexical cohesion was followed by the use of reference. Substitution and ellipsis were found to be related to each other since ellipsis is substitution by zero. These types of cohesive ties had a low frequency of usage, but ellipsis was used more often.

Another study conducted in the field of cohesion was in the U.K. by Cain (2003), who attempted to investigate the relations between children's text comprehension, and to assess their ability to create a coherent and cohesive story. Cain (2003) guesses hypothesized a relation between the reader's text comprehension ability and creation of a structurally coherent story. S/he based her/his prediction on the fact that comprehension involves the creation of an integrated and coherent expression of a text's meaning. Findings of this study showed that children with low text comprehension skill produce narratives which are poor concerning both structural coherence and local cohesion.

Moreno (2003) studied the role of cohesion devices as textual constraints on relevance. The purpose of her study was to indicate how and which cohesive features assist the reader to realize the relevance and coherence of a text in the process of reading. The results indicated that the cohesive devices that associate (are associated) with the realization of discourse relevance and coherence of the text at each juncture pay only for
those discourse meaning obtained through the entire sentences and larger parts of texts.

Querol (2004) presented a description of how English literature utilizes substitution as a device of grammatical cohesion and the mechanism used in transferring it into Spanish. The results indicated that English and Spanish employ different devices for the same linguistic situation. It was also found that among three different types of substitution identified, nominal and verbal substitution had a similar frequency, whereas there was a lower use of clausal type. Among cohesive ties, "one" was the most common one; "do" was the most widely employed in general, and "so", presented as a practice of clausal substitution, appeared twice as nominal type.

O’Reilly and McNamara (2007) investigated the impact of cohesion texts on students’ reading ability. They also examined whether students' comprehension skill could influence the relation between text cohesion and their domain knowledge. In this study, college students (N=143) read a high or a low cohesion text and replied text-based and bridging inference questions. The results showed that the benefit of low-cohesion text was limited to less skilled, high knowledge readers, whereas skilled comprehenders with high knowledge benefited from a high cohesive text.

Types of Cohesive Ties

Halliday & Hasan (1976) identify five types of cohesion: reference cohesion, substitution cohesion, ellipsis cohesion, conjunctive cohesion, and lexical cohesion. The first four types fall under the category of grammatical cohesion. Lexical cohesion on the other hand refers to relations between any lexical item and some previously occurring lexical item in the text, quite independently of the grammatical category of the items in question. For example, lexical cohesion can exist in the noun ‘magistrate’ and the verb ‘judge’. The five types of cohesion are explained below:
Reference Cohesion

What distinguishes this special type of cohesion is the particular nature of the information that is to be retrieved, and the cohesion lies in the continuity of reference by which the same thing comes into the discourse for the second time.

Personal reference

Personal reference is reference by means of function in the speech situation, through the category of person. Personal reference includes:

(a) Personal pronouns: I, Me, Him, she, Her, You, Us, They, Them, and It.
(b) Personal determiners: My, Mine, His, Hers, Your, Yours, Their, hers.
(c) Relative pronouns: who and which…

Demonstrative reference

Demonstrative reference is reference by means of location, on a scale of proximity.

The category of demonstrative reference includes:

(a) Determiners: This, There, that, and those.
(b) Demonstrative adverbs: There, Here, and then.

Comparative reference

Comparative reference is indirect reference by means of identity or similarity. Comparative reference includes:

(a) Comparative adjectives: Equal, same, identical, other, Different, more, better, etc.
(b) Comparative Adverbs: Differently, similarly, more, less, etc.

Substitution Cohesion

Substitution cohesion consists of sense identity relation instead of a reference identity relation. It also has three subdivisions: nominal substitution, verbal substitution and clausal substitution.
**Nominal substitution**

If the presupposed element is a noun phrase or noun, the nominal substitution occurs. Look at the example below:

a) Can you give me a pen?
b) There is one on the desk.

The presupposing cohesion element is ‘one’.

**Verbal substitution**

In the case of verbal substitution, the presupposed element is a verb phrase or a verb. The presupposing element which the substitution is usually the word do and its various forms such as ‘does’, ‘did’, and ‘done’. Look at the example below:

All children like ice cream and my son does, too.

**Clausal substitution**

When the presupposed element is a complete clause, there exists clausal substitution. The most frequent presupposing element affecting this type of substitution is ‘so’. For example:

Employees must come to work before 7:30 a.m. The manager says so.

So it replaces the whole sentence (i.e. employees must come to work before 7:30 a.m.).

**Ellipsis Cohesion**

Ellipsis cohesion refers to the case of absence of a word, a phrase or a clause whose meaning is understood. In other words, Ellipsis is simply defined as substitution by zero. There are three types of ellipsis depending on the syntactic category of the presupposed elements.

**Nominal ellipsis**

If the presupposed element is a noun phrase or noun which is actually absent from the context of discourse, it is nominal ellipsis, as in:

These are my two cats. I used to have four.

The word cat has been omitted and can easily be understood or recovered from the context.
**Verbal ellipsis**

Verbal ellipsis occurs where a verb or verb phrase is presupposed, as in:

Teacher: Have you done the homework?
John: Yes, I have.

John's answer is elliptical in the sense that doing the homework is understood.

**Clausal ellipsis**

Clausal ellipsis occurs when both a noun or noun phrase and adverb phrase is omitted. It is mostly seen in dialogue in yes/no questions, as in the example below:

Mary: Are you going to buy a new dress for my birthday?
Mother: Yes.

Here the mother is affirming the entire clause you are going to buy a dress for my birthday. The whole clause may often be omitted, as in:

Henry: What grade did you get for French?
Paul: B

Since the whole clause has been omitted, Paul's answer constitutes a clausal ellipsis and not a nominal or verbal ellipsis.

**Conjunctive Cohesion**

As Halliday & Hasan (1976, p.256) point out “conjunctive elements are cohesive not in themselves but indirectly, by virtue of their specific meanings; they are not primarily devices for reaching out into the preceding or following text, but they express certain meanings which presuppose the presence of other components in the discourse”. For example, in ‘He took a cup of coffee after he woke up’, the word "after" suggests a sequence, signaling that what is expressed in the first clause followed what is expressed in the second one.

**Additive conjunction**

Under the heading Additive we may include a related pattern, in which the source of cohesion is the comparison of what is being said with what has gone before.
e.g. Similarly, likewise, in the same way, and, or…

**Adversative conjunction**

The basic meaning of the adversative relation is contrary to expectation. The expectation may be derived from the context of what is being said (e.g. although, though, despite, however, nevertheless…)

**Causal conjunction**

Under the heading of causal conjunction are subsumed the relations of result, reason, and purpose (e.g. Hence, then, so, because, consequently, therefore, for this reason…).

**Temporal conjunction**

It is a relation of sequence in time. The temporal relation may be made more specific by the presence of an additional component in the meaning as well as that of a succession in time (e.g. Then, next, after that, just then, previously, at last, finally, at last...).

**Lexical Cohesion**

The last type of cohesion according to Halliday & Hasan’s (1976) classification is lexical cohesion. Regardless of reference, substitution, and ellipsis, which are associated with syntactic elements, lexical cohesion has nothing to do with syntactic relations. Therefore, it is an open-ended and the most difficult cohesive type to define. It is vocabulary-driven and based on lexical relations. Some of the relations which signal for lexical cohesion through their vocabulary are presented below:

1. Repetition of a phrase or word.
2. Synonymy (words which have similar meanings, e.g. well-known, famous)
3. Antonym (the relation of opposite meaning e.g. high, low, day, night)
4. Hyponymy (the semantic relation between a more general expression that includes some related specific relations (e.g. flower and rose).
5. Collocation (group of words whose meaning relates to the same certain contents, e.g. car, gas, driver).

Young people act quickly. Old people take their time

Here young and old are antonymous. They bear a relation of semantic contrast.

One major reading difficulty ESL/EFL college students encounter is inability to recognize the connections among sentences in the text, and EFL learners are less aware of cohesive devices while reading English texts (Chu, Swaffer, & Charney, 2002; AL-Jarf, 2001).

When we review the second language acquisition literature, we realize that lots of studies have considered the relation between cohesive devices knowledge and reading comprehension ability or the relation between cohesion and coherence within the text. In contrast with the previous research, in this study, we only consider a particular kind of grammatical cohesion and try to analyze it in detail. As we know the nominal substitution, verbal substitution and clausal substitution are recognized by substitutes such as ‘one (s)’, ‘the same’, ‘do’ (does, did, do, doing, done, to do), ‘so’ and ‘not’. But we must also note not all uses of the above-mentioned substitutes express the presupposing items and they may be used in other contexts which express different meanings and have nothing to do with the cohesiveness of the text (Pandian & Assadi, 2010).

Thus, it will be a big and confusing problem for students to know how to distinguish these identical items with different functions in different sentences or contexts. On the other hand, concerning clausal substitution, we are also interested in realizing to what extent learners can use or apply their knowledge of clausal substitution in creating the substituted form of modal, reporting and conditional contexts.

This study is an attempt to answer the following research questions:

1. Are Iranian intermediate EFL learners able to distinguish the correct items that imply substitution from incorrect ones?

2. Are Iranian intermediate EFL learners able to use their knowledge of clausal substitution elements (SO and NOT) in creating modal, reporting and conditional contexts?
Method

Participants

The participants who took part in this study were 80 (Male = 40; Female = 40) Iranian intermediate EFL students whose native language was Persian. They had no familiarity with any other foreign languages except English language. All the students were majoring in English-Persian translation studying at Islamic Azad University, Iranshahr Branch. The age range of participants was 19 to 28. The participants (They) were selected from among a group of 120 EFL students through administering NTC’s TOEFL test of language proficiency. The selected students were those of intermediate level of language proficiency. The students were randomly assigned into an experimental group and a control group.

Instrumentation

Two research instruments were used in this study. First a validated paper-based TOEFL test was administered at the beginning of the study to select the main subjects of the study as intermediate Iranian EFL learners. The second instrument consisted of a pretest and posttest for data collection purposes. In order to assess learners’ ability to identify substitutions, a pre- and post-test was designed. Each version of the identification test involved 20 sentences. The participants were required to read each sentence and to decide whether it contained the substitution elements which made contributions to the cohesiveness of the text. Regarding the second research question, pre- post production tests were used, which only included clausal substitution elements (so and not) to assess learners’ ability in creating the environment of modality, reporting and conditioning. The two versions of production tests consisted of 15 sentences. The participants were asked to read each sentence and use the substitutes ‘so’ and ‘not’, while producing the above-mentioned contexts. It should be mentioned that both of the identification and production tests were based on Halliday & Hasan’s taxonomy of cohesive ties (1976) and were also adopted from The ABC’s of Functional Grammar by Pandian and Assadi (2010).
Data Collection and Analysis Procedure

This study was carried out in two phases. First, the participants were given a pretest of substitution identification as a kind of cohesive devices. Subjects were asked to identify the cohesive items and underline or circle them. Moreover, they were asked to connect the items to their substituted part. The second kind of test was a pretest of production which required learners to use their knowledge of clausal substitution in creating modal, reporting and conditional sentences. In the second phase, the actual study was conducted. There was an instructional treatment and also an explanation of how we can reach at the above mentioned contexts through using the clausal substitution elements for the participants of the experimental group. The aim of the treatment was to teach a type of cohesive device (substitution) on the basis of an operational definition of Halliday & Hasan (1976), followed by further working on some of them within text examples related to the taught material in each treatment session.

Generally, the teacher started each session in the experimental group as follows: first, each substitution type was explained and illustrated at the sentence level and some examples were utilized for more analysis and identification of it. Then students were to practice the taught materials by identifying them and connecting them to their antecedents in the short texts such as short stories. The teacher tried to show that students may have seen substitutes such as ‘one (s)’, ‘the same’, ‘do’ (does, did, do, doing, done, to do), ‘so’ and ‘not’ in other contexts with different meanings.

This procedure was followed in each session of the treatment for the experimental group. The treatment instruction ran for 12 sessions and the allocated time for each session was 30 minutes. There was no special treatment for the participants of control group concerning the explicit teaching of substitution except some irrelevant practice on some aspects of language with the same time allocation and the same number of sessions; for example, subjects were asked to read some passages and summarize the text they had already read.
Finally, participants of both experimental and control groups took the identification and production posttests at the end of the instruction. The content of the tests was based on the material taught for the experimental group during the treatment. The allocated time for each test was about 60 minutes. Students’ answers were marked by the researcher.

Some types of errors while identifying nominal, verbal and clausal substitutions are illustrated in the following tables. It should be mentioned that none of them is related to the substitution elements.

Table 1

<table>
<thead>
<tr>
<th>Error type</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal (one, the same)</td>
<td>She made one very nice shirt. (Numeral)</td>
</tr>
<tr>
<td></td>
<td>One must respect the rights of other people. (General pronoun)</td>
</tr>
<tr>
<td></td>
<td>Reza is the tallest one in the class. (pronoun)</td>
</tr>
<tr>
<td></td>
<td>The girl wanted a Cola. The boy asked for the same one. (reference)</td>
</tr>
<tr>
<td>Verbal (do, does, did, doing, done, to do)</td>
<td>The boy was doing his homework.</td>
</tr>
<tr>
<td></td>
<td>I can’t join you because I have lots of things to do.</td>
</tr>
<tr>
<td></td>
<td>Jack did the accounts in his firm yesterday.</td>
</tr>
<tr>
<td></td>
<td>Reza does not call me.</td>
</tr>
<tr>
<td>Clausal (so, not)</td>
<td>Ah, You have so many toys (Reference)</td>
</tr>
<tr>
<td></td>
<td>He loved Amy very much. So he decided to marry her. (Conjunction)</td>
</tr>
<tr>
<td></td>
<td>War brings about nothing but misfortune. That is so. (Truth)</td>
</tr>
<tr>
<td></td>
<td>I told him over and over not to do such a silly thing.</td>
</tr>
</tbody>
</table>

Three kinds of contexts (i.e. modal, reporting and conditioning contexts), which can be created through clausal substitution elements can be as follows:
Table 2
Different Types of Contexts

<table>
<thead>
<tr>
<th>A: Can Ali buy a car?</th>
<th>B: Surely he cannot buy the car.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Are you going to your grandfather’s house at the weekend?</td>
<td>B: I think I am going to my grandfather’s house at the weekend.</td>
</tr>
<tr>
<td>A: Will you lend me your car?</td>
<td>B: I said that I will not lend you my car.</td>
</tr>
<tr>
<td>You must come on time. The manager says you must come on time.</td>
<td></td>
</tr>
<tr>
<td>Do you need help? If you need any help, wait for me.</td>
<td>A: If so, wait for me. (Conditioning)</td>
</tr>
<tr>
<td>A: She will reject my proposal.</td>
<td>B: If she doesn’t reject your proposal, you won’t need to revise it. (Conditioning)</td>
</tr>
</tbody>
</table>

**Design**

The study was an experimental one as it included three basic characteristics of the true experimental designs: 1) there was a control group, 2) the subjects were randomly selected and assigned to the groups, and 3) a pretest was administrated to capture the initial differences between the groups. In this study, there were two groups: a) the experimental group, which received the treatment including the explicit teaching of substitution as a kind of cohesive device, and b) the control group, which did not receive such instruction. Here, the teaching of a particular type of cohesive device was the independent variable and improvement in the identification of nominal, verbal and clausal substitutions and production of modal, reporting and conditional contexts through clausal substitution were the dependent variables.

**Results and Discussions**

As regards the first research question, the following results were obtained from the performance of experimental and control groups in pre- and post-tests.

Statistical analysis of independent sample t-test of pretest
The data obtained from the pretest indicated a difference between the two groups’ mean scores. The experimental group
scored higher than the control group. The statistical analysis of the results of the pretest and the group means comparison showed t observed to be .85, with probability value: P < .05. It is clear that the value of t observed does not exceed the t critical, that (which) is 2. Therefore, the difference between the two groups was not significant at P < .05. It means that the two groups turned out not to be significantly different at the beginning of the study.

**Table 3**

**Statistical analysis of independent sample t-test of pretest**

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Means</th>
<th>St. Deviation</th>
<th>St. Error Mean</th>
<th>Sig (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>40</td>
<td>14.20</td>
<td>1.13</td>
<td>.17</td>
<td>.395</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>14.00</td>
<td>.94</td>
<td>.14</td>
<td>.395</td>
</tr>
<tr>
<td>T-observed</td>
<td>.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Statistical analysis of independent sample t-test of posttest**

As table 2 demonstrates, a clear difference between the means of experimental and control group in posttest can be observed.

**Table 4**

**Statistical analysis of independent sample t-test of posttest**

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Means</th>
<th>St. Deviation</th>
<th>St. Error Mean</th>
<th>Sig (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>40</td>
<td>16.30</td>
<td>1.80</td>
<td>.28</td>
<td>.000</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>14.30</td>
<td>1.27</td>
<td>.20</td>
<td>.000</td>
</tr>
<tr>
<td>T-observed</td>
<td>5.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The analysis of the results of posttest and the group means comparison showed the t observed to be 5.71, with the probability level of P < .05, which is much higher than t critical 2. It means that there is a significant difference between the experimental and control group. Therefore, this significant difference between the experimental and control group can be attributed to treatment effect of the teaching of substitution. The difference can be clearly seen in the following figure.
In an attempt to answer the second research question concerning the impact of explicit teaching of cohesive devices on creating modal, reporting and conditional contexts, the following scores and results were obtained from the performance of experimental and control groups in pre- and post-tests.

Statistical analysis of independent sample t-test of pretest

The data obtained from the pretest revealed a difference between the means of experimental and control groups. But the t-test analysis of means of the two groups showed the t observed to be 1.01, with probability value: P < .05. That is less than t critical 2. Therefore, based on this data analysis, the difference between two groups is not significant at P < .05.

Table 5

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Means</th>
<th>St.Deviation</th>
<th>St.Error Mean</th>
<th>Sig(two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>40</td>
<td>14.30</td>
<td>1.33</td>
<td>.21</td>
<td>.314</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>14.02</td>
<td>1.07</td>
<td>.17</td>
<td>.314</td>
</tr>
<tr>
<td>T-observed</td>
<td>1</td>
<td>1.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Statistical analysis of independent sample t-test of posttest

Now, let us consider the results of t-test analysis of posttest which is shown in table (4).
Table 6
**Statistical analysis of independent sample t-test of posttest**

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Means</th>
<th>St.Deviation</th>
<th>St.Error Mean</th>
<th>Sig(two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>40</td>
<td>16.15</td>
<td>1.77</td>
<td>.28</td>
<td>.000</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>14.33</td>
<td>1.42</td>
<td>.22</td>
<td>.000</td>
</tr>
<tr>
<td>T-observed</td>
<td></td>
<td>5.03</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The statistical analysis of t-test showed the t observed to be 5.03 at a probability level of $P < .05$, which is much higher than $t_{critical}$. Thus, it can be concluded that there is a significant difference between the experimental and control group. Since the posttest was administered after the treatment, this improvement in the subjects’ performance and accordingly the difference between experimental and control group can be attributed to the treatment effect.

![Figure 3. Mean score graph of production test by the two groups](image)

The aim of the present study was to shed light on the problems that Iranian intermediate EFL learners may encounter in analyzing English texts in terms of dealing with nominal, verbal and clausal substitutions as a particular kind of grammatical cohesion. The main point concerning the first research question was the fact that not all uses of substitutes express the presupposing items. Therefore, this research aimed at making learners able to distinguish the confusing substitution elements which do not play any role in the cohesiveness of the text (e.g. numeral, pronoun, etc.) from those which contribute to the cohesiveness of the text. The findings showed that Iranian EFL learners could identify substitution as a kind of grammatical cohesion. Moreover, it was revealed that this ability could be
remarkably increased as a result of treatment including explicit teaching and practice on cohesive device recognition within a text. Concerning the second research question, it was revealed that the explicit teaching of substitution not only helps Iranian EFL learners to identify the above mentioned particular kind of grammatical cohesion but also makes them able to create three kinds of contexts which include modal, reporting and conditional environments through their knowledge of clausal substitution. It is noteworthy that by asking the second research question, we wanted to know whether learners are able to apply their knowledge of such a device in the process of different types of contexts creation.

Grammatical cohesion plays a significant role in the reading comprehension process. To highlight the role of grammatical cohesion, Yeh (2004) reported that developing awareness of cohesive devices can certainly aid an inexperienced reader to find his/ her own way to the writer’s intention. Al-Jarf (2001) states that EFL learners’ inability to construct a mental representation of the opinions included in a text, and also to maintain the global unity of the text as a whole may be related to certain textual elements including substitution, references and ellipsis. Moreover, Alavi and Kaivanpanah (2007) believe that lack of awareness of sentential constrains or organizational features of the text result in comprehension problems. In other words, learners’ difficulties in comprehension of the meaning of the words and in grasping the overall meaning of the text may be partly attributed to the lack of such awareness. Thus, one way of helping EFL learners to become better readers is to develop their awareness of the syntactic structure of the text. The present study also concludes that EFL reader’s perfect performance in analyzing textual factors, particularly dealing with cohesive devices, lies in the provision of enough, appropriate practice and input. Developing an awareness of contained rhetorical patterns in a text will contribute to comprehension of that text.

Another point drawn from this study which is confirmed by the findings of Camiciottoli (2003) is that the explicit teaching of cohesive devices not only improves EFL readers’ reading comprehension ability but also sharpens the students’ ability in
identifying and recognizing the functions of such a device in a written text. If second language learners are expected to become fluent, successful readers, a particular instruction should be included in their courses. In the case of textual features, we can ask learners to identify the examples of logical markers and recognize their functions. By paying enough attention to logical connectives, the learners will be able to recognize and analyze the rhetorical strategies and reasoning lines employed by the author of the text (Camiciottoli, 2003). Concerning the necessity of cohesive devices familiarity, Martinez (2002) claims that since discourse markers as a cohesive device facilitate communication, we can think that the lack of DMs in an L2, or their unsuitable use could prevent successful communication to a certain degree, or cause misunderstanding. L2 students must learn to signal the relations of their utterances to those which come first and go after. Therefore, in terms of communicative competence, L2 learners must acquire the proper use of DMs of the L2. Consequently, it is reasonable to imagine that those nonnative speakers who are knowledgeable in the use of the DMs of the L2 will be more successful in interaction than those who are not.

As the final note, the researcher hopes this study could contribute to second language learning and particularly reading comprehension skill and help teachers and students to be more active in language classes. Learners will be able to apply their knowledge of cohesive devices not only in reading skill but also in speaking and writing skills to become more fluent and accurate speakers, writers and successful readers. Teaching cohesive devices as textual factors can help EFL learners activate their reading comprehension skill. In other words, a successful comprehension of any text depends highly on the appropriate use of cohesive and coherent devices.

Suggestion for further Research

The findings of this study suggest a lot of possibilities for further research. One area of research that can be attempted is a comparative study of the performance of the students in cohesion at various levels of proficiency. Another recommendation is to
investigate the impact of cohesive devices on other language skills such as writing in isolation or along with and integrated with reading skill. This study could be replicated with a larger sample size in order to generalize the findings to a larger population. We can also use substitution as a kind of syntactic criteria in studies which try to help learners to become aware of the differences between comparative adjectives and adverbs with the identical forms but belonging to different grammatical categories (Radford, 2004).

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