Teachers' Cognition and Implementations of Inductive Grammar Teaching in Oman

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Authors' contributions

This work was carried out in collaboration among all authors. Author FAM designed the study, performed the analysis, wrote the protocol and wrote the first draft of the manuscript. Authors CM and EFS managed the analyses of the study. Author CM managed the literature searches. All authors read and approved the final manuscript.

Article Information

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ABSTRACT

Aim: To examine teachers' cognitions and implementations of inductive grammar teaching in Oman.
Study Design: This was a qualitative case study.
Place and Duration of Study: A 3-month study was conducted at Masoud Bin Ramadan school in Suhar, Oman at the Basic Education level for the academic year 2018.
Methodology: The sample consisted of three male teachers who have been selected on the basis of their experience teaching post-basic learners, to ensure that the collected data is valuable to reach the aim and objectives of the study. The data is collected through classroom observations and teacher interviews. Content analysis is implemented to analyse data of classroom observations. Constructivist grounded theory is adopted to analyse teacher interviews.
Results: The findings reveal that the majority of teachers tend to teach grammar in a traditional deductive teaching method. The findings also demonstrate that teachers' understandings of inductive grammar teaching are limited. The teachers develop negative beliefs about inductive

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grammar teaching due to lack of understanding and training. Finally, it is theorised that teachers' limited implementations of inductive grammar teaching is due to their lack of understanding, lack of training, and negative beliefs about inductive grammar teaching.

Conclusion: Teachers should teach grammar in a more inductive way, as advised by the curriculum. The teachers should also receive more professional training in grammar teaching to increase their awareness of grammar teaching methodologies in general, and, in particular, the one adopted by the curriculum.

Keywords: Cognition; beliefs; understanding; deductive and inductive grammar teachings.

1. INTRODUCTION

In an attempt to enhance learner-centred teaching in Omani English language classrooms, the newly implemented curriculum (Engage with English) urges a shift from deductive to inductive grammar teaching. According to the Ministry of Education [1], the new curriculum adopts a holistic view of language which posits that grammar should no longer be viewed as a set of rules to be taught in isolation; rather, grammar should be taught inductively in context.

Engage with English is a coursebook designed for post-basic learners in Oman. Post-basic learners are those who continue to grades 11 and 12. The curriculum implements the communicative approach which is designed to promote learner-centred learning. It integrates skills-based syllabus, which draws on direct deductive teaching, and task-based syllabus, which draws on inductive exposure to meaning and communication.

"The curriculum is based on a communicative and skills-based methodology which encourages active student participation and collaboration, rather than a teacher-fronted and dominated classroom methodology" [1, pp xiii].

Post-basic curriculum calls for more fluency-based activities, with a major focus on encouraging students' participation and collaboration rather than a teacher-dominated methodology [1].

Although deductive and inductive grammar activities are implemented in the coursebook, all grammar lessons are presented inductively. The teachers are invited to use more inductive grammar teaching to develop classroom interaction among learners. However, the first author who is an English teacher working in the ministry of education in Oman, have noticed, teachers' reverence for deductive grammar teaching and the Present-Practice-Produce

model (PPP). Besides, from daily exchanges with teachers and supervisors, peer observations, and conducting professional workshops in schools, the author have noticed that teachers seem to have negative attitudes towards inductive grammar instruction.

Thu [2] has stated that researchers (Batstone, 2006; Munby, 1983; Williams & Burden, 2002) assert that teachers' cognitions are considered to be a key reason behind teachers' resistance to or acceptance of any new teaching method. According to Borg [3], the term 'cognition' refers to beliefs, attitudes, perceptions, knowledge, and values. In the present study, I use the term to specifically refer to teachers' understandings and beliefs.

A number of academic studies, such as Thu [2], Farrell and Lim [4], and Phipps and Borg [5], have been conducted in the field of grammar teaching and teachers' cognitions and practices. However, very few studies have examined teachers' beliefs about grammar teaching in Omani schools and even less have focused on the study of teacher's attempts to implement inductive instruction. Hence, this gap in the literature warrants additional research.

In this realm of thought, there is a need to study whether teachers have a sufficient understanding of inductive grammar teaching. Hence, the current study seeks to explore teachers' understandings, beliefs, and implementations of inductive grammar teaching in Omani grammar teaching classrooms.

The current study is significant to English teaching in Oman in a number of aspects. First, the study is expected to increase teachers' awareness of inductive grammar teaching in Oman. Second, the study could increase teachers' understandings of the grammar teaching approach adopted in the new Omani English curriculum (Engage with English). Third, the study is expected to raise teachers'

Fig. 1. Widodo's five grammar teaching stages

awareness of the importance of learner-centred teaching and learner-learner interaction in grammar classrooms.

1.1 Theoretical Framework

The inductive view to grammar teaching, also called a rule discovery approach, draws on constructivist theories of learning. It exposes learners to potential authentic examples in which the new grammatical rule occurs. The learners' role is to discover and construct the rule themselves through collaborative work [6,7]. Researchers such as Nassaji and Fotos [8], Prince and Felder [9], and Tantani [10], assert that inductive grammar teaching is a meaning-focused approach that provides learners with the opportunity to negotiate meaning in communicative situations, rather than focusing solely on achieving language accuracy.

1.2 Conceptual Framework

Widodo [7] has developed five grammar teaching stages framework as illustrated in Fig. 1. The stages are referred to in the present study as inductive grammar lesson teaching sequences. The first stage is rule initiation, which involves developing learners' knowledge about the meaning of the grammar rule. The second stage is rule elicitation, which entails generation of the rule by learners. The third stage is rule practice, which familiarises learners with the use of the rule by applying it in communicative activities. The fourth stage is rule activation, in which the teacher evaluates learners' comprehension of the rule. The fifth stage is rule enrichment, in which the teacher provides learners with additional exercises to expand their knowledge of the rule.

1.3 Research Questions and Objectives

The aim of the present study is to investigate teachers' cognitions and implementations of inductive grammar teaching. Hence, the study attempts to achieve the following objectives:

- To investigate how grammar is taught in Omani classrooms
- To examine teachers' understandings of inductive grammar teaching

- To examine teachers' beliefs about inductive grammar teaching

Therefore, the research questions this study attempts to answer are:

- How do teachers teach grammar?
- What are teachers' understandings of inductive grammar teaching?
- What are teachers' beliefs about inductive grammar teaching?

2. METHODOLOGY

The study takes as design a mix of qualitative case study and grounded theory research.

2.1 Sampling

Based on the grounded theory design, theoretical sampling has been adopted in the present study. Charmaz [11] and Creswell [12] have declared that theoretical sampling is useful in grounded theory and case study research designs. They have also stated that in grounded theory research, the selection of participants is based on their experience with the phenomenon being examined. Hence, in the present study, the sample consists of three teachers who have been selected on the basis of their experience teaching post basic learners, to ensure that the collected data is valuable to reach the aim and objectives of the study. In addition, these teachers have been selected according to their availability and willingness to take part in the research, as well as the fact that they teach grades 11 and 12. All participants are male teachers teaching male classes of approximately 25 to 30 students, aged 16 to 18 years old. The teachers hold Bachelor's qualifications in teaching the English language, and their length of teaching experience ranges from 9 to 25 years.

The current case study is based in Oman, targeting post basic teachers. Considering the large population and the difficulty in reaching them, one school has been chosen for study. The school is specified for post basic learners (grades 11 and 12). The English teaching team consists of eight teachers who each have at least seven years of teaching experience.

2.2 Data Collection Tools

The data is collected through interviews and observations. Classroom observations are employed to investigate teaching practices. Interviews are employed to teachers' cognitions of inductive grammar teaching.

2.2.1 Classroom observations

Classroom observations are employed to answer the first research question: How do teachers teach grammar in Omani classrooms?

Classroom observations have been conducted before the interviews to explore teachers' actual teaching practices. Each teacher has been observed twice. The overall number of observations for all teachers is six. Since data collection and data analysis are simultaneous in the present study, the teachers have been found to implement the same grammar teaching strategies in both lessons. Therefore, I have decided to stop observing teachers as no more new data emerged. Observations have been video recorded and transcribed by the researcher for the next step, which is coding.

2.2.2 Interviews

Second, teacher interviews have been conducted to address the second and third research questions: What are teachers' understandings of inductive grammar teaching? What are teachers' beliefs about inductive grammar teaching? According to Hassan [13], individuals' beliefs and thoughts are best described and investigated in academic research through interviews. Seidman [14] believes that the interview can offer an understanding of one's experiences and beliefs. Seidman [14] also assumes that interviews provide an interpretation of how people perceive and reflect on particular phenomena.

The interviews are divided into four parts. Part one gives participants a chance to describe their teaching experience and professional training. Part two explores teachers' understandings of inductive grammar teaching and Omani English curriculum. Part three investigates teachers' beliefs about using inductive grammar teaching. Part four invites teachers to discuss their actual teaching practices in relation to their understandings and beliefs.

Each teacher was interviewed twice as teachers expressed the same understandings of and beliefs about their grammar teaching practices in both interviews. Therefore, I have decided to stop interviewing teachers after the second interview as no new insightful data emerged. Interviews were audio recorded. The data was taken for the next step, data analysis, as explained in the upcoming section.

2.3 Data Analysis Models

Content analysis is employed to analyze observations. Charmaz's [11] Constructivist grounded theory is adopted to analyze the interviews data.

Two models have been implemented to analyse classroom observations: Sinclaire and Coulthard's [15] model and Widodo's [7] model.

Three coding stages have been adopted to implement Charmaz's [11] constructivist view of grounded theory. The first stage is initial coding, which involves coding each line of the data.

The second coding stage is focused coding, which involves using initial codes to synthesize and integrate large segments of data. The third coding stage is theoretical coding, which involves drawing relationships between the themes that have been identified in the focused coding stage to develop general concepts. Then, a relationship between themes is made to develop a theoretical explanation of teachers' use or avoidance of inductive grammar teaching.

3. FINDINGS

The current section explains the findings of the analysis of classroom observations and teachers' interviews.

3.1 Findings of the Analysis of Classroom Observations

To analyse the observations, the data is submitted to two levels of analysis: the analysis of the structure of classroom discourse and the analysis of the communicative functions of classroom discourse.

3.1.1 The structure of classroom discourse

The analysis of the structure of classroom discourse helps to examine the interactive roles of teachers and learners, as well as to classify interactive classroom exchanges into teacher-learner and learner-learner exchanges. The following table displays the quantity of teachers' turns, as well as the quantity of learners' turns.

Table 3.1. The quantity of teachers' and learners' turns

	T turns	L turns	Total
Gr1	104	82	186
Gr2	71	59	130
Gr3	65	49	114

Table 3.1 illustrates that teachers' turns are more frequent than learners' turns. Findings also show that the highest rates of teacher's turns and learners' turns are observed by Gr1, followed by Gr2, and finally by Gr3, which implies that most of the classroom time is used by teachers to initiate grammar rules and provide feedback. The findings imply that classrooms are teacher-centred.

Table 3.2 shows that teachers' turns are classified into (I) and (F). The highest rates of (I) and (F) turns are observed by T1, followed by T2, and finally by T3, which implies that the teachers function as initiators and feedback providers. The Table also shows that the learners neither initiate nor provide feedback. They rather function exclusively as respondents, which imply that learners are not given the chance to interact with their teachers and their classmates. Therefore, findings imply that collaboration opportunities have not been created which imply that grammar classes might be highly dominated by teachers.

Since teachers function as initiators and feedback providers, while learners function as respondents, it can be concluded that the classes tend to be more teacher-centred than learner-centred.

3.1.2 Types of interactive exchanges

The current section examines whether interactions involve teacher-learner or learner-learner exchanges. By doing so, we examine whether opportunities for leaners to work collaboratively are created for inductive learning to take place. The following Table displays the quantity of teacher-learner against learner-learner exchanges.

Table 3.3 illustrates that Gr1 and Gr3's exchanges are exclusively teacher-learner centred. Only one attempt is observed in Gr2 to engage learners in learner-learner interaction, which implies that learners are not given opportunities to work collaboratively in grammar classes. Hence, teachers tend to use more deductive than inductive grammar teaching.

In sum, the analysis of classroom discourse reveals that grammar classes are teacher-centred. The teachers function as initiators and feedback providers, while learners function as respondents. The analysis of the types of interactive exchanges shows that classroom interactions are teacher-learner centred, as teachers do not involve learners in learner-learner interaction. Hence, it may be concluded that teachers tend to use more deductive than inductive grammar teaching.

3.1.3 Communicative functions of classroom discourse

To analyse the communicative functions of classroom discourse, Widodo's [7] framework is used to examine the type of grammar teaching strategies used by teachers.

Table 3.4 demonstrates that the teachers are similar in terms of their uses of deductive and inductive grammar teaching strategies. The highest rate of use of deductive grammar teaching strategies is observed by T1, followed by T3. Only T2 tends to use deductive and inductive grammar teaching strategies rather equally, which implies that deductive grammar teaching is implemented by the majority of teachers.

Although T2 and T3 use some inductive grammar teaching strategies, they do not give learners opportunities to infer the rules themselves, which implies that they do not allow learners the opportunity to work together. Hence, the teachers use deductive rather than inductive grammar teaching to present the form of the rule.

In conclusion, T1 exclusively uses deductive grammar teaching strategies, T2 combines deductive and inductive grammar teaching strategies, and T3 tends to use more deductive than inductive grammar teaching strategies.

3.1.4 Deductive and inductive grammar teaching sequences

As seen in Section 3.1.4, teachers use different grammar teaching strategies. T1 exclusively uses deductive teaching strategies, T2 balances deductive and inductive teaching strategies, and T3 uses more deductive than inductive teaching strategies. However, the use of a particular grammar teaching strategy does not necessarily indicate that grammar classrooms are deductive

or inductive. Hence, examining grammar teaching sequences is necessary to understand whether a grammar teaching classrooms are deductive or inductive.

It is clear from Tables 3.5 and 3.6 that grammar teaching sequences are exclusively deductive in Gr1 and Gr3. Gr2's teaching sequences are both deductive and inductive. Hence, Gr1 and Gr3 are deductive grammar classes. Gr2 adopts a combination of deductive and inductive grammar teaching approaches.

According to the findings displayed in Tables 3.5 and 3.6, it can be concluded that deductive grammar teaching sequences are more than inductive grammar teaching sequences in the observed grammar classrooms. Hence, grammar teaching classrooms tend to be more deductive than inductive.

Table 3.2. Interactive roles of teachers and learners

	Teachers				Learners		
	I	R	F		I	R	F
T1	68	0	53	Gr1	0	82	0
T2	55	0	35	Gr2	0	59	0
T3	45	0	30	Gr3	0	49	0

Table 3.3. The quantity of teacher-learner and learner-learner exchanges

	T-L exchanges	L-L exchanges
Gr1	82	0
Gr2	51	1
Gr3	37	0

Table 3.4. Deductive and inductive grammar strategies used by teachers

	Deductive strategies	T1	T2	T3	Inductive strategies	T1	T2	T3
1	Explicit rule teaching	83	21	40	Implicit rule teaching	0	9	11
2	Raise learners' knowledge about the form of the rule	11	5	2	Raise learners' knowledge about the meaning of the rule	0	21	1
3	Ask learners to apply the form of the rule directly	5	4	3	Ask learners to use the rule in a meaningful context	0	5	0
4	Direct error correction	5	1	0	Indirect error correction	0	0	0
5	Drilling grammar forms	0	5	0	Ask learners to infer the form of the rule	0	0	0
6	Direct translation of grammar forms to L1	0	0	8				
	TOTAL	104	36	53	TOTAL	0	35	12

Table 3.5. Deductive teaching sequences

	Deductive teaching sequences					Total
	Rule initiation	Rule elicitation	Rule practice	Rule activation	Rule enrichment	
Gr1	27	11	4	0	0	42
Gr2	11	2	4	0	0	17
Gr3	22	4	2	0	0	28

Table 3.6. Inductive teaching sequences

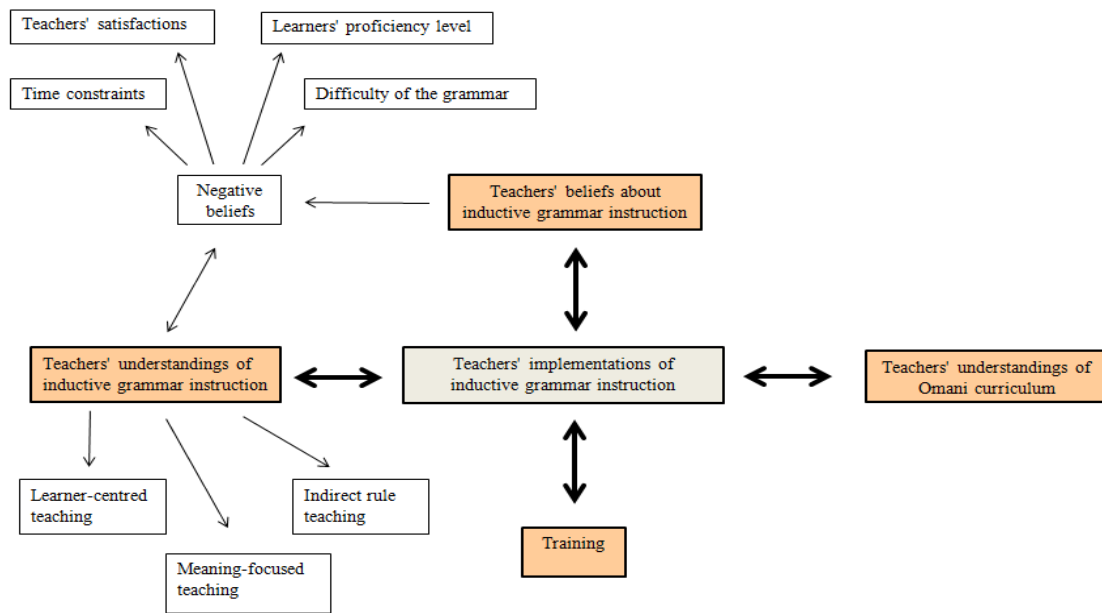|	Inductive teaching sequences					Total
	Rule initiation	Rule elicitation	Rule practice	Rule activation	Rule enrichment	
Gr1	0	0	0	0	0	0
Gr2	10	0	3	0	0	13
Gr3	0	0	0	0	0	0

Fig. 2. Main themes of interview analysis

3.2 Findings of the Analysis of Interviews

Charmaz's [11] inductive constructivist grounded theory is implemented to analyse the interviews. Fig. 2 displays the main themes that have emerged from the coding of teachers' interviews. According to the Figure, four themes are identified: teachers' understandings of inductive grammar teaching, teachers' beliefs about inductive grammar teaching, teachers' understandings of the Omani curriculum, and training. The figure shows that teachers' implementations of inductive grammar teaching are affected by their beliefs and understandings of inductive grammar teaching, as well as their understandings of the Omani curriculum.

The findings reveal that some teachers have developed negative beliefs that seem to affect negatively their implementations of inductive grammar teaching. The teachers attribute their practices to five main reasons which are: the difficulty of some grammar rules, time constraints, learners' low proficiency level, teachers' personal preferences, and lack of understanding of inductive grammar teaching strategies. Hence, we may say that the limited implementations of inductive grammar teaching are guided by teachers' negative beliefs.

4. DISCUSSION

The findings show that all classrooms follow the traditional I-R-F system of interaction. It has also been found that all of the observed grammar classes are teacher-centred, and the teachers do not attempt to involve learners in learner-learner interaction. Learners have limited opportunities to collaborate, which indicates that inductive learning does not take place in the classrooms. These findings are similar to Farrell and Lim's [4] findings, which show that the observed grammar classes are teacher-centred and the teachers have implemented traditional classroom management. In his study, Hassan [13] has also found that all of the grammar classes are teacher-centred. The findings of the current study also reveal that the majority of teachers use deductive grammar teaching strategies more frequently than inductive. It has also been found that the three teachers use an explicit rule teaching strategy more frequently than other deductive grammar teaching strategies. Similar findings have been reported by Uysal and Bardakci [16], who have found that Turkish teachers use explicit grammar rule teaching and drilling activities, rather than implicit grammar teaching.

Regarding teachers' understandings, the findings reveal that the majority of teachers have a limited understanding of inductive grammar teaching strategies. The teachers are not aware that inductive grammar teaching involves learner-learner interaction. The teachers do not realise that learners should infer the grammar rule in inductive grammar teaching. The findings also reveal that two of the teachers do not realise that

inductive grammar teaching is learner-centred. Further, the teachers do not realise that inductive grammar teaching introduces the grammar rule indirectly. These findings are similar to those of Tantani [10], who has found that three out of eight Libyan teachers have a limited understanding of deductive and inductive grammar teaching.

The findings of the present study confirm that teachers' limited understanding of inductive grammar teaching is a key factor in minimising the opportunities for inductive grammar teaching to take place in classrooms. Tantani [10] also asserts that the lack of knowledge about grammar teaching is one of the factors affecting teachers' practices when they attempt to transfer theory to practice.

Regarding teachers' beliefs, the findings show that the majority of teachers have negative beliefs about inductive grammar teaching. The teachers believe that inductive grammar teaching is difficult and challenging in classrooms. This finding differs from that of Al-Mekhlafi and Nagaratnam [17], who have found that pre-service teachers in Oman favour implicit inductive grammar teaching. The findings of the current study also reveal that the teachers believe that deductive grammar teaching is more beneficial for learners. This finding is similar to that of Uysal and Bardakci [16], who claim that teachers still prefer the deductive approach in grammar teaching classrooms. However, in the present study, the teachers report a number of negative beliefs about inductive grammar teaching. First, the teachers believe that difficult grammar rules drive some teachers to adopt deductive grammar teaching to simplify the rules for learners. The teachers believe that some grammar rules require more explicit and direct explanations. However, Thu [2] has stated that the difficulty of grammar rules does not affect the way the grammar rules are taught in classrooms. Second, the teachers believe that learners' proficiency level affects the decision to use inductive grammar teaching. They believe that weak learners are not able to infer and construct the grammar rules themselves. Third, the teachers believe that their personal teaching preferences influence their practices of inductive grammar teaching. The teachers seem satisfied with their traditional grammar teaching practices. However, Thu [2], who claims that teachers' and learners' satisfaction does not determine how the grammar rules are taught in classrooms.

5. IMPLICATIONS, RECOMMENDATIONS, LIMITATIONS AND CONCLUSION

The findings of this study reveal that grammar is taught in a traditional way in the observed classrooms, which does not help learners achieve the objectives of the Omani English curriculum. Teachers should teach grammar in a more inductive way, as advised by the curriculum, with a range of communicative activities that would help learners relate form to the meaning of the grammar rule.

This study has limitations much like any other study. The first limitation is related to the classroom observations. The teachers have only been observed twice; it would be beneficial to have more observations that could provide more insight on classroom teaching practices. It is also unclear whether teachers have followed their normal grammar teaching practices during observations.

The second limitation is related to the sample size. Only three teachers have participated in the study. Therefore, the findings cannot be generalized.

Similar studies could be conducted to investigate the congruence and incongruence between teachers' understandings and practices of grammar teaching. Other studies could be conducted to examine whether teachers' grammar teaching practices influence learners' performance in classrooms.

Greater differences among teachers are suggested for future research to explore how grammar teaching practices may differ. These may include differences in gender, experience, and employment. Similar studies can also be conducted with teachers of lower grades. The effect of learners' proficiency levels on grammar teaching and learning is also suggested for future research.

In conclusion, the current study reveals that deductive grammar teaching is still popular among teachers. This study also shows that the limited opportunities for inductive grammar teaching to occur in classrooms are a result of teachers' limited understanding of and beliefs about inductive grammar teaching. It is hoped that the limitations and recommendations of this study inspire further studies to take place to increase understanding of grammar teaching methodologies in Oman.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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