



# The Effects of Guided-discovery, Self-discovery, and Situational-presentation Techniques on Learning Conditional Sentences in English

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## ABSTRACT

Learner-centered methods of language learning/teaching have attracted considerable attention from many researchers for years. This study set out to examine the significant differences among the effects of three inductive techniques of guided-discovery learning, self-discovery learning and situational-presentation technique on learning Type I conditional sentences by Iranian EFL learners of vision 2. To achieve the main purpose, this study employed a pretest and post-test design with a sample of 90 students at the high school level whose homogeneity in language proficiency was checked and followed by a pretest. After three weeks of treatment, the achievements of the groups were examined. The data collected were analyzed through one-way ANCOVA. The results revealed that none of the groups outperformed other groups significantly. Also, the results added support to the view that the three inductive strategies were equally effective in promoting the grammar knowledge of the students. As a whole, the study calls for a prominent place for inductive techniques for designing and implementing teaching methods in grammar classes..

**Keywords:** Grammar; Inductive strategy; Guided discovery learning; Self-discovery; Situational presentation .

## 1. Introduction

In recent years, inductive learning approach aimed at scaffolding learner as an 'active processor' has proved itself as an effective way in language learning, especially in learning sub skills like grammar. An inductive approach (rule-discovery) starts with some examples from which a rule is inferred (Thornbury, 1999). It provides the learners with the language in context and encourages them to discover the rule on their own.

The learner-centered nature of inductive teaching is often seen as advantageous as the learner is more active in the learning process rather than being a passive recipient. Evidence shows that applying learner-centered approaches are more effective than teacher-centered ones. Harmer (2002) mentioned that in recent years under the influence of humanistic and communicative theories great emphasis has been placed on learner-centered teaching.

Nassaji and Fotos (2011) have recommended techniques such as "discovering grammatical rules, exposing learners to input that

involves occurrences of the target form, or even corrective feedback provided on learner errors during communicative tasks" as a few of several viable options for assisting learners in acquiring grammatical accuracy (p. 6). Bruner (1961) proposes that learners construct their own knowledge and do this by organizing and categorizing information using a coding system. Bruner (1961) believed that the most effective way to develop a coding system is to discover it rather than through being told.

Although awareness of the use of inductive strategies has increased through empirical studies during the recent years (Adair-Hauck, Donato & Cumo- Johanssen, 2005; Ellis, 2006; Brown, 2007; Takimoto, 2008; Alzu'bi, 2015; Jean & Simard, 2013), few research have attempted to compare the significant differences among various types of inductive strategies in learning grammar (e.g. Alzu'bi, 2015; Haight, 2008).

Overall, there has been a major gap in the researches done in this important domain. More researches are needed, particularly comparative studies that focus on effectiveness of using various inductive techniques for teaching grammar. Saricoban and Metin (2000) pointed out "in order to make grammar lesson effective, beneficial, and interesting, a teacher should use some well-developed and fascinating techniques in the classroom" (p.1). According to Caprario (2013, p. 24), "teachers and researchers have long praised the benefits of variety of techniques in the classroom".

It can be beneficial for learners who have the major role in learning process. It can motivate learners to use these inductive strategies which are so effective in their grammar learning. Because of its inductive nature, using these techniques will facilitate learning process related to grammar points in other contexts for learners.

In line with the significance of inductive methods in promotion of language learning and their importance in teaching grammar to learners, the present study has aimed at investigating the effects and probable differences of guided discovery, self-discovery and situational-presentation techniques in learning type-one conditional sentences by EFL learners of Vision 2. In other words, the present study aimed to find out whether there are any statistically significant differences among the effects of Guided discovery learning, Self- discovery learning, and Situational presentation techniques on learning conditional sentences of type one by Iranian EFL learners of vision 2.

## 2. Literature Review

In the process of communication, grammar knowledge has a basic role, as it enables learner to use language accurately and in an acceptable way. As claimed by Palmer (1997) we should speak in a meaningful and understandable way in order to communicate with people. Hence, it is so important for learners to use correct grammatical sentences in their spoken and written language. Grammar is not autonomous from the meaning-making capacity of language more generally; rather it is integral to how we make meaning in interaction with others (Liamkina & Ryshina-Pankova 2012). This interpretation of grammar suggests that students would be better served learning grammar through interaction, which modifies their grammatical resources rather than simple repetition that copies them exactly (Larsen-Freeman, 2012) and by teaching students how to adapt their language resources to ever more complex situations (Larsen-Freeman 2013). Students should be provided with opportunities to use language in a variety of realistic grammatical situations in order to learn to communicate effectively.

According to Brown (2002), "there is a distinction between implicit and explicit linguistic knowledge. Explicit knowledge means that a person knows about language and the ability to articulate those facts in some way". Explicit knowledge is what we often see with ESL students. They are able to explain a particular grammar rule and can complete exercises correctly when those exercises are in isolation. In a number of research studies, Norris and Ortega (2000) found a positive effect of explicit teaching; nevertheless, the outcomes in the various studies they performed tended to be ones where learners had to demonstrate explicit knowledge or answer discrete/decontextualized test items, measures that would presumably favor explicit knowledge (Norris & Ortega, 2000; Doughty, 2003).

There is increasing evidence that explicit attention to grammatical form can contribute to spontaneous production as well (Housen, Pierrard & Van Daele, 2005; Sheen, 2005; Pawlak, 2007; Spada & Tomita, 2010). Swain and Lapkin (1998) also found benefits when students made opportunities for themselves to discuss grammar explicitly in 'language related episodes,' where students talk together about the language they are using and discuss which correct form they should produce. Whatever the source, ultimately what is important is how much explicit knowledge learners have to proceduralize and automatize (DeKeyser & Prieto Botano, 2014).

Ellis (2005) has argued on the possibility of a range of effect of explicit instruction. Ellis (2006) believed that both deductive and inductive grammar instruction approaches can be considered explicit teaching, when they direct students to attend to a particular language feature with the intent to make students aware of the rule that controls it. However, inductive learning could also be associated with an implicit approach when the intent is not to develop an explicit rule, but just to infer the rule without awareness.

Some researchers insist that explicit knowledge can become implicit through practice (DeKeyser, 1997), provided that the learner is developmentally ready to acquire it (Pienemann, 1989). And still others have claimed that while most language acquisition takes place implicitly as learners use the language, explicit knowledge does have role in affecting implicit knowledge by recruiting learners' consciousness, thereby enhancing their ability to recognize patterns while they are negotiating meaning (Ellis, 2005; see also Leow, 2001).

As a whole, the evidence agrees on the effectiveness of a combination of implicit- explicit instruction in the development of grammar knowledge. DeKeyser and Juffs (2005) have asserted that the implicit-explicit dichotomy should actually be viewed as more of a continuum. MacWhinney (1997), however, has advocated a combination of explicit and implicit instruction, calling this combination a "no-lose proposition." He has not presented any evidence that explicit instruction combined with implicit brings about worse results than implicit alone.

Meanwhile, a number of studies have examined the efficacy of inductive and deductive approaches (Ellis 2006). Even so, perhaps understandably, research on learner preferences has shown that learners favor a deductive approach, where they are provided the rules (Haight, 2008; Vogel, Herron, Cole & York, 2011). Because the latter were difficult to articulate (Spada & Lightbown, 2008) and perhaps because of the different designs or different populations on which the research has been conducted, the fact is that neither approach has been consistently favored (cf. Shaffer 1989).

As a sub-branch of inductive approach to language learning, the concept of discovery learning, also known as "the constructivist approach to teaching" (Lefrancois, 1997), is based on the assumption that students should build (construct) knowledge for themselves. Hence, constructivist approaches are basically discovery oriented" (p. 206). Constructivism which is based on cognitive psychology, founded by Piaget and developed by Vygotsky (1078), puts the learner at the center of learning that should incorporate new things in his environment by manipulating and then thinking about them. Therefore, learning does not mean just gathering information, but it concerns learning to act for reaching the truth. Constructivist theoretical framework maintain that student learn well when they actively construct their own knowledge. According to this perspective, learning occurs through hands-on-interaction rather than through direct instruction in which the student passively receive knowledge (Cobb, 1994).

Discovery learning encompasses an instructional model and strategies that focus on active, hands-on learning opportunities for students (Dewey, 1997; Piaget, 1954, 1973). Accordingly, most educational researchers accept the notion that active learning is better than passive learning (e.g. Bruner, 1993; Lamber & Canbs, 1993; Bransford et al., 1999; Mayer, 2004) and that teaching and learning methods that provide direct instruction without engaging the learner can lead to good immediate performance but poor long term retention (Schmidt & Bjork, 1992).

The discovery technique may seem like task-based learning, and sometimes they may look similar since neither presents a grammar lesson in a "traditional" way, but in fact, there are several differences between the two. Loschky and Bley-Vroman (1993) suggested that tasks in which L2

forms are task essential, i.e. task cannot be accomplished unless participants use a specific structure, are most helpful (Sanz & Morgan-Short, 2004).

Task based learning puts a communication exercise before lesson and does not stress the grammar necessary for this task. Constructing tasks where certain grammar structures are essential is not easy, but when successfully accomplished, research has shown that students' performing tasks can assist the acquisition of grammar (e.g. Mackey, 1999). Different tasks can be used to supply learners with input by listening or reading (Fotos, 2002), or to make use of grammar structures productively in speaking or writing.

Within the above-mentioned framework, "self-discovery learning is a kind of autonomous and learner-directed learning. This sort of learning often occurs outside formal education. It refers to learning by independent learners who set up their own learning goals and decide their own learning paths. Such learners are "academically self-regulate" (Mullen, 2007, p. 406), and are able to engage the larger environment to allow their own learning. They may set their own schedules, follow through on their learning commitments, assess their progress, and encourage themselves even in the face of learning difficulties. Learners may benefit from "being explicitly taught declarative, procedural, and conditional knowledge regarding the utilization of high-level SRL (self-regulated learning) strategies such as the coordination of information sources and summarization" (Green, et al., 2006, p. 215). Students who exhibit SRL (self-regulated learning) begin the learning process by setting learning goals (Zimmerman and Martinez-Pons, 1986). All these help engage the learner in a larger environment to allow their own learning and grow into autonomous learners.

Self-regulation is defined as "self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals" (Zimmerman, 2000, p. 14). Zeinder, Boekaerts, and Pintrich (2000) posit that self-regulation includes "cognitive, affective, motivational, and behavioral components that provide the individual with the capacity to adjust his or her actions and goals to achieve desired results in light of changing environmental conditions" (p.751).

There are two general types of self-discovery learning: pure and guided. Pure self-discovery helps to maintain curiosity, encourages independent and active learning, and prepares learner for real-life situations. It increases understanding of self, others, and their experiences. It facilitates effective leadership. In fact, Pure self-discovery learners tend to have low dependency needs. Unsupervised learners engage in self-learning regularly, and they act in a purposive and self-disciplined way. They are self-driven, self-directed, self-regulatory, and generally self-disciplined. According to Malcolm Knowles, "adult learners tend to become more self-directed in their learning as they mature" (as cited in Merriam and Caffarella, 1999, p. 289). Such active learners demonstrate high self-initiative; they may pursue learning based on lifelong learning, hobbies, personal interests and career interests.

As another branch of self-discovery learning, guided discovery teaching strategy is designed to help students acquire basic scientific skills and improve performance. As stated by Richards and Schmidt (2002), guided discovery is an effective approach that provides an excellent framework for learning by doing. Bruner (1960) claimed that guided discovery promote students achievement in science. However, unguided discovery has generally been found unproductive (Mayer, 2004). The relevant literature shows that discovery-based practice is not as effective as guided discovery practice (Mayer, 2004, p. 18). In fact, guided discovery is "an approach to instruction through which students interact with their environment by exploring and manipulating objects, wrestling with questions and controversies, or performing experiments" (Ormrod, 1995, p. 42). It directs induced students to analyze and manipulate information compared to receiving information (Bruner, 1966).

Several studies regarding implementing inductive learning techniques in the classroom reported positive learning outcomes. A related study conducted by Boumova (2008) indicated that both traditional and modern approaches of language teaching bring results with respect to levels of encyclopedic knowledge, but that modern methodology is also more effective in encouraging children to communicate and in creating a positive attitude to the subject. Another study done by Pekoz (2008) on grammar concluded that during grammar instruction, teachers should provide meaningful input through context and provide an opportunity to put grammar to use and relate

grammar instruction and concepts to real life situations.

In a psychology-based study by Gholamian (2013), the results showed that the guided discovery learning is an effective way for increasing the creativity of students. Another psychology based study on creativity conducted by Heidarie, Bakhtiarpoor and Nasimpour (2011) showed that there was no significant difference among the effects of brain storming, group discussion and guided discovery. Also, Makoolati, Amini, Raisi, Yazdani, and Razaghi (2012) examined the effectiveness of guided discovery on the learning and satisfaction of nursing students. The result showed the total satisfaction mean score and satisfaction in areas of “interest” and “encouragement to participation in learning” of the experimental group was significantly higher than control group.

Awareness toward the usefulness of inductive strategies can be implied from the above mentioned studies; meanwhile, further research by means of addressing the differences among various types of inductive strategies in learning grammar can help remove the uncertainties in this regard.

### **3. Method**

This study employed a pretest / posttest design. After conducting the pilot study, data collection for the main study was completed during one semester.

#### **3.1. Participants**

This research employed a quasi-experimental design. The study was conducted with 128 intermediate EFL learners studying in senior high school level. The participants were the students of Izadi high school (a high school in Qom, Iran) studying in eleventh grade. They were all female and around 17 years old.

After administering the Nelson Proficiency Test, 90 students whose scores fell within one standard deviation from the mean were considered as the sample of the research. The participants were assigned to the three treatment conditions randomly, and their performance was compared across the three groups. Each group consisted of 30 students. All groups were homogenous in terms of language abilities based on the result of the Nelson proficiency test scores.

#### **3.2. Materials and Instrumentation**

The grammatical point identified to be taught throughout the study was selected from English book of eleventh grade of high school. Vision2 is a textbook presented by educational ministry of Iran to be instructed by the English teachers over the course. The package included student book, work book and the CD that contained the PDF of the book and audio tapes. It has been written for the students of eleventh grade. These students who were at the average age of 16.8 were expected to be at least at the level of intermediate. The grammatical point of type-one conditional sentences has been presented in texts and examples. The grammatical points have been bolded through texts to enhance the input and add to the students' noticing.

To carry out the present research, two different testing instruments were employed in this study, including Nelson proficiency test (200A-1976), and a test including 20 multiple-choice items of grammatical point related to conditional sentences of type one, which was used for pretest and posttest.

#### **3.3. Procedure**

In the first week, three experimental groups were selected and homogenized according to their scores in initial proficiency test. The treatments were given to the three groups. From the second session, the first experimental group received the instruction of conditional sentences type one through self-discovery learning technique. They received the grammatical point through a text including two conversations in which the conditional sentences of type one were repeated several times without any highlighting or stressing. The students needed to keep on the procedure of

learning at home. The students themselves were to look up and discover the rule, and then share it with their teacher and other students in the next session. The teacher asked students to discuss their answers with a partner or in a small group. If they had different answers or were not sure about the answers they had to discuss the reasons behind their choices and try to help each other work it out. The teacher walked around the class and monitored as the participants were going through each question. She would answer their questions about the grammatical point and provide help and assistance whenever the participants needed; in other words, the researcher/teacher took on the role as a facilitator and a feedback-provider during the procedure. After eliciting the rule, the teacher presented a mini lesson. The follow-up tasks established the rule in learners' minds.

The second experimental group received the instruction of conditional sentences of type one through guided-discovery technique. This technique had a kind of inquiry procedure in which the teacher elicited the rules of grammar through presenting pictures and examples to the students and asked them to discover the rule by themselves. The students were seated in groups of three or four and were arranged to sit in circles. The participants were supposed to work together. Then a mini lesson was presented by the teacher. At the end, the instruction was established through tasks.

The third experimental group received the instruction of the same grammatical point through situational presentation technique. This technique investigated the situational context which permitted presentation of a wide range of language items. The situation served as a means of contextualizing the language and this helped clarify its meaning. As an instance making some drawings or using some pictures on the board could provide the learners with a situation (context) that guided them to the rules. At the same time the generated examples provided the learners with data for induction of the rules of form. Students were involved in the development of the presentation as well as in solving the grammar problem. The participants were supposed to work together. After a mini lesson, the teacher asked the learners to do the tasks to establish the rules in their mind.

In every treatment session, the instruction was performed in each experimental group for at least 20-30 minutes two sessions per week. It lasted three weeks. In all the three classes, half an hour was spent on the treatment and the rest of the class time on the school's syllabus. The participants were arranged to sit in small groups of three or four and practice the grammar point. As was mentioned before, the teacher tried to act as a facilitator and feedback-provider or a counselor during the treatment in order to guide the learners towards the right path in their learning. The researcher remained in the background during this phase, only providing language support if required, so as not to inhibit students in the stage of production.

After the treatments completed, the participants took a posttest. The SPSS 22 software was used to analyze the collected data resulted from the pretest and posttest in three experimental groups. The statistical test employed in this research was ANCOVA.

#### **4. Results**

As it was stated before, a Nelson English Language Test was used to select a homogeneous sample for the study. To select the participants, all initial 128 students took part in Nelson English Language Proficiency Test, and students whose scores were between one standard deviation below and above the mean participated in the main study.

The research addressed the difference among the effects of self-discovery learning, guided-discovery learning, and situational presentation techniques on learning conditional sentences of type 1 by Iranian EFL learners of vision 2. ANCOVA had to be run on the scores obtained from the pre- and post-tests to answer this research question. However, to conduct the ANCOVA some underlying assumptions must be considered, one of which is normal distribution of the data.

Another assumption for running ANCOVA is the equality of the variances among the groups. The equality of the variances among the three groups was checked by Levene's test. Table 1 shows the results of Levene's test of equality of error variances.

Table 1. *Levene's Test of Equality of Error Variances Considering the Post-test*

F	df1	df2	Sig.
8.241	2	87	.121

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.  
a. Design: Intercept + Pre-test + Groups

Table 2 displays that the underlying assumption of homogeneity of variances for the one-way ANCOVA has been met. It means that  $F(2, 87) = 8.241$  and  $p = 0.121$ , exceeding 0.05.

As the relationship between the dependent variable (i.e., post-test) and the covariate (i.e., pre-test) should be similar for all groups, the homogeneity of regression lines was also checked. Table 4.2 shows the results of this analysis.

Table 2. *Homogeneity of Regression Considering the Post-test*

Dependent Variable: Post-test					
Source	Type III Squares	Sum of df	Mean Square	F	Sig.
Corrected Model	30.080 <sup>a</sup>	5	6.016	.614	.689
Intercept	1025.742	1	1025.742	104.716	.000
Groups	16.026	2	8.013	.818	.445
Pre-test	2.227	1	2.227	.227	.635
Groups * Pre-test	20.704	2	10.352	1.057	.352
Error	822.820	84	9.795		
Total	13741.000	90			
Corrected Total	852.900	89			

a. R Squared = .035 (Adjusted R Squared = -.022)

As it is indicated in Table 2, the p-value is equal to 0.352 which is higher than 0.05; hence, the interaction between the dependent variable –posttest – and covariate was not significant and the assumption of the homogeneity of regression was accepted. Therefore, the ANCOVA was run to check the significance of the differences among the means of the three groups. Table 3 presents the results of this analysis.

Table 3. *Analysis of Covariance (ANCOVA) Considering the Post-test*

Dependent Variable: Post-test							
Source	Type III Squares	Sum of df	Mean Square	F	Sig.	Partial Squared	Eta
Corrected Model	9.376 <sup>a</sup>	3	3.125	.319	.812	.011	
Intercept	1697.720	1	1697.720	173.088	.000	.668	
Pre-test	9.309	1	9.309	.949	.333	.011	
Groups	2.076	2	1.038	.106	.900	.002	
Error	843.524	86	9.808				
Total	13741.000	90					
Corrected Total	852.900	89					

a. R Squared = .011 (Adjusted R Squared = -.024)

As it is indicated in Table 3, after adjusting for pre-test scores, there was not a significant effect of the group,  $F(2,86) = 0.106$ ,  $p > 0.05$ , partial  $\eta^2 = 0.002$ . As p-value was higher than 0.05, i. e. 0.090; therefore, the difference among three groups was not significant, and the participants who received self-discovery, guided-discovery, and situational presentation techniques did not have significantly different amount of progress in the post-test and the null hypothesis was not rejected.

## 5. Discussion and Conclusion

The results of the study revealed that there were no statistically significant differences among the three experimental groups in the post-test,  $0.106$ ,  $p > 0.05$ , i.e., none of the experimental groups

outperformed others.

Based on the research question of the study, the findings of this study considered to be similar to the study conducted by Heidarie, Bakhtiarpoor and Nasimpour (2011) in which the effects of brain storming, group discussion and guided discovery on creativity of female high school students in Iran were compared. The analysis by running ANCOVA showed that there were no significant differences among three groups.

The findings showed that inductive instruction was an effective way when presenting grammar in a foreign language teaching setting. This can be an emphasis on using skills such as problem solving and active learning and student-centered nature of inductive teaching methods. Moreover, achievement reported in our study may imply that it is necessary to reconsider the traditional teaching methods and substitute them by modern student-centered methods. Compared to traditional learning models, the most obvious characteristic of learner-centered methods is that learning is active, and students can participate in the process of problem solving. Through exploring and problem solving, students take on an active role to create, integrate, and generalize knowledge.

Furthermore, as it was explained in methodology that context was always provided in three studied groups with the distinction that in guided-discovery group, the researcher provided the context as guidance for the participants, whereas, in the self-discovery group, the learners themselves looked up the context and found the rules by themselves. Also, in situational presentation group, by making some drawings on the board, the researcher provided the learners with a situation (context) that guided them to the rules.

Using context as an authentic material to teach grammar could promote reallearning in three experimental groups. In line with the usefulness of providing context, Pekoz (2008) in a study concluded that during grammar instruction, teachers should provide meaningful input through context and provide an opportunity to put grammar to use and relate grammar instruction and concepts to real life situations. Knowledge should not be divided into different subjects or compartments, but should be discovered as an integrated whole (McMahon, 1997; Di Vesta, 1987). Decontextualized knowledge does not give us the skills to apply our understandings to authentic tasks, where the student takes part in activities directly relevant to the application of learning and that take place within a culture similar to the applied setting (Brown et al., 1989).

Furthermore, the findings of the study through descriptive statistics indicated that the guided-discovery group obtained the highest mean score in their post-test among the three groups, although this difference did not reach the statistical significance. Then, there has been more achievement in grammar learning by the students of GDL group. Therefore, the story is rather different with regard to the effectiveness of guided-discovery learning on grammar gains of language learners. The positive effect of Guided-discovery learning on grammar learning of language learners can be explained by Heywood's justification. Heywood (1992) in a study concluded that although discovery techniques did not significantly increase the test results of students compared with other methods, they created a better learning setting in which the students showed more motivation and incentive for learning. Students experienced a better and more effective educational environment, affecting their creativity and motivation.

Also, Hmelo-Silver, Duncan, and Chinn (2007) supports the success of the constructivist problem-based and inquiry-based learning methods. It also confirms the constructivist theories of Loveless (1998) who believed that the knowledge students construct on their own is more valuable than what is presented to them by a teacher. Learners learn more by experimentation, and not by being told what will happen, and are left to make their own inferences, discoveries and conclusions. Westwood (2004) claimed "basic number of skills and concepts will be discovered effectively through activity-based, problem solving method, rather than from direct teaching, drill and practice. Hence, the teacher's role is to guide students to their own discovery, not to give students the information on the grammar rule." (p. 9).

The findings of the present study also lend support for the works of Fotos (1993), Craig (1956), Hirsch (1977), Omiorrhieren (2002), Mayer (2004), Kirschner et al. (2006), Yaki (2011), Akanmu and

Fajemidagba (2013), and Salihu (2015) in which they found out that the guided-discovery method was so effective in enhancing the achievement by the students. Moreover, the findings, were consistent with the results of McDonald's study in 2011. In the same vein, Alfieri et al. (2011) in a meta-analysis research aimed to study the effectiveness of GDL-based teaching reported that students were more satisfied with GDL. Accordingly, Shulman and Keisler (1966) in their research reported that some students do not learn the rule or principle under pure discovery method, so some appropriate amount of guidance is required to help students mentally construct the desired learning outcome. Mayer (2004) proposes learners should be "cognitively active" during learning and instructors should use "guided practice." Yet a dispassionate review of the relevant research literature shows that discovery-based practice is not as effective as guided discovery."

The current study is hoped to have contributed important information to our knowledge on grammar learning through inductive techniques by EFL learners. The findings of the study yielded a number of pedagogical implications for learners, teachers, material developers, and educational researchers which are presented below:

Learners of English as a foreign language should learn how to benefit from inductive techniques through context to deal with their grammatical problems in different situations since this can help them to develop their inter-language more actively and effectively. Moreover, because they have learned grammar by figuring out the rules from context, students familiar with this technique have an easier time figuring out unfamiliar grammar structures they encounter in the future. This makes them better able to cope when they are faced with some grammar points they did not already learned in class.

Similarly, teachers should be more aware of importance of these three techniques in learning grammar. They should provide more contexts and include more tasks and practice activities that can help learners overcome different grammatical problems in learning situations. The more the students master these techniques, the more they can succeed in learning.

Also, the results of this investigation might have implications for textbook writers and material developers. Textbook writers should reflect on the importance of grammar, and inductive instruction in learning grammar. Writers can add specific sections in the course book focusing on learning grammar through inductive methods. Specifically, the writers and material developers can develop grammar tasks and exercises focusing on grammar learning through guided discovery learning, self-discovery learning, and situational presentation techniques.

Finally, it can be helpful for educational researchers who decide to work on grammar fields in different proficiency levels of learners and different situations of learning, such as different ages and genders, different abilities of learners, and also different backgrounds like nationality. The interested researchers can also focus on other learner-centered methods to investigate their effects on grammar learning or teaching.

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