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## Research Paper

# An Investigation of Teachers' Cognition, Teacher Practice, and Students' Grammatical Performance

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## Abstract

The aim of this study was to find the effect of teachers' cognition about grammar on the grammatical performances of their students. Through questionnaires, observations, and brief interviews, four teachers were selected for two main categories and four subcategories of teachers' beliefs about grammar along a continuum from the strong exercise-based view to the weak exercise-based view, the weak task-based view, and the strong task-based view. Comparison of their students' grammar scores showed significant differences between the two main categories and between the two subcategories of the exercise-based category, but this was not the case between the two subcategories of the task-based category. In other words, if a usage-based test is used to measure students' grammatical competence, exercise-oriented teachers, especially those who are more so, are supposed to train more grammatically competent students. The results could imply that teacher educators should help teachers to assess how their beliefs affect their students' grammatical performances and to better synchronize their beliefs and teaching approaches for the grammatical objectives particular to their courses and students.

**Keywords:** Grammar; Teacher Cognition; Teachers' Actual Practices; Teacher Education.

## 1. Introduction

Research into the role of cognition in teaching languages has been thriving in recent years (e.g., Sun & Zhang, 2019; Gao et al., 2020; Gao & Zhang, 2020; Li, 2020). According to Borg (2003b), teachers are engaged, reflective decision-makers who shape their teaching strategies by leveraging intricate, practical, individualized, and context-aware networks of knowledge, ideas, and convictions. But there has by no means been any unanimity among researchers in terms of the effect of this cognition on the actual implementation as well as the efficiency and effectiveness of the resulted instructions. Studies in this field indicate discrepancies, inconsistencies, and mismatches between educators' beliefs and their practices, and a variety of viewpoints have been suggested concerning the underlying factors (Lee, 2019). Therefore, much research has been carried out to investigate the relationship between teacher cognition in general and the resulting actual implementation (e.g., Liao, 2007; Peacock, 2001; Vibulphol, 2004), and between teacher cognition about grammar in particular and the implementation of lessons (e.g., Baleghizadeh & Farshchi, 2009; Burgess & Etherington, 2002; Le & Barnard, 2009; Moini, 2009; NagyneFoki, 2006; Rahimi & Zhang, 2015). The same amount of significance has been assigned to teaching grammar (Batstone & Ellis, 2009). But a gap is felt in the literature due to the paucity of research done on the relationship between teacher cognition about grammar and students' performances on tests of grammar. As Ahmad (2018) rightly declares "research investigating non-native English as a Foreign Language (EFL) teacher cognition in grammar teaching remains limited" (p. 46). Therefore, this study sought to investigate this partly ignored aspect of

teacher cognition. The results can have implications for the enhancement of our knowledge and practice in teacher education.

## 2. Literature Review

Zhu and Shu (2017) highlight a critical issue in educational reform: the changes in teachers' cognition and pedagogical behaviors during implementation of educational reform. Teacher cognition generally refers to the knowledge, beliefs, and thoughts that educators bring into their classrooms. A substantial body of research has explored various aspects of this topic across multiple fields (e.g., Borg, 2011; Burgess & Etherington, 2002; Gao, 2019; Gerami & Noordin, 2013; Graus & Coppen, 2016; Farrell & Lim, 2005; Karaagac & Threlfall, 2004; Le & Barnard, 2009; Lucas & Grinberg, 2008; Moini, 2009; Nagyne Foki, 2006; Saeli & Rahmati, 2022). For instance, Borg (2003b) describes teacher cognition as the "covert mental reservoirs" of educators, encompassing what they "know, believe, and think" (p. 81). Across these definitions, the importance of teachers' beliefs and knowledge remains a common theme. Additionally, the concept encompasses a "do" aspect—the connection between what teachers believe and how they enact those beliefs in their classrooms (Andrews, 2007; Borg, 2003a).

As far as language learning and teaching is concerned, both beliefs and knowledge are central to teacher cognition. To put teacher cognition under the lens of research, Le and Barnard (2009) conducted a survey revealing that many teachers place considerable importance on grammar instruction, whether preemptively or reactively. However, there is significant resistance to traditional methods that isolate grammar from general discourse.

In the context of language education, teacher cognition encompasses both declarative and procedural knowledge (Larsen-Freeman, 2003). Declarative knowledge pertains to the explicit understanding of the subject matter, while procedural knowledge refers to teachers' communicative abilities and proficiency (Andrews, 2006; Jimenez & Teague, 2009; Lucas & Grinberg, 2008; Pence & Macgillivray, 2008). Teachers' beliefs and knowledge are significantly influenced by their own language learning experiences, demonstrating the interconnected nature of these concepts (Baleghizadeh & Farshchi, 2009; Borg, 2006; Ellis, 2006; Le & Barnard, 2009; Nunan & Richards, 2015).

As mentioned earlier, many studies have examined the role of teacher cognition in the process of language teaching and learning investigating the various aspects of the issue and scrutinizing the concept in different fields and subject areas (see Li, 2020 for a review). Also, these studies have been conducted in various places in the world including Asia (Chia, 2003; Farrell & Lim, 2005; Le & Barnard, 2009; Ng & Farrell, 2003; Zhen & Murphy, 2007). Ng and Farrell (2003), for example, found that what teachers believe about grammar strongly influences how they teach it in the classroom context. This has been frequently emphasized by Andrews (e.g., 2007) and Borg (e.g., 2006, 2007) as well. In addition, studies such as Bernat (2007a, 2007b), Davies (2003), and Siebert (2003) have revealed significant differences between teachers' and students' beliefs concerning teaching grammar and other features of language form. Interestingly, research by Furneaux et al. (2007), Lee (2008), and Montgomery and Baker (2007) uncovered a notable mismatch between teachers' perceptions of their feedback practices and their actual behaviors. Lee (2008) emphasized the need for further investigation into these discrepancies. According to Montgomery and Baker (2007), teachers often perceive themselves as providing less feedback than they do in practice. Nunan and Richards (2015) argue that teachers' experiences in language classrooms shape their cognitions; however, this does not imply they replicate their own learning experiences in their teaching. Instead, teachers base their methods on reflective judgments about those experiences. This does not mean that they teach exactly the way they were taught themselves, but they teach according to their judgments about their experiences as language learners. In this line, other studies, including those by Bailey et al. (1996) and Almarza (1996), found that while teachers may not always employ what they believe to be effective teaching approaches, their core beliefs remain relatively stable throughout their careers. However, Ng and Farrell (2003) demonstrated that strongly-held beliefs could align closely with teaching practices. Baleghizadeh and Farshchi (2009) identified significant differences among various teacher groups regarding their beliefs about grammar instruction; nonetheless, all groups maintained strong convictions about the importance of grammar teaching. Farrell and Lim (2005) also identified mismatches between beliefs and actual practices, attributing this to classroom dynamics and time constraints. Their findings further supported the notion that teachers' language learning experiences significantly inform their beliefs and emphasize the need for self-reflection.

Similarly, there have been other studies that indicate the modifiability of teacher beliefs with exposure and teacher training/education (e.g., Lucas & Grinberg, 2008; Pence & Macgillivray, 2008; Sleeter, 2008). Lucas and

Grinberg (2008), Pence and Macgillivray (2008), and Sleeter (2008), though from a different perspective, insisted on the idea that teachers must be educated to get rid of stereotypes and myths which can lead to teachers' lower expectations of perseverance, learning, and interest from their students. Also, Richards, Gallo, and Renandya's study (2001) on teachers' beliefs about teaching grammar proved the necessity of changes in beliefs for changes in practice. In contrast, an outstanding study done by Peacock (2001), in which he used the Beliefs About Language Learning Inventory (BALLI) questionnaire to test how the beliefs of the pre-service teacher trainees under study changed over a three-year period, showed no change in their beliefs; however, there are many controversies in the study which do not allow us to rely on the results to a great extent. In an interesting but a bit different study, Moini (2009) investigated the relationship between teacher belief and a number of factors such as education, gender, teaching experience, and context of teaching. The results showed that there was a significant difference due to the context of teaching, teaching experience, and education, but that there was no such difference as a result of differences in gender.

In sum, the multiplicity of these studies show that teacher cognition does show up its traces in the actual practices of teachers, that the more experienced a teacher gets the less the probability of the modifiability of the teacher's beliefs becomes, and that context plays a central role in determining the extent to which teachers actualize their beliefs. They also suggest that teachers' cognitions are prone to change as a result of exposure to model approaches and fostering self-reflection through teacher training and education.

As previously noted, even though there have been sporadic studies examining EFL teachers' cognitions, the majority have concentrated on teachers' beliefs regarding L2 teaching in a broad sense (Zhung & Sun, 2022). Thus, in addition to reevaluating some issues addressed in the aforementioned studies, this research will focus on the Iranian EFL context, specifically investigating the potential impact of teacher cognition on the students' performance in grammar assessments. By examining this impact, the study aims to underscore the necessity for teacher education programs that enable educators to understand how their beliefs influence students' grammatical performance and to align their beliefs with teaching methodologies tailored to the grammatical goals relevant to their courses and students

Accordingly, the following research questions have evolved in relation to three aspects of cognition:

1. To what extent are teacher cognitions about grammar different among Iranian EFL teachers?
2. To what extent are teachers' actual practice compatible with their cognitions?
3. Are there any significant differences among the grammatical performances of different groups of students being taught by teachers with different cognitions about grammar?

### **3. Method**

#### **3.1. Participants**

The four teachers selected for the study will be called Reza, Rose, Kemal, and Anita for the sake of anonymity. Their scores on the questionnaire constituted 74, 70, 54, and 49, respectively. Six of the fourteen surveyed teachers fell on the middle of the range (i.e. between 55 and 69) to which neither of our two groups could belong and the classes of the rest of the teachers were observed. The observation of the four teachers selected demonstrated more congruence between what they claimed to believe about teaching grammar and how they actually taught grammar. Besides, the teachers selected enjoyed more experience in teaching English as a foreign language, a characteristic which contributes to their stability in their cognitions (Peacock, 2001). In addition, these four teachers were of more academically related majors, hence their higher self-awareness about and stability in their cognition about grammar: Reza used to be an M.A. in TEFL and is now a PhD holder in English Literature; Rose is a PhD candidate in TEFL; Kemal is an M.A. graduate in TEFL; and Anita is a B.A. in TEFL. Most of the other teachers were students or graduates of English Literature or English Translation or other fields of study unrelated to TEFL. Furthermore, the choice of the teachers was distributed equally between males and females both between and within the two main categories, a fact that could give us more control over the conditions of the study. The strong and weak versions in the two groups were distributed equally between males and females; there was one male teacher with the strong exercise-based view and one female teacher with the strong task-based view. Similarly, there was one male teacher with the weak task-based view and one female teacher with the weak exercise-based view.

The teachers were all experienced teachers of EFL. Rose, aged 24, had four years of experience in teaching English at various English language institutes in Tehran and in a northern city in Iran mostly at beginner, elementary, and intermediate levels. Anita, who was 27, had a nine-year experience of teaching English at various private language institutes, high schools, and junior high schools in Tehran at elementary and intermediate levels. Reza, a 32-year-old experienced English teacher, had been teaching English for over 12 years at different private language institutes, universities, and schools in Tehran. Kemal, aged 26, had taught English for four years at different language institutes in Tehran.

This study involves a triangulation of methods and data. There is an experimental dimension to this study which analyzes the students' scores on the structure part of their summative achievement test statistically, a survey dimension which utilizes a questionnaire and an interview to explore the teachers' beliefs about grammar instruction, and a class observation dimension to find out about the correspondence between their beliefs and their actual practices.

### 3.2. Instruments

A questionnaire on teachers' beliefs regarding grammar instruction, adapted from Moini (2009), was distributed to several teachers at Borna Language Institute, where one of the researchers previously taught. Borna is a language institute in Tehran, Iran, which teaches learners ranging from children to the middle-aged and one of the researchers had taught there for 3 years at the time the study was being implemented. The questionnaire asks teachers for a short introduction about their age, sex, and professional experience, and also for their beliefs about (teaching) grammar through an open-ended question. Next, it probes for teachers' beliefs about grammar through five categories of questions on a five-point Likert scale ranging from 1 for strongly disagree to 5 for strongly agree. The five sections include meaning of grammar, importance of learning grammar, approach to teaching, feedback and error correction, and finally teaching activities and practices. Each question was designated five scores, with 125 scores for the questionnaire as a whole.

Fourteen teachers filled out the questionnaire and based on their answers to the questionnaire (and based on the results of the observations and the interviews which will be explained below) four of the teachers were grouped into two main categories: task-based grammar instruction and exercise-based grammar instruction. Based on the nature of the items in the questionnaire with most of them directed to a grammar-based view of language learning, it was decided that two of the teachers who scored more than 69 on the questionnaire be placed into the exercise-based group and two of them who scored below 55 be assigned to the task-based group. But there are some items (items 5, 8, 10, 12, 14, 15, 20, 22, 23, 24, and 25) directed toward an inductive and task-based view. The decision which was made to rule out the counter-effect of these mismatching items and to make the questionnaire coherent was to grade these items in the opposite direction; that is, for these items, unlike for all the other items, the scores ranged from 1 for strongly agree to 5 for strongly disagree.

Based on definitions (Ellis, 2003, p.141), focused tasks are activities in which learners' incidental attention is focused on a structure while their focal attention is led toward communicating meanings. Exercises, on the other hand, are activities in which learners' focal attention are concentrated on the target structure and they are aware of the focus of the activity. Tasks are contrasted with grammar exercises in the sense that in focused tasks "learners are not informed of the specific linguistic focus and therefore treat the task in the same way as they would an unfocused task, i.e. pay primary attention to message content" (p.141). Another important characteristic of tasks which differentiates them from other types of activities is that a task must be completed by learners and the evaluation of the task is done based on the explicit outcome asked from the students and not on the language used by them (Skehan, 1996). In our study, a task-based teacher is considered a teacher who tries to have his or her students practice grammar in class through tasks and an exercise-based teacher is a teacher who does so through exercises. Based on these definitions, no matter whether the teacher uses an inductive or a deductive approach, whether he or she explains the rules or not, the way he or she practices grammar with the students determines his orientation toward teaching grammar.

Second, the classes of those among the 14 teachers who scored either above 69 or below 55 were observed and they were interviewed through an unstructured interview to find out to what extent their beliefs about grammar as evaluated by their answers to the questionnaire matched their actual practices. One 15-minute observation session was allotted to each teacher and to make sure that this short time was allocated to teaching grammar we arranged things with the teachers beforehand. The results of the questionnaires and our field notes from the observations were juxtaposed to decide which teachers matched which of the two general groups of task-based versus exercise-based approaches to

teaching grammar. Subsequently, the two teachers in each category were further differentiated based on their scores on the questionnaire into two subcategories of strongly vs. weakly task-based or exercise-based views.

Third, the scores of the students in the two general categories (task-based vs. exercise-based) on the structure parts of their summative achievement tests were compared by means of a t-test to see whether different teacher beliefs bore any significant difference for the performances of their students. The structure part of their final achievement tests at various levels included 10 multiple-choice items. A separate t-test was also run within each category to see whether there were any significant differences between the effects of a strong and a weak version of either category (task-based vs. exercise-based) on the grammar scores of their students.

### 3.3. Procedure

We graded the questionnaires based on the grading system explained and observed the classes of our participants at the time arranged with the teachers beforehand. Based on these two sets of data we selected the target participants who best suited our purposes.

After collecting the questionnaires and identifying the teachers having scored out of the range of 55 to 69 on the questionnaire, we started to carry out the observations to check for the match between the questionnaire scores of these teachers and their actual practices to select the four target teachers for our study. After the observations were done, four teachers were chosen for the study. According to the results of the questionnaires, observations, and interviews, it was decided that Reza and Rose devised an exercise-based approach in teaching their target structures, while Kemal and Anita favored a task-based approach in their grammatical instruction. Furthermore, Reza with a score of 74 was nominated as the strongly exercise-oriented teacher while Rose with 70 was designated as the weakly exercise-oriented teacher. Kemal was assigned as the weakly task-oriented teacher due to his score of 54 while Anita with her score of 49 was considered the strongly task-oriented teacher. In what follows, we have briefly described what was witnessed and recorded during the observation of these four teachers.

Reza started this part of the session (be going to + infinitive without to) with referential questions about the students' plans for their following vacations to both provide implicit modeling and elicit subconscious use of the target structure through question-and-answer turns and discussion. He tried to motivate the students to take part by directing question-and-answer turns and involving the learners in the discussion. He used the dialog prior to the grammar part in the textbook as a warm-up to make the students notice the forms. Next, he went to the grammar part and had the students read it and then they worked on the exercises. He put an example on the board and left it there till the end of the session as a model. When the students were not successful in answering the exercises correctly, he explained the structure explicitly and ran more question-and-answer turns and more form-focused instruction via meaningful drills. None of the activities and techniques used by Reza could be considered tasks based on the definitions by Ellis (2003) and Skehan (1996) provided above.

Rose's grammar instruction started with referential question-and-answer exchanges about the students' future wishes (wish + infinitive and wish + simple past form). She spent a few minutes on this and then read the grammar part out loud and gave a short explicit explanation in English. She did not go into details that much, but just provided the learners with a brief explanation. Next, the students did the exercises silently and then read their answers out loud and the teacher corrected their mistakes. When necessary, she provided more explicit elaboration and ran more question and answer. Afterwards, they worked on a controlled role play on their wishes about their future careers with the teacher's instruction that led them into using the structure. The teacher moved around the class and corrected their mistakes and they in return gave repairs. There was no act-out or further free production practice; the teacher only had them notice the same structure in a later listening activity. None of the activities and techniques used by Rose could be considered tasks based on the definitions by Ellis (2003) and Skehan (1996) provided above.

Kemal initiated his grammar teaching with guiding the students to notice the structure (present perfect tense) in the dialogue prior to the grammar part. Further examples were provided and also the examples in the book were highlighted for the students to notice. Next, as a consciousness-raising task the students tried to create a rule for the examples in pairs. After that, they checked out their rules with the teacher's subsequent elaboration and produced personal sentential examples with the help of the teacher. Then the teacher ran a short discussion (the topic: what they have done so far to improve their English) which necessitated using the structure. Next, they worked on the grammar part exercises followed by a somewhat controlled role play. In the end, they wrote a short story on a celebrity's past accomplishments

for the following session (they were free to choose any celebrity they'd like to). This way, the teacher believed, they would be led to use the present perfect tense in their stories. The teacher told the researcher that they would tell their stories the following session and he would take notes and first comment on the content and then point out their mistakes in using the present perfect tense to make that student and also the next students notice their gaps and monitor themselves further while telling their stories. On the whole, by the use of the consciousness-raising task, the role-play, and the storytelling task the teacher was leading the students to internalize the target structure in a use-based fashion.

Anita's grammatical instruction started with everybody giving examples and the teacher clarifying meanings through demonstration and action (the passive structure for present simple). She held question-and-answer exchanges between herself and the students and among the students themselves. Then, she talked about the rule explicitly using colors and objects to make the students notice the structure and become aware of it. Afterwards, she went to the grammar part and read out the examples in the book and they did the exercises. At this stage she gave her students time to work on a task in pairs. She gave them a topic to interview one another (the threats to our environment). This topic was supposed to lead them to use the passive structure for present simple. While the students were preparing themselves for the final act-out, the teacher went around the class and monitored them on the structure and helped them with any other language problem they might face. Next, the class acted out the interview and others commented on the content and the target structure. This way, they would notice the structure and improve in their consciousness on the structure in question. As a follow-up activity, the students would have a two-minute talk the following session on a topic that was supposed to encourage the use of the target structure (the topic: where is the best place at home for pets to be kept?). The teacher suggested them to use the target structure to improve the language. She told the researcher that they would present their brief lectures the following session while others would take notes, comment on the content, examine the language of the lecture in pairs in one minute, and report the result via an interview. In sum, she made use of both free production tasks such as role-plays and lectures and consciousness-raising tasks.

For each teacher, two of their classes were taken into account in order to provide an acceptable number of students for our sample as a whole. The two classes instructed by Reza were at upper elementary and elementary levels and included 13 and 8 students, respectively. The two classes taught by Rose were at intermediate and elementary levels and included 7 and 8 students, respectively. Kemal's two classes which were at elementary and upper elementary levels were composed of 5 and 4 students, respectively. And at last, Anita's two classes were at intermediate and lower intermediate levels and were both of 7 students. The students were of both sexes and aged from adolescence up to youth.

#### 4. Results and Discussion

The students' grammar scores in all the eight classes have been listed in Table 1:

Table 1. *Students' Grammar Scores in Each Category and Subcategory*

Grammar Group	Cognition	Version	Instructor	Students' Grammar Scores out of 10	Total No.	Group Mean
Exercise-based		Strong	Reza	10(f=4), 9(f=13), 8(f=2), 7(f=2)	21	8.9
		Weak	Rose	10(f=3), 9(f=2), 8(f=3), 6(f=3), 5(f=1), 4(f=3)	15	7.13
Task-based		Weak	Kemal	9(f=2), 8(f=2), 7(f=2), 6(f=1), 5(f=2)	9	7.11
		Strong	Anita	10(f=1), 9(f=1), 8(f=4), 7(f=4), 6(f=3), 5(f=1)	14	7.28

Just a cursory look shows the superiority of the scores in the exercise-based cognition about grammar. Also, the students in the strong version subcategory of the exercise-based category (with the mean of 8.9) seem to have gained higher scores than those in its weak version subcategory (with the mean of 7.13). The case is different with the task-based cognition category; that is, the students in the weak version subcategory of the task-based category (with the mean of 7.11) seem to have gained lower scores than those in the strong version subcategory (with the mean of 7.28). The decrease in the scores along the continuum from strong exercise-based view to weak task-based view may tell us that the more the inclination of a teacher to an exercise-based view is, the better the grammatical performances of their students are. Accordingly, a t-test was first run between the scores of the students in the exercise-based group and those in the task-based group to observe whether the different beliefs of teachers about grammar bore any effects on their students' grammatical performances. A separate t-test was also run within each category to see whether there were any significant differences between the effects of a strong and a weak version of either category on the grammar scores of their students. The results of the t-tests are tabulated below in Table 2:

Table 2. *The Results of t-tests Between and Within the Two Groups*

Comparison	<i>t</i> -value	<i>df</i>	<i>p level</i>	$\eta^2$
Exercise-based vs. task-based	2.157	57	.035*	.07
Strong vs. weak versions of exercise-based	3.304	34	.002*	.24
Strong vs. weak versions of task-based	-.29	21	.775	-

The table shows that the difference between the exercise-based group and the task-based group was significant with a *p level* of .035. This may tell us that if teachers are oriented to an exercise-based view to teaching grammar, the grammatical performances of their students will be more fruitful. Similarly, due to the significant difference found between the performances of the students taught by the two teachers in the exercise-based category, it can be claimed that a strongly exercise-based teacher is more likely to train grammatically competent students. Simply put, the more teachers are oriented to an exercise-based view to teaching grammar, the better the grammatical performances of their students will be. In contrast, the strongly task-based group outperformed to an insignificant degree the weakly task-based group. Although the difference between these two subgroups was in the opposite direction it was not significant (at .775 *p level*). Generally, the two exercise-based teachers trained more grammatically competent students and the teacher with the strong exercise-based view trained more grammatically competent students than did the teacher with the weak exercise-based view.

The strength of association measure calculated here for each of the comparisons can tell us to what extent the differences observed were due to our independent variable and to what extent they were brought about by intervening variables. Accordingly, although the difference observed between the students' scores in the exercise-based group and those in the task-based group proved significant, it was only seven percent due to the teachers' cognition about grammar. So, we cannot be very confident in making any general claims about the effect of teachers' cognition about grammar on students' grammatical scores. On the contrary, the difference between the scores in the strongly exercise-based subcategory and the scores in the weakly exercise-based subcategory proved to be to a great extent due to the independent variable (with an eta squared of .24). This distinction between the strong and weak versions of the exercise-based view was responsible for 24 percent of the difference observed. This given, we can be much confident in claiming that if a teacher holds a strongly exercise-based belief he or she is more likely to train grammatically competent students. But there was still a 76-percent portion of the difference that was not due to our independent variable and it has to be accepted that there were some intervening variables that affected the results of our study.

However, all these are just very general conclusions; generalizations to other contexts can only be made in highly randomized conditions and with a high degree of caution. So, what conclusion can be made from all these at least partially contradictory results? The first explanation could be that the device to measure the students' grammatical performance was their achievement test's grammar part which was in the form of 10 multiple-choice items. This kind of test form is believed to be largely biased for the exercise-based category. This variable was not controlled for; maybe if another test form, such as one including task-based items, had been devised different results would have been brought about. The second explanation could be that since along a great part of the continuum, except for the last block, the means of the subsequent subcategories continued to descend, it can be concluded that the more teachers are inclined toward an exercise-based view toward teaching grammar, the more grammatically competent their students will turn out to be, at least as long as the test used to measure their competence is a usage-based one. We can be confident in claiming this, because not only did the exercise-based group outperform the task-based group, but also because the strong subgroup of the exercise-based group outperformed its weak counterpart. On the other hand, if teachers hold task-based views toward teaching grammar the strength of their beliefs will not make any significant difference in the grammatical acquisition of their students, at least as long as the test used to measure their competence is a usage-based one. As highlighted repeatedly throughout this study, even if all the *t*-tests yielded significant results, no general conclusions should be drawn solely based on the findings of this single study. This study is too contextualized to be generalizable to all other contexts. Nevertheless, one conclusion seems to be there is no doubt that teachers' cognition about grammar *does* appear to bear an effect on the grammatical acquisition of their learners. The implications for EFL/ESL teacher education efforts around the globe could be quite essential. This topic will be further discussed in the concluding section.

One other question raised here is whether this questionnaire or any other questionnaire is exact enough to distinguish between two teachers with only a four- or five-point difference as belonging to either the strong or weak versions of the grammar cognition type. But we did not just leave this problem there untouched. If you scrutinize the

observation descriptions more closely the distinctions between the two teachers in each category becomes even more vivid. There is no element even close to a task-based technique in Reza's grammatical instruction, while there are some traces of a task-based approach in Rose's instruction; she has the students play at least a controlled role-play and notice the structure in a following listening activity. The same is true about the strengths of the task-based teachers' beliefs. Kemal leads the students on the way of internalizing the target structure in a task-based fashion by the use of the consciousness-raising task, the role-play, and the storytelling task. However, Anita is being more task-oriented with the use of more coherent tasks. She devises a role-play task followed by a discussion on the content and language of each role-play, which is considered a consciousness-raising task. This is followed by a lecture complemented by a consciousness-raising task and another complementary report in the form of an interview. So, as it can be clearly observed, there *are* vivid differences in the way the teachers instruct grammar in their classes which can draw justifiable distinctions between each two in each category. Such distinctions were further confirmed during the interviews with the teachers on their beliefs about grammar.

Some more comments on the four teachers' responses to some of the items in the questionnaire are in order. As mentioned before, the questionnaire was composed of five parts: meaning of grammar, importance of learning grammar, approach to teaching, feedback and error correction, and teaching activities and practices. Each teacher's score on each section of the questionnaire is included in the following table:

Table 3. *Teachers' Scores on Each Section of the Questionnaire (With Each Item Bearing 5 Points)*

Section / Teacher	Reza	Rose	Kemal	Anita
Meaning of grammar (5 items)	18	17	13	13
Importance of learning grammar (2 items)	6	7	6	4
Approach to teaching (5 items)	14	11	7	9
Feedback and error correction (6 items)	18	14	12	14
Teaching activities and practices (7 items)	18	21	16	9

The difference between the two main categories (exercise-based vs. task-based cognition) is spread among all the sections of the questionnaire, but some of the sections stand out. The teachers' scores on the second and fourth sections are not that different, while their scores are more dispersed in the other three sections. Particularly, the third and fifth sections bear the greatest importance for our study. In the first section, the clearly higher scores of the exercise-based teachers show that they hold a usage-based view toward grammar; they believe that grammatical acquisition precedes language acquisition and use. Both teachers in the task-based category gave the fifth item in this section (which read *Grammar is both form and meaning*) the highest degree of agreement, while Reza with the strongly exercise-based view checked the option *no idea*. The second section measures the degree of importance teachers assign to learning grammar and this is not exclusively associated with either of the approaches; both the exercise-based and task-based views highlight the importance of learning grammar each in its own way: one through explicit teaching and controlled practices and the other through noticing and consciousness-raising. In this part, the differences among the teachers are not that great, except for Anita with the strong task-based view who rejects such an idea. Maybe this is the very reason why she holds a strong task-based view toward grammar and probes to teach English through various coherent tasks. However, during brief informal interviews held with the teachers, they all stated that grammar is important to the extent it can help in speaking the language, that students should not be sensitized too much to their errors by focusing a lot on grammar while speaking, and that based on students' ages, language proficiency levels, and learning styles either inductive or deductive teaching or both can be used in the class. The third section proves a greater difference among the teachers. The two exercise-based teachers possess a more usage-based, decontextualized, and deductive approach to teaching grammar, while the ones in the task-based category favor a more use-based, contextualized, and inductive approach. Again, here the difference is not very significant, maybe because almost all teachers devise a variety of deductive and inductive techniques to teach grammar and because almost every teacher tries his or her best to contextualize his or her grammatical instruction. Three of the teachers are quite neck to neck in the fourth section; they largely prefer peer- and self-correction over teacher-correction. Only the teacher with the strong exercise-based view (i.e., Reza) was more inclined toward teacher correction. Again, this is not associated with either of the views exclusively, but generally in task-based procedures, because of the nature of the interaction in the classroom environment, peer- and self-correction often win the lion's share. In the last and most important section of the questionnaire, the greatest difference among the teachers was observed. The two task-based teachers claimed to use various tasks and activities in their classes to teach grammar and they actually did; even the strong task-based teacher's score was lower than that of the weak task-based teacher, which once more proves the difference

between the two in terms of the strengths of their task-based beliefs (Please, remind that a lower score on the questionnaire indicates a higher inclination toward task-based language teaching). The two exercise-based teachers, on the other hand, did not make such claims and they did not indeed devise such tasks and activities in their actual practices. In this section the strong exercise-based teacher got a lower score than the weak exercise-based one, but, based on our observations, their actual practices showed the contrary. All this said, we can be to a great extent confident in categorizing and subcategorizing the four teachers under study the way it was done. Considering the totality of the aspects mentioned, we think we drew logically acceptable divisions among the four teachers and therefore we can be confident about the validity of our selections. Our findings mainly support Ng and Farrell (2003) who maintained that what teachers believe about grammar strongly influences how they teach it in the classroom context. This has been frequently emphasized by Andrews (2007) and Borg (2006, 2007) as well

The gap this study tried to fill was to find the effect of teachers' cognition about grammar on the grammatical performances of their students through the categorization of four teachers among 14 into two main categories of exercise-based and task-based and four subcategories of strongly exercise-based, weakly exercise-based, weakly task-based, and strongly task-based teaching of grammar. The grammar scores of these teachers' students were compared with each other through t-tests between the two main categories and between each two subcategories within each category. The selection of these four teachers was based on the results of a questionnaire, observations of their actual practices of teaching grammar, and unstructured interviews. The results of the study showed significant differences between the two main categories and between the two subcategories of the exercise-based category, but not only were the difference found between the weak and strong subcategories of the task-based category significant, but also it was slightly in favor of the strong task-based view. This made us a bit hesitant in jumping to the general conclusion that the more exercise-oriented a teacher's grammatical instruction is, the more grammatically competent his or her students will be. A satisfying conclusion could be that if a usage-based device, such as a multiple-choice test, is used to measure students' grammatical performances, teachers who are oriented to an exercise-based view to teaching grammar as opposed to a task-based view, especially those who are more so, are supposed to train more grammatically competent students. The findings are in contrast with Furneaux et al. (2007), Lee (2008), and Montgomery and Baker (2007)'s study which uncovered a notable mismatch between teachers' perceptions of their feedback practices and their actual behaviors. However, we must be very cautious in drawing any general conclusions from the results of this single study.

However, besides its limitations, this study enjoys a couple of merits. First, this was a study based on a big gap in the literature, namely the lack of any research inspecting the effect of teachers' cognition about teaching grammar on the acquisition of grammar by their students. As Gao and Zhang (2020) maintain "Classroom practice is bounded by the interactions of cognitions and contextual factors, and in turn, teachers' classroom practice influences their cognitions in an unconscious and/or conscious way" (p. 3). This study gives new insights to other researchers to examine this untouched aspect of teacher cognition. Second, the length of the grammatical treatments equals one instructional term; that is, at the time the students were tested they had passed at least a whole term with their teachers, while many of them in fact had been taking their class with the same teacher for many subsequent terms. Therefore, we could easily see the effect of the teachers' instructions on the scores of their students. In other words, the students' scores were definitely to a great extent shaped under the influence of their teachers' instructional approaches and beliefs.

Due to this very last merit which has caused the study to become tightly contextualized and due to the limitations of the study, drawing general conclusions from the study is really difficult. In addition, the students' attitudes toward language learning and different approaches to teaching grammar including exercise-based and task-based instructions might have had an uninspected effect on their performances on their tests and thus on the results of the study.

## 5. Conclusion

The gap this research aimed to address was to determine the influence of teachers' perceptions regarding grammar on their students' grammatical performance by categorizing four out of fourteen teachers into two primary groups: exercise-based and task-based. One conclusion is undeniably clear: teachers' perceptions about grammar do seem to significantly impact their students' grammatical acquisition. The implication for EFL/ESL teacher education is that educators should be encouraged to engage in self-reflection regarding their beliefs and how these beliefs influence their students' grammatical outcomes. It is essential for them to recognize that their beliefs about grammar can alter the grammatical performance of their students; thus, teachers must align their beliefs with their teaching strategies to meet the specific grammatical objectives relevant to their courses and students. When the needs of the context align with

teachers' beliefs about grammar, students are more likely to achieve the goals of their courses. Overall, the findings underscore the complexity of language instruction and the interplay between teacher beliefs, teaching practices, and student performance. While exercise-based approaches may yield positive results in terms of grammatical accuracy, the broader educational goals of fostering communicative competence through task-based methodologies remain essential. Future research should seek to further elucidate these relationships and guide effective instructional practices in TEFL.

### Conflict of Interest

The authors have no conflicts of interest to declare.

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