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The Effect of Deductive vs. Inductive Grammar Instruction on Iranian EFL Learners' Spoken Accuracy and Fluency

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Abstract

The efficacy of deductive vs. inductive techniques of grammar instruction is still a matter of heated debate, especially in EFL language teaching contexts. This study set out to examine whether or not these two types of teaching would differently affect EFL learners' accuracy and fluency. To this end, a quasi-experimental study was carried out to compare the performances of two groups of pre-intermediate Iranian EFL students (i.e., deductive instruction group vs. inductive instruction group) on the fluent and accurate use of three English tenses, namely the simple present, present continuous and simple past, in oral picture description activities. The results indicated that although there was no significant difference between the groups in their oral fluency, there was a significant difference regarding their accurate use of two of the aforementioned tenses, suggesting that a deductive approach towards grammar instruction could have a more positive impact on EFL learners' oral accuracy.

Keywords: grammar instruction, deductive teaching, inductive teaching, EFL contexts, accuracy, fluency

1. Introduction

1.1 Background of the study

The issue of grammar instruction has always been and continues to be at the forefront of language teaching studies (Brown, 2000). After all, it is grammar which enables language users to string together clusters of words in a manner that is both correct and meaningful (Thornbury, 1999). Despite their agreement on the importance of grammar, many researches hold sharply contrasting views regarding how it should be taught in language classrooms.

An important dichotomy regarding grammar instruction is that of deductive and inductive grammar instruction. The former involves providing learners with a specific rule and subsequently using the rule to generate meaningful examples of the structure (Thornbury, 1999). Inductive teaching methods, by contrast, employ a more indirect approach by providing language students with real-life instances of a particular structure and having them analyze them in the hope that they will be able to notice the similarities between the various examples and infer the underlying structure (Ellis, 2010). In essence, a deductive method of teaching grammar entails a movement from rules to examples, whereas in the case of inductive techniques, the pattern is reverse (Gollin, 1998). In general, inductive techniques tend to adopt a naturalistic approach (DeKeyser, 2005), while deductive methods mostly entail raising learners' consciousness of a particular feature (Ellis, 2010).

1.2 Statement of the problem

The relative merits and demerits of inductive and deductive methods of teaching grammar have been researched rather exhaustively in both societies where English is predominantly spoken and countries where it is spoken as a second language. The problem is that the findings of such studies are not truly generalizable to parts of the world where English is considered a foreign language. Furthermore, despite this large volume of research, it can be seen that there is little agreement in this regard. Some studies have pointed to the superiority of deductive methods (Berendse, 2012; Erlam, 2003; Nazari, 2012; Seliger, 1975; Shih, 2008), while others have made a compelling case for inductive approaches (Abdolmanafi Rokni, 2009; Fahim and Azarnioushi, 2011; Herron and Tomasello, 1992; Kuder, 2009). What is more, most of the studies carried out in both Iran and other countries have used written methods of evaluation in order to examine the impact of the deductive and inductive teaching of structures and, as such, have measured accuracy exclusively (e.g. Abdolmanafi Rokni, 2009; Chalipa, 2013; Fahim and Azarnioushi, 2011; Nazari, 2012).

1.3 Purpose of the study

The present study was an attempt to determine what impact deductive and inductive approaches to grammar instruction might have on Iranian language learners' ability to speak English accurately. Another objective pursued by the study

was to investigate whether or not the type of grammar teaching (i.e. deductive or inductive) could affect Iranian EFL students' fluency. This objective was motivated by the assumption that there is a 'trade-off' between accuracy and fluency, that is, L2 students experience difficulty in attending simultaneously to linguistic form (accuracy) and message content (fluency) (Skehan, 2009). Because an individual's attentional capacity is limited, he or she may produce accurate language at the expense of fluent language. In deductive grammar teaching, the students' attention is directly called to rules and, thus, an important question raised here is whether such an attention to form could negatively affect their fluency.

1.4 Research questions

In order to shed some light on the above mentioned issues, this study aims at finding answers to the following research questions:

1. Do deductive and inductive grammar instruction have the same impact on Iranian EFL learners' accurate use of three tenses (i.e., the simple present, present continuous and simple past) in English in oral description of pictures?

2. Do deductive and inductive grammar instruction have the same impact on Iranian EFL learners' fluent use of three tenses in English in oral description of pictures?

1.5 Literature Review

1.5.1 Studies in Favor of Deductive Instruction

The results of several studies point to the superiority of deductive grammar instruction. In a study carried out by Berendse (2012), two groups of Dutch secondary school students were taught the English simple past and present perfect tenses over the course of three sessions, after which they were given two grammaticality judgment tasks: the first one shortly after instruction and the second one six weeks later. The results indicated that while there was little difference between the two groups on the former, the latter illustrated a greater degree of discrepancy, with the students who had received deductive instruction scoring higher than their peers who had been taught inductively, suggesting that deductive grammar teaching facilitates better long-term retention.

Similar to the aforementioned study, Erlam (2003) concluded that the benefits of deductive approaches outweigh those of inductive teaching methods. Her study involved the teaching of direct object pronouns in French to a sample of 69 New Zealand high school students who were randomly assigned to deductive, inductive and control groups. For the deductively taught group, the usage of these pronouns was formally explained and accompanied by example sentences illustrating their use, after which students did a pronoun replacement exercise. Those taught inductively, however, received no formal explanation of rules. Instead, a matching activity involving a series of illustrations and statements was used. The learners then saw some other pictures shown via an overheard projector while simultaneously listening to a pair of statements describing each one. The students had to say which statement matched the picture being displayed. By contrast, the learners in the control group were subject to form-focused rather than target structure instruction. Two posttests were given to the learners, one immediately after the treatment phase and the other six weeks later. On both occasions, the deductive group achieved significantly higher marks than the inductive and control groups.

In a similar study, Seliger (1975) examined the impact of inductive and deductive grammar instruction on a sample of 58 students learning English in an American language institute. Just as the study by Erlam (2003), these learners were divided into three groups, namely deductive, inductive and control, with classes being held in a language laboratory. The learners in the inductive group received input in the form of a tape accompanied by written material and were then asked to summarize the rule. The participants in the deductive group, on the other hand, were given an explicit presentation of the target structure and then applied their newly-acquired knowledge to a series of exercises. The control group was given no formal instruction and merely engaged in silent reading. Finally, the learners were given a recall and retention test one day and three weeks after the treatment stage, respectively. Although the results of the former did not indicate a significant difference between the two experimental groups, the latter showed that those taught grammar deductively enjoyed a clear advantage. In other words, deductive instruction had had a positive effect on retention.

Shih (2008) examined the effects of the deductive and inductive teaching of relative clauses on a group of 70 junior high school students in Taiwan. These students were placed into two groups, one experimental and the other control, with the former receiving inductive instruction and those in the latter undergoing traditional deductive instruction. Moreover, the 70 participants were categorized into three groups according to their proficiency level, namely high-achievers, mid-achievers and low-achievers. It was determined that the high-achievers benefitted more from a deductive approach to grammar instruction, whereas no statistically significant difference between these two teaching methods was observed with respect to the mid- and low-achievers.

Nazari (2012) studied the impact of implicit and explicit grammar instruction on Iranian language learners' mastery of the present perfect tense. In order to measure this, a written test consisting of multiple-choice items and sentence-making was employed, with the results indicating that teaching grammar explicitly leads to a more favorable outcome in comparison with implicit instruction.

1.5.2 Studies in Favor of Inductive Instruction

While several studies suggest that deductive instruction may be more beneficial than inductive instruction, others have shown that the advantages of an inductive approach exceed the merits of a deductive one. Herron and Tomasello's (1992) study involved the teaching of 10 French structures to 26 American university students studying elementary-level French. Those receiving inductive instruction began with contextualized oral drills. These students were tasked

with inferring the underlying grammatical structure without the help of the teacher. On the other hand, the subjects who were given deductive treatment were first presented with the explicit rule and then asked to apply it to a contextualized oral drill. All the students were then evaluated the day after as well as one week after instruction by means of a gap-fill test. In both cases, those students who had been exposed to inductive instruction achieved higher scores than their peers who had been taught deductively.

In a study conducted by Kuder (2009), two groups of intermediate learners were given instruction on Spanish direct object pronouns. It was concluded that those taught inductively did slightly better than the learners who had received deductive instruction, though the difference was not significant. The former also expressed a higher level of satisfaction in comparison with their deductively-instructed counterparts.

Furthermore, Fahim and Azarnioushi (2011) conducted an investigation on the relationship between critical thinking ability and two approaches towards teaching grammar, namely rule-driven instruction and discovery learning. The study involved 73 language learners undergoing two instruction phases, the first deductive and the second inductive, comprising four sessions each, after which they were given a grammar test. The findings showed that induction contributes to the learning of students with a high critical thinking ability, yet no relationship was found between deduction and high or low critical thinking abilities.

In his investigation of Persian learners of English, Abdolmanafi Rokni (2009) examined the impact of using explicit-deductive and explicit-inductive teaching techniques on the acquisition of relative clauses in English. After receiving instruction, the participants took a posttest. This was later followed by a delayed posttest. The two tests consisted of sentence-combining activities as well as grammaticality judgments tests. On both occasions, those learners who had been given explicit-inductive instruction significantly outperformed their peers in the explicit-deductive group, suggesting that Iranian learners are more positively affected by inductive teaching methods.

1.5.3 Studies Showing No Difference between Deductive and Inductive Teaching

While the findings of many studies have identified one teaching method as superior to the other, other studies paint a more grayish picture. Motha (2013) used an online language tool in order to study the impact of the inductive and deductive teaching of case-marking in Polish. The study of 90 participants showed minimal difference in the effectiveness of these two approaches, though it was suggested that linguistic background should be a factor when deciding on teaching techniques.

In another study, Hwu and Sun (2012) did not find a significant difference between deductive and inductive grammar instruction but did discover an interplay between learner characteristics and teaching conditions. In their study, a number of language aptitude measures were considered, such as memory and language sensitivity. Accordingly, students were divided into low-aptitude and high-aptitude groups and then subdivided into two groups, one receiving deductive instruction and the other benefitting from an inductive approach. Finally, the participants' learning was assessed using three posttests consisting of written sentence production as well as correction tasks. The results suggested that lower-aptitude learners benefit more from deductive instruction as this can compensate for their unfamiliarity with explanations of grammar. However, when it comes to higher-aptitude learners, it is inductive teaching methods which yield the best results.

Other studies have also failed to establish which method of teaching grammar works best, such as those carried out by El-Banna and Ibrahim (1985), Shaffer (1989), and Xia (2005). Furthermore, it is worth noting that while most research done in the area of deductive and inductive grammar instruction has focused on these two methods' impact on grammatical competence, a small number of studies have also explored their effect on pragmatic use. In one such study, Rose and Ng (2001) investigated the effects of the deductive and inductive teaching of grammar on pragmatic use. Their findings indicated that a deductive approach positively affects socio-pragmatic proficiency. This is in stark contrast to the findings of Takimoto (2005), who found the impact of an inductive approach on pragmatic use to be greater than that of a deductive one.

In another study, Chalipa (2013) took a sample of 40 language learners in Iran in order to determine the effect of deductive and inductive grammar instruction. The learners were taught 10 grammar items in total, half of which were taught deductively and the other half inductively. Two posttests were administered so as to measure the participants' short-term and long-term learning. In the end, neither test indicated a significant difference between these two approaches to teaching grammar.

Taking into account all the research carried out in this regard, it is evident that there is little agreement regarding the best approach towards grammar instruction. The present study was an attempt to shed light on the matter of which of the two aforementioned methods of teaching grammar (i.e. deductive and inductive) works best in the EFL context of Iran.

2. Method

2.1 Design

The study employs a quasi-experimental design constituting a pre-test and post-test, using two intact EFL classes. There was one experimental group and one control group. The independent variable involved in the study was the treatment with two levels (i.e., deductive grammar teaching and inductive grammar teaching), and the dependent variables were the groups' accuracy performances on oral tests as well as their fluency in the oral production of stories.

2.2 Participants

A sample of 60 Iranian learners of English as a foreign language constituted the participants of the study. They were adult learners of English studying at a pre-intermediate level at a language institute in Shiraz, Iran. The subjects, who were in the age range of 21-32, were all native speakers of Persian. A non-probability sampling design was used in the study, that is, the participants were assigned to classes by the registration office of the language institute.

2.3 Instruments

Three instruments were used for the purpose of data collection. The first instrument used was a Key English Test (KET) to ensure the comparability of the groups involved in the study in terms of their English proficiency. The second instrument employed in this study was a pretest involving a picture description activity. The pictures were carefully chosen so as to elicit the structures the learners had been taught during the treatment phase. The final instrument was a posttest again involving the description of pictures, albeit with a different set of illustrations from those used in the pretest.

All the tests used in the study were examined by two experienced English teachers and their comments were taken into consideration. These expert judgments were used to come up with some evidence of the content validity of the instruments. As for the reliability of the pretest and posttest, both inter-rater and intra-rater reliabilities were examined. These were calculated at .83 and .92, respectively, which are both acceptable according to the guidelines provided by Hatch and Farhady (1982).

2.4 Procedure

The experiment covered a period of four weeks and included six sessions of both teaching and testing lasting one hour each. Two intact classes of pre-intermediate EFL students, each comprising 30 students, were compared. The assignment of participants into the experimental and control groups was done randomly. In the first session of the program, the proficiency test KET was administered to both groups to find out whether they were homogeneous in their general knowledge of English. A pretest was administered the following session so as to gauge the participants' ability to use the three key tenses in English which were to be taught during the treatment period: the simple present, the present continuous, and the simple past.

After the aforementioned process of screening the participants, the instruction period began. The two groups of language learners were asked to attend classes separately for the duration of the treatment. The experimental group received inductive grammar instruction, while a deductive approach was taken with the control group (this group was selected as the control group because deductive instruction is the most common and, thus, unmarked method of tuition in Iran).

As mentioned above, an inductive approach was adopted for teaching the target tenses to the experimental group. Each session started with a dialog between two speakers acted out loud by the teacher in front of the students. These sample conversations were selected and edited by a native speaker of English to ensure they were as authentic as possible. Moreover, the dialogs were dramatized in order to pique learners' interest. The dialog was acted out twice. After the first time, the students were asked a general question about the theme of the conversation, whereas more detailed questions were used the second time through with the aim of encouraging the learners to reproduce the target structure in their responses. These questions were accompanied by additional questions about why the speakers had chosen certain utterances rather than others (without the use of metalanguage, of course). Afterwards, the subjects were given a transcript of the dialog and tasked with underlining all the verbs. Next, they were asked what these verbs showed, after which they had to act out the conversation in pairs. The students were then given a situation or task to provide them with an opportunity to practice the new language item. Feedback was provided, though this did not entail any overt explanations as to why one structure was correct and the other was not.

In contrast to the experimental group, those participants in the control group were subjected to deductive grammar instruction. Sessions began with the introduction of a specific tense (e.g. *the simple present tense*) followed by the explicit presentation of its form along with its concomitant meaning. Several examples of the tense were put on the board, with certain parts being highlighted with a different color marker so as to draw the learners' attention to the target structure. Afterwards, several questions were posed to ensure the students had fully learned the form and meaning of the new structure (e.g. *Do we use the simple present to talk about now or things in general?*). This was followed by a variety of drills on the target structure. Next, the participants were given a grammar exercise consisting of a number of sentences, some of which were correct and some incorrect. They had to determine whether each sentence was syntactically right or wrong and explain their answers. Finally, the learners were asked to personalize the structure by making sentences using their own information. Errors were corrected, though this time the corrections were accompanied by overt explanations.

Immediately after receiving six sessions of grammar instruction, the participants were asked to come for a posttest. Before the initiation of the posttest, a minute or two was spent on establishing rapport with the participants to help them feel at ease and reduce the potential impact of anxiety on their performance. The learners were then presented with a number of illustration and prompted to describe them using the structures they had learnt over the course of the instructional period. For example, in order to elicit instances of the simple present tense, each participant was presented with a number of pictures depicting an imaginary character named Jack doing several everyday activities (e.g. waking up, going to work, watching TV) along with the times he does each of those activities, after which they were asked to describe Jack's daily schedule. They then described the illustrations one by one (e.g. *Jack wakes up at 7:00 every day*).

It should be noted that the learners were instructed to use one sentence only for each illustration. Each interview lasted an average of eight minutes. Finally, each individual performance was rated according to standard procedures.

3. Results

3.1 Proficiency test

In order to ensure that the groups were homogeneous in their proficiency level, a KET was given to them. Table 1 shows the descriptive statistics for the two groups' performances on the proficiency test.

Table 1. Descriptive Statistics for the Two Groups' Performances on the Proficiency Test

Group		N	Mean	Std. Deviation	Std. Error Mean
KET (Proficiency Test)	Control Group (Deductive)	30	59.50	6.17	1.12
	Experimental Group (Inductive)	30	58.76	5.53	1.00

The results of the t-test run on the proficiency test scores are shown in Table 2.

Table 2. Independent Samples T-test for the Two Groups' Performances on the Proficiency Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
KET (Proficiency Test)	Equal variances assumed	1.05	.30	.48	58	.63	.73
	Equal variances not assumed			.48	57.30	.63	.73

The t-test showed that the groups' general English proficiency levels were not significantly different (p = .63). It is noteworthy that before running the t-test, a KS test had shown that both groups enjoyed normal distribution of scores.

2.5.2 Accuracy

Each student's accuracy score was measured via 'obligatory occasion analysis' (Ellis & Barkhuizen, 2005). This was calculated by dividing the number of the correct uses of a certain target category by the total number of obligatory uses of the category and multiplying it by 100.

Tables 3 and 4 show the results of the statistical analyses run for the scores obtained from the pretest:

Table 3. Descriptive Statistics for the Groups' Performance on the Accurate Use of the Target Tenses on the Pretest

Group		N	Mean	Std. Deviation	Std. Error Mean
Simple Present (Pretest)	Control Group (Deductive)	30	41.33	18.14	3.31
	Experimental Group (Inductive)	30	44.66	14.55	2.65
Present Continuous (Pretest)	Control Group (Deductive)	30	37.00	17.44	3.18
	Experimental Group (Inductive)	30	38.66	15.47	2.82
Simple Past (Pretest)	Control Group (Deductive)	30	33.33	15.38	2.80
	Experimental Group (Inductive)	30	33.66	14.73	2.69

A KS test showed that the distribution of both groups' scores on the pretest was normal. In order to compare the accuracy performance of the two groups on the pretest, independent samples t-tests were run. The differences between the groups were not found to be statistically significant for any of the target tenses. Table 4 shows the inferential statistics of the two groups' performances on the three target tenses on the pretest.

Table 4. Independent Samples T-test for the Groups' Accuracy Performance on the Pretest

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Simple Present (Pretest)	Equal variances assumed	.77	.38	-.78	58	.43	-3.33
	Equal variances not assumed			-.78	55.40	.43	-3.33
Present Continuous (Pretest)	Equal variances assumed	.40	.52	-.39	58	.69	-1.66
	Equal variances not assumed			-.39	57.18	.69	-1.66
Simple Past (Pretest)	Equal variances assumed	.01	.89	-.08	58	.93	-.33
	Equal variances not assumed			-.08	57.89	.93	-.33

Table 5 depicts the descriptive statistics of the two groups' performances on the target tenses on the posttest.

Table 5. Descriptive Statistics for the Groups' Accuracy Performance on the Posttest

Group		N	Mean	Std. Deviation	Std. Error Mean
Simple Present (Posttest)	Control Group (Deductive)	30	69.00	14.22	2.59
	Experimental Group (Inductive)	30	65.00	14.32	2.61
Present Continuous (Posttest)	Control Group (Deductive)	30	68.00	15.17	2.77
	Experimental Group (Inductive)	30	56.66	17.87	3.26
Simple Past (Posttest)	Control Group (Deductive)	30	62.66	18.55	3.38
	Experimental Group (Inductive)	30	53.00	16.43	3.00

Table 6 illustrates the results of the t-test run on the accuracy scores the participants achieved on the posttest.

Table 6. Independent Samples T-test for the Groups' Accuracy Performance on the Posttest

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Simple Present (Posttest)	Equal variances assumed	.04	.82	1.08	58	.28	4.00
	Equal variances not assumed			1.08	57.99	.28	4.00
Present Continuous (Posttest)	Equal variances assumed	.62	.43	2.64	58	.01	11.33
	Equal variances not assumed			2.64	56.51	.01	11.33
Simple Past (Posttest)	Equal variances assumed	.39	.53	2.13	58	.03	9.66
	Equal variances not assumed			2.13	57.16	.03	9.66

The results, as demonstrated in Table 6, showed that there was not a statistically significant difference between the two groups in their accurate use of the simple present tense (t = 1.08, p = .28). However, there was a significant difference in their accurate use of the present continuous tense (t = 2.64, p = .01), with the deductive group outperforming the inductive group. Likewise, the students who had been taught grammar deductively also spoke made significantly more accurate use of the simple past tense than those subjected to inductive teaching methods (t = 2.13, p = .03).

2.5.3 Fluency

The quantification of the participants' fluency was done using 'speech rate analysis' (Ellis, 1990). This involved counting the total number of syllables during a stretch of speech and dividing the sum by the number of minutes it took to produce them. The result was a figure denoting the average number of syllables uttered per minute, which was taken as an index of one's rate of speech.

The descriptive statistics for the fluency scores of the two groups of participants on the pretest appear in Table 7.

Table 7. Descriptive Statistics for the Fluency Scores (Pretest)

Group		N	Mean	Std. Deviation	Std. Error Mean
Fluency (Pretest)	Control Group (Deductive)	30	56.06	9.08	1.65
	Experimental Group (Inductive)	30	57.86	9.03	1.65

Table 8 shows the results of the t-test run on the participants' fluency scores achieved on the pretest.

Table 8. Independent Samples T-Test for the Fluency Scores (Pretest)

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Fluency (Pretest)	Equal variances assumed	.00	.95	-.76	58	.44	-1.80
	Equal variances not assumed			-.76	57.99	.44	-1.80

As evidenced in the tables above, the significance value was .44, which is above .05, indicating that there was no meaningful difference between the learners of the two groups with respect to their fluency levels when they took the pretest, meaning that the two groups were comparable.

The descriptive statistics for the learners' fluency scores on the posttest can be seen in Table 9.

Table 9. Descriptive Statistics for Fluency Scores (Posttest)

Group		N	Mean	Std. Deviation	Std. Error Mean
Fluency (Posttest)	Control Group (Deductive)	30	66.10	7.42	1.35
	Experimental Group (Inductive)	30	67.46	8.07	1.47

Table 10 depicts the results of the t-test run the fluency scores the participants obtained on the posttest.

Table 10. Independent Samples T-test for Fluency Scores (Posttest)

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Fluency (Posttest)	Equal variances assumed	.07	.78	-.68	58	.49	-1.36
	Equal variances not assumed			-.68	57.60	.49	-1.36

As shown in Table 10, there was no significant difference between the two groups of learners regarding their fluency.

4. Discussion

The learners in the control group (i.e. deductive group) were significantly more accurate in their use of two of the three tenses they were taught (i.e. the present continuous and the simple past) on the posttest. Even in the case of the simple present, those students who had received deductive grammar instruction posted overall better accuracy scores, even though the gap was not large enough to be deemed significant. These results suggest that a deductive approach to teaching grammar could be more effective in enabling language learners to make accurate use of grammatical structures in comparison with an inductive approach. This is in line with the findings of Seliger (1975), Erlam (2003), Ellis (2005), Shih (2008), Berendse (2012), and Nazari (2012). This turn of events could be due to a number of reasons.

One reason why the students who had been taught grammar deductively demonstrated a higher degree of accuracy in the oral picture description activity might be the cognitive tendency of adult students for conscious processing of rules, a notion supported by Ellis (2005), Farrokhi and Talabari (2011), and Rezaei and Hosseinpour (2011). On the one hand, these learners were familiarized with the actual forms of the three aforementioned tenses from the very beginning of each session. In other words, there was a greater emphasis on form rather than meaning in comparison with the inductive approach taken with the experimental group. Thus, the learners were able to memorize the structures straightaway. Furthermore, overt explanations of the meaning and use of each structure accompanied this focus on form, essentially removing the element of guesswork on the part of the language learners and thus reducing the possibility of making a wrong guess in addition to making them much more confident in their use of the structure (DeKeyser, 2003). It is possible that in the case of the participants who received inductive instruction, there existed an element of uncertainty after each session, a feeling that several questions had remained unanswered. Since these learners were not given explicit instruction, it became more difficult for them to make definite conclusions on the form, meaning and use of the structures they were taught, whereas in the sessions involving the control group, a clear link was established between the form and meaning of each structure, leaving nothing to chance. This is something which was also noticed during the treatment: many of the inductively taught students seemed less inclined to contribute to the free-production activity at the end of each session and exhibited a greater degree of uncertainty in their responses, something which was evident in their tone of voice, even though they had encountered the structure in the conversations they were provided with and even practiced these conversations in pairs. It is interesting to note that in a study carried out by Fahim and Azarnioushi (2011), a group of learners were divided into two groups according to their ability to think critically. The results indicated that inductive grammar instruction led to a noticeable improvement in accuracy only among the learners who possessed high critical thinking abilities, suggesting that this approach to teaching grammar requires greater analysis on the part of language learners and can be burdensome for those who do not possess such abilities. Likewise, Hwu and Sun (2012) found that while higher-aptitude learners benefit more from inductive grammar instruction, deductive instruction yields the best results with respect to lower-aptitude ones.

Further complicating matters is that, as was discussed previously, the prevalent method of teaching grammar in Iran is deductive in nature, not inductive. Most language learners in Iran are used to having the form and rule of a structure given to them. This issue extends to the system of education in Iran as a whole: students are seldom required to work things out for themselves at school and are typically spoon-fed, unlike in Western education systems which typically value independent thinking and individual responsibility. This can have serious ramifications, the most important of which are making learners reluctant to experiment and depriving them of any confidence to make educated guesses, two important factors in fostering learner autonomy which just so happens to be heavily advocated by Communicative Language Teaching (Brown, 2000). As such, people in Iran, and especially those studying a foreign language, tend to be ill-prepared to embrace methods which require guesswork and working out rules for themselves, instead preferring to be given the rules straightaway.

It is also worth dissecting the insignificant difference found between the learners of the control and experimental groups regarding their use of the simple present tense. In general, both groups of students spoke most accurately when using this tense. The reason for this is not difficult to understand: the simple present tense requires the lowest degree of grammatical gymnastics on the part of the speaker. Unlike the present continuous tense, which calls for the use of one of the forms of the auxiliary 'be' verb in conjunction with the present participle form of a verb, and the simple past, which necessitates the addition of the suffix '-ed' at best, or the use of a completely different verb form at worst, the simple present tense involves little in the way of manipulating different forms, or grammatical gymnastics (Larsen-Freeman, 2000). Most students are required to memorize the infinitive forms of various verbs by default, and in doing so are well-positioned to make use of the simple present tense. The biggest challenge one might face is remembering to add the third person singular 's' when needed, which indeed proved to be the source of the overwhelming majority of the errors the participants made during the interviews when attempting to use this tense. This is somewhat similar to what occurred in Berendse's (2012) study. Two groups of learners were taught the simple past and present perfect tenses, with the deductively-taught group doing significantly better in their use of the latter in comparison with their peers who had received inductive instruction, though no significant difference was found between the two groups' use of the simple past, the less demanding of the two tenses.

As regards the impact of deductive and inductive grammar instruction on language learners' fluency, it is commonly believed that the latter leads to higher speech rates in ESL countries, thanks to its focus on meaning rather than form (Brown, 2000). The canard is that the same should hold true for EFL countries. However, the present study did not reveal any noticeable difference between the two groups of learners' fluent use of the three tenses they were taught. While the learners in the experimental group were provided with conversations demonstrating the use of the three tenses

in a contextualized manner and then given opportunities to act out the conversations, it appears the extra repetition and drilling their peers in the control group had done as part of the PPP lesson managed to negate any potential superiority they may have otherwise enjoyed in their speech rates. This could partly be due to the fact that in EFL countries, language students are seldom provided with ample opportunities to practice what they have formally learned in language classes outside classroom settings, which, as Van Patten and Oikennon (1996) and Wong (2004) point out, plays an important role in enhancing their fluency. In this regard, there was no difference between the students receiving deductive or inductive grammar instruction.

An important point to note here is that the notion of discovery learning is quite alien to people in Iran as a whole. This was evident in the case of the experimental group, as some of the learners were not very comfortable with this method. In comparison with the control group, the learners who had been given inductive instruction appeared to be more confused and less willing to participate in class discussions, thus reducing the amount of positive reinforcement they received. Furthermore, each learner's success in using the target structure fluently during the post-dialog activity seemed to be more a factor of the degree to which he or she had memorized the conversation than anything else. Those who had enjoyed greater success in internalizing the conversation spoke more fluently than those who were able to act out the dialog only when they had the transcript in front of them, suggesting that some of the participants in the experimental group had not been able to identify the form and meaning of the target structure and were merely repeating what they could recall from the conversations they had practiced during the instruction sessions. This turn of events runs contrary to the benefits of conscious-raising techniques suggested by Schmidt (1990) and Hinkel and Fotos (2002).

5. Conclusion

The present study was carried out in order to determine what impact inductive and deductive approaches to grammar instruction have on learners' ability to speak English fluently and accurately. It was found that those learners who had been taught grammar deductively demonstrated significantly higher levels of accuracy than their peers who had been provided with inductive instruction. Several potential factors contributing to this result were identified, including adults' tendency to consciously process rules (as opposed to children's comparatively automatic learning of languages), the greater emphasis placed on form in deductive approaches, the provision of overt explanations of form and meaning, and the learners' lack of familiarity with inductive teaching methods in general.

The impact of these two methods of teaching grammar on fluency was also investigated. The analysis of the results indicated that there was no significant difference between the students in the control and experimental groups with respect to their fluent use of language during the picture description activity. This could be due to the extra drilling the learners in the control group were subjected to, which may have helped internalize the structure, as well as the experimental group learners' relatively greater reluctance to participate in the production activity at the end of each lesson (most likely due to the uncertainty they harbored due to the absence of explicit rules during the instruction period).

Taking the results of this study into account, it could be said that in EFL contexts, the use of deductive grammar instruction can potentially lead to greater accuracy and, as such, it may be in learners' best interests for language institutes to encourage the use of this approach towards grammar instruction in language classrooms in such contexts so as to help learners to be able to speak more accurately.

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