EFL Learners' Sensitivity to Linguistic and Discourse Factors in the Process of Anaphoric Resolution

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The readers' ability to integrate current information with given information has been considered as an important component of reading comprehension process. One aspect of this integration process involves anaphoric resolution. The purpose of this study is to investigate the process of anaphoric resolution, focusing on inferential rigidity of different types of anaphoric ties. Ninety EFL learners were selected from the accessible population of undergraduate EFL students at a university in Iran. In this study an anaphoric resolution test, containing 30 different expository texts, was used. The participants were asked to underline the antecedents of the anaphors. Once the data was collected and scored, it was subjected to a number of appropriate statistical procedures. The Results of the analysis of variance revealed a significant effect of different types of anaphoric ties, $F (4, 87) = 10.28, p <.000$. The results also revealed a significant effect of their different inferential rigidity, $F (1, 87) = 43.4, p <.000$. Based on the findings, a new anaphoric resolution continuum emerged. The study suggests that students should be familiar with different types of anaphoric ties in discourse and be sensitive to linguistic and textual cues in resolving them and rely on different cues in texts to comprehend texts.

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Keywords: Anaphoric ties; Anaphoric resolution; Linguistic factors; Discourse factors; Inferential rigidity; Expository texts.

Reading is a crucial skill since so much of what we need to know, especially in the academic context, is communicated via the written mode. In the process of reading comprehension, it is important for readers to construct a coherent representation of a given text (Graesser, Millis, & Zwaan, 1997). To construct this coherent representation, the readers partially rely on the cohesive devices that are presented in a text (Halliday & Hasan, 1976). On the other hand, a text contains more information than what is stated explicitly (Davoudi, 2005). Accordingly, the process of constructing coherent representation also contains representation of information that is expressed by the text implicitly. The computation of the implicit information is referred to as inferencing. An important aspect of this making inference is anaphoric resolution. This enables the readers to identify anaphoric devices and trace them back by finding the appropriate antecedents, and by doing so, integrate new information with given information.

A number of studies revealed that anaphoric resolution is one of the essential skills to the improvement of students’ reading comprehension ability. According to Paterson, Sanford, Moxey, and Dawydiak (1998), it is assumed that the students who can successfully resolve anaphoric ties have a better understanding of their textbooks. In another study, Yang, Wong, and Yeh (2008) indicated that the correlation between referential resolution and reading comprehension ranged from 61% to 75%.

Although there is not an unanimous agreement in the literature as to how they should be categorized, the approach taken in this study is to define five main types of anaphoric devices, which were proposed by Halliday and Hasan (1976), namely, repetitions, pronominals, synonyms, paraphrases, and determiners. Regarding their hierarchy of difficulty, different researchers have tried to find the most problematic anaphoric ties to resolve, and the following results have been proposed. Packenham (1980) concluded that among advanced EFL learners, anaphoric
references involving repetitions were easier to resolve than references involving synonyms, which in turn, were easier to resolve than references involving paraphrases. Furthermore, Al-Jarf (2001) found that, for EFL students, substitutions were the most difficult to process whereas repeated lexical markers were the easiest. Pretorius (2005) demonstrated that anaphoric ties involving more complex forms of referring expressions such as those involving paraphrase and determiners, were more difficult to resolve. She also indicated that pronominal anaphoric ties were easier to resolve than repeated anaphoric ties.

According to Garrod and Sanford (1994), anaphoric devices vary in terms of their degree of referential rigidity, i.e., their difficulty for interpretation. Four different variables in particular have been shown to influence anaphoric resolution: featural overlap, topic continuity, discourse focus, and the distance between anaphors and antecedents (Garrod, Sanford & 1994). Featural overlaps refer to linguistic and featural overlaps between the antecedents and the anaphors, as well as the strength of association between them. The findings of several studies have supported the hypothesis that the more features an antecedent and an anaphoric item share, the easier would be the resolution of an anaphoric tie. Lee (2004) examined the effects of anaphoric type, mention order and typicality of antecedents in expository texts. The results showed that finding appropriate antecedents of noun phrases were faster than those of pronouns. It was also shown that mention order and antecedent typicality influenced more the resolution of pronouns than noun phrases. In another study, Kaiser, Runner, Sussman, and Tanenhaus (2009) investigated how syntactic and semantic factors guide the interpretation of pronouns and reflexives. The results showed that the interpretation of anaphoric ties was sensitive not only to purely structural information, as was commonly assumed in syntactically oriented theories of anaphor resolution, but also to semantic information.

Factors such as topic continuity also have an effect on anaphoric resolution. Givón (1983) argued that there was a correlation between topic continuity, anaphoric form and ease of anaphoric resolution. Based on his topic continuity scale, the more
discontinuous a topic was the more coding material must be assigned to it while the more continuous a topic was the less coding material must be assigned to it.

Discourse focus also has an effect on anaphoric resolution. Several scholars have suggested that a restricted number of antecedents that are in focus of readers' working memory affect the process of anaphoric resolution (Klin, Weingartner, Guzmán, & Levine, 2004). A number of studies have also shown that in certain discourse contexts, repeated anaphors rather than reduced anaphors may cause difficulty for skilled readers. For example, Gordon, Grosz, and Gilliom (1993) found that reading time for repeated anaphor (i.e., name–name) was significantly longer than for reduced anaphors (i.e., pronoun–pronoun or name–pronoun). Furthermore, in a study by Gordon and Chan (1995) it was concluded that under certain circumstances, an utterance would be comprehended with difficulty, and read more slowly when it contained a repeated name rather than a pronoun.

The distance between anaphors and antecedents is also another factor that has been shown to affect anaphoric resolution. Different studies have demonstrated that it is easier to resolve a pronoun with a proximal referent than one with a distant referent. In this regard, Ariel (1990) has shown that the distance between antecedents and anaphoric expressions was a significant factor in the accessibility of referents and consequently the choice of anaphoric markers. In another study, Dongmei and Lei (2007) indicated that, there was no facilitation when there was a substantial distance between an anaphor and its referent.

As it was reviewed, anaphoric resolution has been studied by previous studies in a general way without making any distinction between the different categories composing them and without considering their underlying process. Accordingly, the main purpose of the present study is to examine the anaphoric inferencing ability of EFL readers in reading expository texts. The present study has also attempted to investigate the difficulty hierarchy of various anaphoric ties among a group of EFL students who are native speakers of Persian.

Regarding the present study, two broad aims were set up:
Is there any relationship between anaphoric resolution ability of EFL learners and different kinds of anaphoric ties occurring in expository texts?

Is there any relationship between anaphoric resolution ability of EFL learners and inferential rigidity of different anaphoric ties?

Methodology

Participants

The participants of the study comprised 90 EFL undergraduate students, both male and female, majoring in English translation at the Foreign Language Department of Islamic Azad University. The age range of the participants was from 20 to 28 with an average age of 24. The participants had completed at least three semesters of listening, speaking, reading and writing courses in English. All the students who participated in this study were informed of the general aim and procedures of the study and no one participated in the program against his or her will.

Instrumentation

To check the homogeneity of the participants in terms of their language proficiency, the researcher administrated an Oxford Placement Test (OPT, 2004).

In order to answer the first research question, an anaphoric resolution test which was originally used by Pretorius (2005), was conducted. The test included 30 different paragraphs of approximately 72 words [min. 55 / max. 95]. The paragraphs included 38 different anaphoric ties, with an average of eight items per anaphoric category. The frequency distribution of the different anaphoric ties is shown in Table 1. The paragraphs were taken from different academic textbooks, typical of the texts that students needed to read for their studies in an academic context. The anaphoric resolution test had an alpha (Cronbach) reliability score of .88.
Table 1  
*The Frequency Distribution of the Different Anaphoric Ties*

<table>
<thead>
<tr>
<th>Anaphoric Tie</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetition</td>
<td>8</td>
<td>21%</td>
</tr>
<tr>
<td>Pronominal</td>
<td>7</td>
<td>17%</td>
</tr>
<tr>
<td>Synonymy</td>
<td>9</td>
<td>24%</td>
</tr>
<tr>
<td>Paraphrase</td>
<td>6</td>
<td>16%</td>
</tr>
<tr>
<td>Determiner</td>
<td>8</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

In order to answer the second research question, i.e., to investigate the role of referential rigidity in the process of anaphoric resolution, different anaphoric devices were also classified in two categories of high inference and low inference anaphoric devices. The frequency distribution of the different anaphoric ties based on their inferential rigidity is displayed in Table 2.

Table 2  
*The Frequency Distribution of the Different Anaphoric Ties Based on Their Inferential Rigidity*

<table>
<thead>
<tr>
<th>Inference Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low inference</td>
<td>18</td>
<td>53%</td>
</tr>
<tr>
<td>High inference</td>
<td>20</td>
<td>47%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>38</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Procedure

At the beginning of the administration, the anaphoric resolution tests were distributed among the participants. The test on anaphoric resolution comprised a set of different paragraphs, all of which had specific underlined anaphoric items. In the process of the experiment, the participants were required to read all thirty paragraphs and underline the antecedents of the underlined words, all in one session. The test contained written instructions in English, concerning the way in which the anaphoric questions should be answered, with an example paragraph to show the students how to answer the questions. These instructions were given orally in Persian by the researcher, to avoid any misunderstanding. Although no time limit was set for the test, the time it took the first five students and the last five students in the group to complete the test, was noted.

Data Analysis

The task of anaphoric resolution was operationalized by asking the participants to underline all the words/phrases they considered as the antecedents of the anaphors in the paragraphs. The following scoring procedure for marking the participants’ answers was adopted. When the students had identified the appropriate antecedents and had underlined them, a full mark (1) was given to each item. In cases that appropriate antecedents were underlined partially, half a mark (0.5) was given to each item. Partial underlining refers to cases where the students underlined the appropriate antecedents minimally, which means the head of the antecedent noun phrases. A zero score (0) was given to incorrect and/or blank answers.

To determine how typical EFL readers resolved different types of anaphoric ties, two analytical approaches were used in the study. In the first approach, different types of anaphoric ties were categorized according to traditional Hallidayan categories of references. These categories were as follows: repetitions, pronominals, synonyms, paraphrase, and determiners. In the second approach, anaphoric relations were categorized into either
low or high inference anaphors, depending on the relative amount of inferencing required to resolve them.

The Linguistic Categorization of Anaphoric Ties

The anaphoric ties were divided into five Hallidayan linguistic categories of anaphoric ties, namely, repetition, pronominal, synonymy, paraphrase, and determiner anaphoric ties. These five different categories of reference were placed on an inference continuum based on their ease of recoverability in terms of their underlying linguistic features. The rationale for conducting this continuum was based on featural overlaps between the antecedents and the anaphors. The more linguistic clues were in the anaphoric tie, the more obvious the link would be, and hence, the more easily anaphoric ties would be resolved. On the other hand, the fewer the clues were, the less successful the resolution would be (Pretorius, 2005). In the following section, a brief review of these categories has been presented with the illustrating examples taken from the anaphoric resolution test.

1. Repetition. The repetition categories included anaphoric ties where the anaphors were exact repetitions or close repetitions of the antecedents, in the case of derivational morphological changes. Repetition anaphoric ties were placed first on the continuum, because they contained explicit morphosyntactic clues that could guide the readers to make a link (e.g. believed > belief).

2. Pronominal. The pronominal ties included pronoun anaphors, which referred to previously mentioned constructs. Although, English pronouns only share gender and number features with their coreferents, and could potentially be linked to several antecedent noun phrases in a preceding text, they have a very high frequency rate (Genc & Bada, 2006; Shin’ichi, 2009) and as a result they were placed second on the continuum (e.g. economy food plan > it).

3. Synonym. The synonym categories included anaphoric ties where the anaphors were semantically, but not morphologically, related to the antecedents. It was, therefore, placed third on the anaphoric continuum (e.g. stage > phase).
4. Paraphrase. The paraphrase ties consisted of the determiners *this* or *such* followed by single nouns that paraphrased the contents of the antecedents. According to Packenham (1980), an anaphoric item in this category does not have a morphological and/or semantic overlap with an antecedent. As Packenham puts it, pragmatic or strategic knowledge helps the reader to make the link between an anaphor and its antecedent. Accordingly, paraphrase ties were placed fourth on the continuum (e.g. *more challenging work*, *greater worker participation and control*, and *more worker autonomy* > *such conditions*).

5. Determiner. The determiner categories included anaphoric ties where the anaphors comprised only the determiner *this* (or *these*). Determiners in English only mark number, therefore, they provide only few morphosyntactic and no semantic or pragmatic cues for their antecedents. Consequently, they were placed at the end of the continuum (e.g. *symptoms of patients with brain damage showed, however, that this is not always the case* > *this*).

It is worth to mention that, antecedents of the proceedings' anaphors could refer to a single word or to a more complex concept as expressed in an entire sentence or even a paragraph.

**Strength of Inference**

In order to answer the second research question of this study and to assess whether the anaphoric resolution was affected by the amount of inferential rigidity of anaphoric ties, the researcher adapted another analytical tool. By using this analytical tool, the researcher tried to assess how different discourse factors affect inferencing process required for anaphoric resolution. Based on this analytical procedure, the anaphoric ties were categorized along a second continuum, in terms of their inference strength, into low and high inference anaphoric ties. The concept of inference strength was operationalized by giving an index for each anaphoric tie in terms of five different parameters, namely, distance between antecedents and anaphors, length of antecedent construct, grammatical functions of antecedents and anaphors, featural overlap between antecedents and anaphors, and availability of more than one potential antecedent. These five parameters were
assumed to influence the process of anaphoric resolution as it was reviewed in the preceding sections. Binary score of 1 or 0 was used for each parameter (except for one parameter that included 1, 0.5, or 0 scores), making a total score of 7. Anaphoric ties that obtained 4.5 or more were classified as high-inference anaphoric ties, whereas those that obtained 4 or less were classified as low inference anaphoric ties. The index for each anaphoric tie included five parameters as follows:

1. Distance between antecedents and anaphors. To measure the distance between antecedents and anaphors, the researcher analyzed all paragraphs into F units (i.e., clauses or clause equivalents that serve an identifiable rhetorical function in written discourse; Pretorius, 1996, p. 391). If an anaphor and its antecedent appeared in the adjacent F unit, then, the anaphoric tie was assigned 0. If one or more F units separated an anaphor and an antecedent, then the tie was classified as distant and assigned 1.

2. Length of antecedents. This parameter considered the length of the antecedents. It was assumed that the shorter the antecedents, the easier it was to map the anaphoric items onto it (Pretorius, 2005). If an antecedent item consisted of a single word, it was classified as short and assigned a value of 0. If an antecedent item consisted of a more complex noun phrase, then it was classified as long, and assigned a value of 1.

3. Featural overlaps. Here, morphological, semantic, and pragmatic overlaps between antecedents and anaphoric items were counted. Anaphoric ties that had any of these features were given a value of 0, respectively; those without these features were given a value of 1.

4. Grammatical functions of antecedents and anaphors. This parameter considered the grammatical functions of the anaphoric ties, based on whether the antecedents and anaphors were in subject or object position. There were three possibilities: subject–subject, object–subject, and object–object, which were assigned values of 0, 0.5 and 1 respectively. The rationale behind this classification was that, anaphoric ties in subject–subject position
gain the discourse focus but those in object–object position are not in discourse focus.

5. Availability of more than one potential antecedent. This parameter considered the existence of more than one potential antecedent. The argumentation is that, reduced referring expressions such as pronouns, in contrast to the full anaphors, provide less information about their referents. This makes it possible to match a given pronoun, in theory at least, with several potential antecedents (Lee, 2004). When more than one potential antecedent was available a value of 1 was given to an anaphoric tie, in contrast, a value of 0, was given to an anaphoric tie which had only one potential antecedent.

Results

The study was intended to examine the effects of different types of anaphoric ties on their resolution. The first research question was set to examine the relationship between anaphoric resolution ability and different types of anaphoric expressions. Accordingly, the distribution of successful anaphoric resolution across different categories of anaphoric ties was examined. It was hypothesized that there was a relationship between different kinds of anaphoric ties occurring in expository texts and their difficulty hierarchy. As it went, it was also hypothesized that ease of resolution would be determined by the amount of morphosyntactic and semantic featural overlaps between an antecedent and an anaphor and that successful anaphoric resolution would decrease in this order: repetition > pronominal > synonym > paraphrase > determiner. The display of scores in Table 3 shows the distribution of anaphoric resolution across different categories of anaphoric ties.

As it is illustrated in Table 3, the EFL university students in this study were able to identify 44% of the repetitions, 38% of the pronominals, 33% of the synonyms, 26% of the paraphrases, and 52% of the determiners in the anaphoric resolution test.
The variations in the percentages of successful anaphoric resolution for different anaphoric categories reflected the difficulty hierarchy of different anaphoric ties. Surprisingly, the most successful resolution occurred in the determiners category, which was expected to be the most difficult one. The next category that the students were able to resolve successfully was the repetitions one. Contrary to the expectations, the paraphrases category, and not determiners category, proved to be the most challenging one. Consequently, it can be concluded that paraphrases were the most difficult anaphoric ties under investigation. The second most difficult anaphoric ties were synonyms followed closely by pronominals and repetitions. Determiners were the easiest anaphoric ties to be resolved.

To examine the difficulty hierarchy of the five anaphoric types, and to see whether these differences were significant, a one-way analysis of variance (ANOVA) was run. The results of the analysis of variance revealed a significant effect of different categories of anaphoric ties, \( F (4, 87) = 10.28, p <.000 \). The results indicated that the differences among the percentages of successful anaphoric resolution of different types of anaphoric ties were significant.

To examine the next research question, regarding the influence of linguistic and discourse factors on anaphoric resolution procedure, the percentages of successful anaphoric resolution for low inference anaphoric relations and that of high inference relations were calculated. It was hypothesized that ease of resolution would be determined by whether the anaphoric ties were low or high inference ties. The analysis of the correct responses showed that the percentage of successful anaphoric resolutions for low inference anaphoric relations was 41.5%,

### Table 3

<table>
<thead>
<tr>
<th>Anaphoric resolution</th>
<th>repetition</th>
<th>pronominal</th>
<th>synonym</th>
<th>paraphrase</th>
<th>determiner</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>44.044</td>
<td>38.556</td>
<td>33.378</td>
<td>26.356</td>
<td>52.178</td>
</tr>
</tbody>
</table>
whereas that of high inference relations was only 34.8%, clearly showing differences between the two types of anaphoric ties. The results demonstrated that high inference anaphoric relations were more difficult for the participants than low inference anaphoric relations. Successful anaphoric resolution was dropped by about 7% when the anaphoric tie required greater inferential processing.

To examine the difficulty hierarchy of the different anaphoric ties based on their inferential rigidity, and see whether these differences were significant, a one-way analysis of variance (ANOVA) was run. The results of the analysis of variance revealed a significant effect of different categories of anaphoric ties, $F(1, 87) = 43.4, p < .000$. The results indicated that the difference between the percentages of successful anaphoric resolution of low and high anaphoric ties were highly significant.

Discussion

Many of the participants had problems resolving anaphoric ties successfully. The mean performance of participants in anaphoric resolution test was 32% (SD = 5.9). This is of concern, because anaphoric inferencing is an integral component of skilled reading. Anaphoric resolution were even more unsuccessful when the anaphoric ties involved complex forms of referring expressions and high inference anaphoric ties in contrast to low inference anaphoric ties.

Regarding the first research question, the results suggested a relationship between anaphoric resolution ability of the participants and different categories of anaphoric ties. Based on the findings, a new anaphoric continuum emerged. As a whole, the findings indicated that determiners occurred first in the emerged anaphoric continuum, followed by repetitions, pronominals, synonyms and paraphrases. The findings did not support the results obtained in Gordon, Grosz, and Gilliom (1993), Gordon and Chan (1995), and Pretorius (2005). Their findings indicated that anaphoric references involving pronominals were easier and faster to resolve than anaphoric references involving repeated nouns. However, in this study, pronominal ties were not resolved very successfully, and they were placed third in the emerged anaphoric
continuum, after determiner ties and repetition ties. Regarding the findings of the present study, it can be argued that the resolution of anaphoric ties is sensitive to different factors such as reader’s level of proficiency and their stage of reading development. For example, repeated anaphors, which are common in the early grade readers, may be helpful for readers in the early stages of reading and second language readers whose L2 reading skills is poor but they may not be very helpful for intermediate and advanced readers.

On the other hand, except for determiners category, the findings supported the results that were obtained in Packenham (1980) and Al-Jarf (2001). They indicated that anaphoric ties involving repetitions were easier to resolve and comprehend than ties involving synonyms and paraphrases. Furthermore, Lee (2004) indicated that readers had difficulty understanding a text correctly when references took the form of pronouns in contrast to repeated anaphoric forms. Accordingly, it can be concluded that even at the advanced levels, second language students of English depend highly on the surface lexical and syntactic constrains of the anaphoric items. Reduced referring expressions such as pronouns in contrast to the full anaphors provide less information about their referents and as a result are more difficult to resolve. This makes it possible to match a given pronoun, in theory at least, with several potential antecedents.

Interestingly, the findings of the study indicated that anaphoric ties involving determiners had the highest resolution rate among different five anaphoric ties under investigation. The relatively high resolution rate of resolving determiners suggests that, despite the fact that determiners are potentially opaque and provide few morphosyntactic and no semantic or pragmatic cues for their antecedents, they are very frequent, especially in informative texts and as a result they are familiar anaphoric referents for EFL readers (Fortanet, 2004; Kennison, 2003). The high frequency of determiners in expository texts makes them relatively familiar features of written texts, even for less skilled EFL readers, which might accounts for their successful resolution. Accordingly, it can be concluded that the discourse processing
ability of the participants in this study, particularly their resolution ability, is highly influenced by factors such as text types and discourse features of the texts. In this regards, it can be hypothesized that pronouns occur most frequently as referential expressions for story characters in narratives in contrast to informative texts (Genc & Bada, 2006; Shin’ichi, 2009), and perhaps this is why they are not resolved most successfully by EFL readers in reading expository texts. Nevertheless, frequency of different types of referential expressions in different genres is a matter that needs further research. As expected, the paraphrase category of anaphoric relations proved to be challenging to be resolved. In fact, most errors in anaphoric resolution test in this study were those involving paraphrase relations. Paraphrases, particularly those that referred back to longer and complex antecedents, were sometimes ambiguous to resolve, and were difficult even for more-proficient L2 readers of English. Writers of expository textbooks should bear these factors in mind, especially when the intended audiences comprise EFL readers.

The differential performance in anaphoric resolution suggests that the concept of an anaphoric continuum is a useful one. However, the predictions made by the anaphoric continuum based on only linguistic factors need to be modified for it failed in some respects to accommodate the complex interplay of linguistic and textual features. For example, anaphoric ties involving repetitions of items with derivational changes (e.g. believed > belief) posed difficulty for many students, whereas anaphoric ties involving determiners showed the highest success rate. Kaiser, Runner, Sussman, and Tanenhaus (2009) also supported the point that different kinds of information interact with each other during reference resolution. They further claimed that treating structural information and semantic information as separate sources of information influencing reference resolution is an oversimplification, and that reference resolution is a process, which is influenced by multiple constraints. They also claimed that different anaphoric forms show different degrees of sensitivity to different structural and discourse/semantic constraints.
Nonetheless, further research is needed to support the modification of the emerged anaphoric continuum.

Regarding the second question, the analysis of anaphoric resolution in terms of a continuum with low inference anaphoric ties occurring on one end of the continuum and high inference ties occurring on the other end was also useful. The results of the study demonstrated that resolution of different anaphoric ties was highly affected by inferential demands of anaphoric ties. Anaphoric resolution became increasingly challenging as the antecedents became longer, the anaphoric ties stretched over longer sections of discourse, the featural overlaps between anaphoric devices and the antecedents became more opaque and as the number of potential antecedents preceding the anaphoric devices increased. The findings of the study supported the findings of a number of related studies (Lee, 2004). The findings supported the hypothesis that the more features the antecedents and the anaphoric items shared, the easier would be the resolution of the anaphoric ties. On the other hand, it was demonstrated that among EFL learners, the distance between the anaphoric devices and antecedents was an influential factor in the process of reading comprehension. The argumentation is that distant antecedents are no longer in active working memory and need to be reactivated to be resolved and as a result, they take longer resolution time (O’Brien, Raney, Albrecht, & Rayner, 1997).

To wrap it up, the researcher would like to emphasize that, university students are required to read expository texts. To be able to read and fully comprehend specialized texts, the students must be able to apply advanced reading skills and to synthesize meaning from different parts in a given text. In this regard, anaphoric resolution has been considered as an important factor in the process of reading comprehension. Anaphoric resolution possibly relies not only on linguistic proficiency but also on general cognitive and memory abilities, which include attending to cues in texts to construct meaning. Anaphoric resolution errors produced by the participants in this study showed that the students were unable to make the logical connections between ideas presented in the texts, and thus perhaps, were unable to build a coherent mental
representation of their content. The resolution of anaphoric ties by EFL readers in expository context is obviously an area that requires further exploration. There are many factors, which could play a role in making anaphors easier or more difficult to resolve, including low-frequency lexicon, unfamiliar topic and context, unfamiliar vocabulary and obscure wording or grammatical structures. Further research can clarify the role of each one of these factors in the process of anaphoric resolution.

Implications of the Study

The skill to make anaphoric inferences is particularly important in the learning contexts in which readers need to rely on different cues to comprehend texts that deal with topics about which they have little prior knowledge. There are some conflicting views on whether or not anaphoric ties should be explicitly taught. Nevertheless, what is obvious is that, students should be familiar with different types of anaphoric ties in discourse and be sensitive to linguistic and textual cues in resolving them.

It is suggested that different strategies that will raise readers’ awareness of anaphoric ties and the way in which authors use different anaphoric ties to relate information in the text should be taught to EFL students in general and non-professional students in particular. Such strategies and exercises can enable students to better attend to text keys. According to Nuttall (1996), a first step in teaching students to identify the correct referents of anaphors is to make the students take the problem of resolving an ambiguous anaphoric tie seriously. After that, students should be aware of the different types of anaphoric devices. For instance, they should be informed that determiners or pronominals always signal the presence of already given information. Then, students can be provided with texts including some anaphoric devices omitted and replaced by gaps. The instructors should also provide a list of omitted anaphoric devices. The students’ task, then, is to insert the items into the correct gaps. In a similar exercise, students can also be provided with texts containing no anaphoric ties and can be asked to substitute lexical items by anaphoric devices. At this stage, cohesive ties should be practiced one at a time; students
should proceed from the easiest to the most difficult ones. In the next stage, instructions in the recognition of markers of anaphoric ties and in identifying relationships between an anaphor and a referent are recommended.

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