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Cognitive Contradictions in EFL Teachers’ Grammar Teaching: Exploring Practices and Perceptions

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Abstract

Guided by Activity Theory framework, this study tends to uncover prominent contradictions in the activity systems in which non-native English as a Foreign Language (EFL) grammar teacher cognition operates. The study attempts to fill the existing research gaps, as there are visible gaps in the literature to address the problem from this angle. To this end, the study used a mixed methods design, employing a teacher belief questionnaire and triangulated by a structured classroom observation checklist. The questionnaire was administered to 132 teachers, selected through stratified random sampling, while eight teachers were observed multiple times, based on purposeful sampling. The results of the study revealed several contradictions in the activity systems of EFL teacher cognition in grammar teaching. Weak teacher cognition caused by these contradictions contributes to the low proficiency level of their students. This research has practical implications and offers recommendations to enhance EFL teacher cognition in the area of grammar instruction.

Keywords: *Activity Theory, EFL Context, Teacher Cognition, Grammar Teaching, Teacher’s Perception*

Introduction

A growing body of research believes that EFL teachers in Saudi Arabia prefer traditional methods to modern methods. They cast off incorporating innovative techniques into their teaching practices (Al-Seghayer, 2011; Javid et al., 2012; Khan, 2011; Rahman & Alhaisoni, 2013). Most Arab teachers teach English through grammar translation method (Nasim, 2022). Resultantly, Saudi Arabian higher education institutions experience unsatisfactory situation in ELT (Shah et al., 2013). Therefore, it seems imperative to understand EFL teachers’ pedagogical belief systems and what EFL grammar teachers bring to their classrooms. This understanding can help identify areas for improvement, and develop strategies for more effective teaching. Also, it can

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better equip teachers with the necessary skills and resources to teach English grammar more effectively.

Language teaching is a multidimensional activity, and unconscious decisions, experiential knowledge, and many contextual factors that vary from teacher to teacher (Başar, 2020) may impact Teacher Cognition (TC), influencing students' learning. The learning process, its development, and implementation are impacted by instructors' beliefs (Nasim et al., 2024). Borg (2003) also believes that teachers' favorite methodologies are closely linked to their cognition, a term that encompasses knowledge, thoughts, beliefs, and attitudes. Previous research widely recognizes the significance of language teachers' pedagogical belief systems affecting classroom practices (Ahmad, 2018; Başar, 2020; Borg, 2018; Setoodeh et al., 2020). TC offers valuable insight into what teachers do, their previous experiences, and their working contexts (Oranje & Smith, 2017). In spite of being a personal trait, it is dynamic and undergoes continuous change throughout a teacher's career (Borg, 2015). Consequently, language teaching may be affected by TC, which may further impact students' learning.

A shortage of research considering EFL grammar teachers' beliefs and classroom practices in the Saudi Arabian context motivates to study the relationship. The present study investigates this interplay within Engeström's (1987, 2001) Activity Theory (AT) framework. This theory is applied in diverse fields like education, humanities, and information systems, and proved a worthwhile framework for understanding these fields of study (Hashim & Jones, 2007). It has been utilized as a means to redefine teacher education (Tasker, 2011), to understand teachers' classroom practices (Kim, 2011), and to assess the influence of pedagogy on learning (Yamazumi, 2009). Moreover, traditional theories of teacher cognition tend to neglect the context and do not address the dynamic features of teacher cognition (Li, 2012). This weak point can be compensated by AT "which stresses the importance of sociocultural context in understanding any given human activity" (Machaal, 2012, p. 199) and, thus, connects cognition with practice and individual with community.

It is argued that no study related to teacher cognition and grammar teaching describes the language learning and teaching situations worldwide, especially in foreign language situations such as Saudi Arabia. Moreover, researching teacher cognition in grammar teaching through the lens of AT to reveal the significant contradictions in these teachers' activity systems is a new phenomenon, 'as researchers rarely take up a sociocultural perspective as a lens to study teacher cognition' (Li, 2020). This will not only uncover prominent contradictions, but will also provide solutions to teacher cognition in grammar teaching to create productive language teaching and learning atmosphere. These insights will be significant for educators, policymakers, researchers, and learners. Thus, EFL teacher cognition will be better informed to optimize the pedagogical process of English language teaching in Saudi Arabia. Hence, this study attempts to answer the following research questions:

RQ1: What are the prominent contradictions in the activity systems of EFL teacher cognition in grammar teaching from the perspective of Activity Theory?

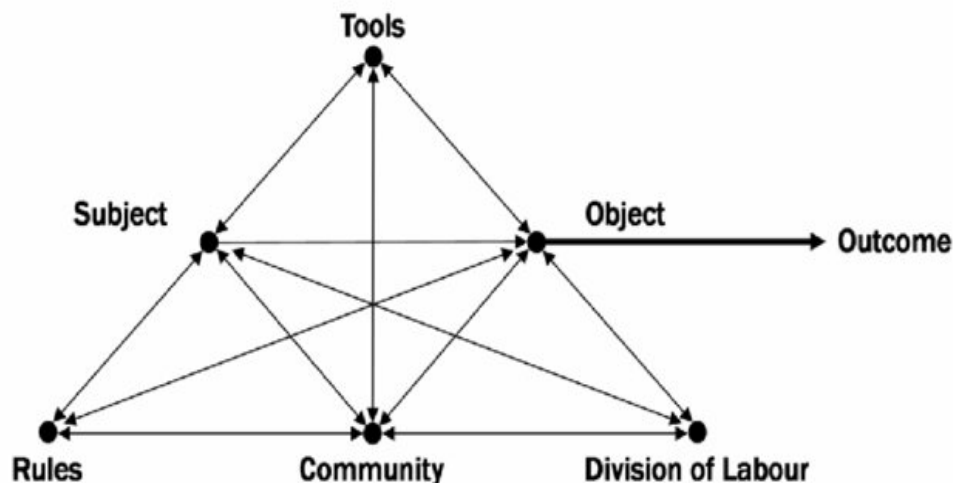
RQ2: What are the possible solutions to address the issue of contradictions in the activity systems of EFL teacher cognition in grammar teaching?

Theoretical Framework: Activity Theory and the Principle of Contradictions

Activity Theory is deeply rooted in the cultural-historical psychology of Vygotsky and his student Leont'ev in the 1920s (Sang, 2023). It assumes human activity as the unit of analysis. In other words, any action achieves its form and meaning when executed with a purpose (Camargo-Henríquez & Silva, 2022). According to Vygotsky, the engagement of Subjects with the environment using certain Tools helps them achieve Objectives. This notion is called the mediation model. However, Vygotsky's student Leont'ev admitted that the notion of activity lacked in Vygotsky's model. Therefore, Engeström, who revised it in 1987, presented interrelated systems of activity that can be organized as webs of examining micro or macro level activity sets (Anthony, 2012). This version incorporated three more components into the model, totaling it to six. The three new categories focus on the context in which mediated activity is executed. Figure 1 represents Engeström's Activity Theory.

Figure 1

Activity Theory Model (Engeström, 1987)



In Figure 1, a triangle of triangles, Camargo-Henríquez and Silva (2022) highlight the role of tools as mediators between the Subject and the Object; the Division of Labour plays a role in facilitating communication between the Community and the Object of activity; and Rules bridge the Subject and the Community.

Furthermore, Anthony (2012) describes that Subject is the individual or individuals engaged in the activity; Object is the purpose behind the Subject's involvement in the activity; while, Tools are physical and cognitive tools mediating between the Subject and the Object. The Subjects are part of the Community with explicit or implicit rules that influence the behavior. The extent to which certain tools can be utilized in achieving an outcome is determined by the Rules. As participants engage in the activity, the Community establishes rules to guide behavior based on expectations (Farrelly, 2012), while the Division of Labour ensures a shared responsibility among all involved. In accordance with the Division of Labour, community members have unique ways of contributing to the Object. Each influences the actions within the activity

system (Farrelly, 2012). The Rules, the Community, and the Division of Labour are the basic categories defining the context in which mediated activity occurs (Mastandrea, 2012).

The inclusion of new elements (e.g., a new tool) can create new tensions with unanticipated results. The use of the tool can either support or impede the Subject in its efforts to achieve the desired outcome. This can lead to confusion and disengagement from the activity (Storch & Sato, 2019). Rahnema (2023) mentions two types of tools: physical, such as textbooks, and cognitive, such as language, beliefs, knowledge, theories, approaches to teaching, and procedures. Tool-use is also situational and dependent upon the availability of time and place in the overall activity.

Engeström's (2001) Principles of Activity Theory

Engeström (2001) summarizes five fundamental principles of Activity Theory. They are:

1) The prime unit of analysis: This object-oriented activity interrelates between subjects and other activities. For instance, an examination system is related to other teaching and policy-making activities.

2) Multi-voicedness: This highlights that all the subjects carrying out the specific activity have different perceptions (Li, 2012).

3) Historicity: This principle deals with the history that shapes each activity system over time and space (Narayanan et al., 2023). Farrelly (2012), regarding the educational activity system, considers historicity as the history of policy-making, teachers' professional development, and curricular decision-making.

4) Contradictions: It deals with tensions within and between activity systems.

5) Expansive transformations: This suggests the possibility of expansive transformations in activity systems. Identifying and acknowledging contradictions and consequently reformulating the Object leads to expansive transformations.

The Principle of Contradictions

In the Activity Theory framework, when certain elements of the activity system change, it modifies the conditions that may cause users to encounter problems and may also result in a failure to achieve the intended outcome (Narayanan et al., 2023). These misalignments, called contradictions, may lead to conflicts and innovations in the activity systems (Engeström, 2001). In the context of TC, this principle focuses on examining the contradictions that arise in the teachers' activity system and how they are resolved. Moreover, Engeström (1987) identified four levels of contradictions. The primary contradictions are within a single component of the activity system, for instance, paradoxes in the beliefs of teachers or the discrepancy between beliefs and practices of a teacher. The secondary contradictions are between two components or elements within the activity system, for instance, contradictions between the Subjects (teachers) or the contradictions between the Subjects (teachers) and Community (students/policy makers) or Subject and Tool. The Tertiary contradiction is between the existing and more advanced activity systems. For instance, an EFL teacher introduces a new grammar teaching approach, resulting in tension between systems. The fourth

contradiction appears between two interacting activity systems within the same activity system. For instance, a new examination system conflicts with the existing student assessment rules.

Several studies within a sociocultural framework have been conducted over the past few decades to explore the implementation of AT in various learning contexts. Recent research has focused on investigating contradictions and dynamics within language learning (Ren & Zhu, 2023; Rahnema, 2023; Soleimani & Rahimi, 2021), maritime education (Narayanan et al., 2023), artificial intelligence (AI) (Guo et al., 2024), mathematics (Harvey & Nilsson, 2022), and law (Aziz et al., 2023).

Ren and Zhu (2023) conducted a case study examining the graduation thesis writing process of a Chinese EFL student through the lens of AT. By analyzing interviews with the student and advisor, as well as studying the student's paper and supplementary materials, the researchers found that the student employed various mediated methods, such as artifacts, rules, community, and roles, in writing. However, controversies within and outside the activity system hindered the effective mediation of certain writing techniques, which negatively impacted the student's writing process.

Soleimani and Rahimi (2021) employed a qualitative approach to investigate Iranian EFL teachers' beliefs and practices regarding grammar and written corrective feedback (WCF) within the framework of AT. Through stimulus recall interviews, the researchers identified a discrepancy between the teachers' beliefs and their behaviors. While the teachers believed that writing errors should be addressed selectively (using selective WCF), they employed comprehensive WCF. The mismatch between their beliefs and practices was attributed to the influence of the AT community. The study highlighted the need for teachers to reassess their practices based on the specific needs of their context and avoid employing a one-size-fits-all approach to addressing writing errors.

Rahnema (2023) utilized an AT framework to gain a comprehensive understanding of how ESL students from Bangladeshi universities engage in writing activities, collaborate with peers, and navigate their social learning environments. Through in-depth interviews, the study explored six discrepancies in the students' writing progress and discussed the impact of employing an AT framework to reflect upon, reconsider, and reshape learning activity systems.

Overall, these studies underscore AT in different learning domains; however, there is a gap in the teachers' cognitive contradictions in EFL grammar. This includes the examination of potential conflicts or inconsistencies between teachers' cognitive beliefs, instructional practices, and their perceptions of effective grammar teaching strategies. Understanding these cognitive contradictions can provide valuable insights into the complexities of EFL teachers' instructional decision-making processes and their impact on grammar teaching and learning outcomes.

Methodology

Research Design

The study employed a mixed methods design, including a survey and a classroom observation checklist as data collection tools. The results from the data were compared to generate profound insights into the cognition of EFL teachers in a Saudi university.

The data were then interpreted within the framework of AT so that their actions were decoded and findings were used to enhance EFL grammar teaching.

Quantitative data analyses are deductive, and those of qualitative data are predominantly inductive (Dörnyei, 2007). Purposive sampling for qualitative data collection and stratified random sampling for quantitative were utilized. Furthermore, the researcher observed male teachers, while the female representative of the researcher observed female teachers. Due to context-bound barriers, male teachers are not allowed to enter female educational institutions. Hence, two observers made use of a purposefully designed classroom observation checklist to ensure the reliability of their observations. Furthermore, the utilization of a structured observational checklist increases the dependability of the observation procedure and aids in directing attention towards significant incidents (Dörnyei, 2007; Griffiee, 2012). Data analyses in this study were done separately. However, data from the two data collection tools were triangulated to answer the research questions.

Population and Sampling

The research sample for this study was composed of native and non-native male and female speakers of Arabic teaching EFL grammar affiliated with a university in Saudi Arabia. Stratified random sampling was utilized for the questionnaire. All identified subgroups in the population were sufficiently represented in the sample. The total number of both groups of teachers in the university was about 200. In line with Krejcie and Morgan (1970) sample size formula for quantitative research, the total number of teacher respondents in this study was 132, as shown in Table 1. The test statistics range from .032 to .047, and the P-values (Significance) are all .200, following the normality assumption.

Table 1

Demographic Data of Participants for Questionnaire

Arabic/non-Arabic Speakers	Gender	No. of Respondents	Total
Arabic Speakers	male	33	66
	female	33	
Non-Arabic Speakers	male	33	66
	female	33	

Purposive sampling was employed for classroom observations to acquire deep insights into the cognition of the respondents. Creswell and Guetterman (2021) and Dörnyei (2007) opine that saturation should be the guiding principle for good sample size in qualitative research. However, Creswell and Poth (2023) suggest 5 to 25 respondents for qualitative studies. To keep this suggestion in mind, the researchers observed eight teachers. Each teacher underwent three classroom observations following Fraenkel et al. (2022), who proposed multiple observations, as this will bring more reliable data. Consequently, twenty-four classroom observations were carried out, as tabulated in Table 2.

Table 2*Demographic Data of Participants for Classroom Observations*

Arabic/non-Arabic Speakers	Gender	No. of Participants	No. of Observations
Arabic Speakers	male	2	6
	female	2	6
Non-Arabic Speakers	male	2	6
	female	2	6

Instruments

This study used a five-point Likert Scale questionnaire for data collection, comprising 12 close-ended items. The subjects were expected to answer statements ranging from strongly agree (5) to strongly disagree (1). The survey investigated the beliefs of EFL teachers teaching grammar. The tool was developed based on the current literature on teachers' beliefs about grammar instruction (Ahmad et al., 2017; Ahmad et al., 2018; Ahmad, 2018).

A classroom observation checklist was designed, based on items in the questionnaire. Additionally, observations during class were documented. Fraenkel et al. (2022) categorized classroom observations into broad-focus and narrow-focus. Broad-focus observations utilize a holistic approach, while narrow-focus observations concentrate only on representative behavior. Zohrabi (2013) asserts that the researcher can choose to observe the classroom activities holistically or design an inventory of activities and mark accordingly. This study used narrow-focus classroom observations as it suits to answer the research questions.

Moreover, high-inference categories, not low-inference categories, were used. Dörnyei (2007) argues that low-inference categories are straightforward, for instance, teacher writing on the board, while high-inference categories require some judgment about the function of the observed behavior, for example, the type of feedback. The classroom observation checklist consisted of an inventory of practices about grammar instruction complimenting statements in the questionnaire. The classifications never, occasionally, and frequently were used to monitor the absence or presence of applicable behavior. To cover any additional aspects of the practice that were not addressed in the checklist, a new column labeled "comments" was introduced in the tool. To get reliable data, each teacher was observed three times on three different occasions.

The issues of reliability and validity need to be addressed for measuring tools for any research (Ary et al., 2019). In the present research, different methods of checking the validity of the tools were used. The triangulation method was used for internal validity (Denzin, 2012). Moreover, member-checking was also employed to improve qualitative tools' validity and credibility. Copies of the observation checklists were dispatched to all the participants afterward. They were also invited to approve it to describe their practices precisely. The subjects confirmed the precision of the qualitative data, and thus, the study fulfilled the validity criteria. Creswell and Guetterman (2021) also support this two-stage validation in qualitative research.

Using SPSS 27, Cronbach's alpha was employed to examine the internal consistency reliability of the questionnaire, which was 0.764, indicating that the items had high

reliability (Creswell & Guetterman, 2021). Seliger and Shohamy (2015) opine that using a checklist to observe classroom practices enhances its reliability because it directs the observer in classroom observations. Likewise, Dörnyei (2007) also declares that adding structure to observation employing observation schemes makes the process reliable and produces results that are comparable across classrooms and over time.

Furthermore, to check interrater reliability of the classroom observation scheme, the researcher and a faculty member conducted the observations in the same classroom. The results of the two observations recorded only one disagreement. Cooper and Hedges's (2012) formula was used to calculate the interrater reliability of the classroom observations checklist, as shown:

$$\text{Agreement Rate} = \frac{\text{Number of observations agreed upon}}{\text{Total number of observations}} * 100$$

$$\text{Agreement Rate} = \frac{11 * 100}{12} = 92\%$$

Data Analysis Procedure

Data from the teacher questionnaire were analyzed descriptively using means and standard deviations, while, data from classroom observations were analyzed with the help of percentages. Both data types were compared to reveal prominent contradictions within the activity systems in which non-native EFL grammar teacher cognition operates. Several contradictions were identified in the practices and perceptions of both groups of instructors.

Ethical Considerations

To ensure the interests of the respondents and institutions, several ethical considerations were followed. The most critical ethical issues addressed in this study were gaining access to research sites, informed consent, and confidentiality. For the researcher to access the research sites and engages with the study's respondents, formal written permission and approval from the gatekeepers were requested prior to the start of the study. To ensure that respondents had an explicit understanding of the research and the risks involved in participating, respondents were required to read and sign a consent form. Only respondents who voluntarily agreed to participate in the study were contacted for classroom observations. The respondents of this study were also well-informed about this confidentiality issue.

Results

The results of both data collection tools are presented in Table 3 and Table 4 respectively, to show the relationships in these teachers' activity systems. The study unfolded a plethora of cognitive contradictions in the activity systems of EFL teachers' grammar teaching at different levels, as shown in the following tables.

Table 3

Descriptive Statistics of Arab and Non-Arab EFL Teachers' Perceptions and Practices in Grammar Teaching

	Questionnaire					Classroom Observation				
	Arab		Non-Arab		*F	Arab			Non-Arab	
	M	SD	M	SD		*O	*N	F	O	N
Traditional teaching	2.10	.556	2.26	.664	50%			25%	25%	
Task-based teaching	4.15	.882	4.16	.546		50%				50%
Deductive approach	2.23	.993	2.14	1.16	50%			50%		
Inductive Approach	4.21	.525	4.26	.622		50%				50%
Focus on Forms	2.17	.999	2.12	1.06	50%			50%		
Focus on Function	4.26	.444	4.26	.684		50%				50%
Intensive grammar teaching	3.00	.981	3.05	1.25		50%				50%
Errors indicate students' learning	3.89	.794	4.21	.810		50%			25%	25%
Only teacher-correction	2.16	.878	2.27	1.00	50%			50%		
Encourage Peer correction	3.92	1.32	3.88	1.28		50%				50%
Ineffectiveness of the English-only approach	3.26	.973	3.25	1.15	50%				50%	
L1-use due to students' preference	1.84	1.04	3.93	.859	50%				50%	

*F: Frequently *O: Occasionally *N: Never

For item no 1, Table 3 and Table 4 demonstrate that most teachers, irrespective of gender and ethnicity, do not follow the more traditional presentation, practice, and production (PPP) approach of grammar teaching, which is considered a meaning-impoverished methodology. It is teacher-centered and assumes that accuracy precedes fluency. Moreover, for item 2, all groups of teachers (Means=4.15 and 4.16 for Arab and non-Arab; Means= 4.18 and 4.10 for male and female) believe in task-based grammar teaching, assuming that students may learn grammar more effectively when they focus on communicative tasks. Results of classroom observation contradict their beliefs about using traditional methods and task-based grammar teaching. All teachers in each group practiced PPP approach occasionally or frequently, and task-based teaching was thoroughly missing in the classrooms of the observed teachers.

The means of item 3 (Means=2.23 and 2.14 for Arab and non-Arab; Means= 2.13 and 2.04 for male and female) and item 4 (Means=4.21 and 4.26 for Arab and non-Arab; Means= 4.31 and 4.36 for male and female) show that high level of teachers believe in bottom-up inductive approach and do not follow top-down deductive approach. However, results of classroom observation show disharmony between these teachers' perceptions and practices. Table 3 and Table 4 reveal that all teachers practiced the deductive approach, and no one

followed the inductive approach. It reflects a teacher-focused approach in Saudi Arabia. It further demonstrates that teachers' classroom practices align with traditional methods of grammar teaching.

Table 4

Descriptive Statistics of Male and Female EFL Teachers' Perceptions and Practices in Grammar Teaching

	Questionnaire				Classroom Observation					
	Male		Female		Male			Female		
	M	SD	M	SD	F	O	N	F	O	N
Traditional teaching	2.20	.656	2.16	.564	12.5%	37.5%		12.5%	37.5%	
Task-based teaching	4.18	.652	4.10	.646			50%			50%
Deductive approach	2.13	.993	2.04	1.16	25%	25%		25%	25%	
Inductive approach	4.31	.525	4.36	.622			50%			50%
Focus on Forms	2.10	.999	2.02	1.06	50%			50%		
Focus on function	4.36	.444	4.29	.684			50%			50%
Intensive grammar teaching	3.19	.782	3.15	1.24			50%			50%
Errors indicate students' learning	3.89	.794	4.21	.810		12.5%	37.5%		12.5%	37.5%
Only teacher-correction	2.21	.878	2.38	1.00	50%			50%		
Encourage peer correction	3.98	1.31	3.89	1.27			50%			50%
Ineffectiveness of the English-only approach	3.19	1.02	3.36	1.16	25%	25%		25%	25%	
L1-use due to students' preference	3.85	1.14	3.83	.869	25%		25%	25%		25%

The means of items 5 and 6 (Means=4.26 and 4.26 for Arab and non-Arab; Means=4.36 and 4.29 for male and female) indicate that teachers believed in focus on function approach. Fewer teachers followed the focus on forms approach (Means=2.17 and 2.12 for Arab and non-Arab; Means=2.10 and 2.02 for male and female). However, during classroom observations, it was found that respondent teachers concentrate on focus on forms approach exclusively and neglect the focus on function approach entirely.

Majority of respondent teachers believe in teaching English grammar intensively (Means=3.00 and 3.05 for Arab and non-Arab; Means=3.15 and 3.19 for male and

female). This shows that they address a single grammatical structure in a single lesson or series of lessons. Nevertheless, again, during the classroom observations, no match was found between what they said and what they practiced. None of the teachers was found practicing intensively, meaning they all teach grammar extensively.

The results of items 8, 9, and 10 display what EFL teachers think about errors and what they really do. Arab and non-Arab (Means= 3.89 and 4.21), and male and female (Means=3.89 and 4.21) teachers view learners' errors as an integral part of language learning (item 8). However, when observed, Arab teachers were inflexible towards errors committed by students compared to non-Arab EFL teachers. Therefore, they believed these errors should be corrected by the teacher or by their peers. Nonetheless, fewer teachers think that teachers should correct students' errors (Arab and non-Arabs: Means=2.16 and 2.27, male and female: Means= 2.21 and 2.38). However, many teachers think that they should be corrected by their peers, i.e., students (Arab and non-Arabs: Means=3.92 and 3.88, male and female: Means=3.98 and 3.89).

Comparing the results of classroom observations with those of teachers' stated beliefs, as shown in Tables 3 and 4, it seems that teachers are theoretically convinced of peer correction. In reality, it is the teachers who correct errors in the classroom instead of the students themselves or their peers.

The means of the penultimate item 11 reveals that most Arab and non-Arab (Means=3.26 and 3.25) and male and female (Means=3.19 and 3.36) EFL teachers believe that English-only approach is not effective for teaching grammar in the Saudi Arabian context. Although some teachers favor English-only classes, they must use Arabic (the students' mother tongue) because students prefer it (item 12). Most non-Arab EFL teachers (Means =3.93) and male and female teachers (Means =3.85 and 3.83) opined the same; only a few Arab EFL teachers disagreed with this view (Means =1.84).

Following their responses to the survey, Arab and non-Arab EFL teachers' practices contrasted sharply with their beliefs. For example, Arab and non-Arab EFL teachers frequently used English while teaching. Male and female EFL teachers also used only English. Observers noticed that male and female teachers had to use L1 because of the student's preferences. However, almost half of the male and female teachers avoided the English-only approach.

Discussion

The results of the study highlight prominent cognitive contradictions in how EFL teachers, Arab and non-Arab, as well as male and female, perceive and handle grammar instruction. These contradictions can be analyzed using Engeström's framework of Activity Theory, which is based on Vygotsky's sociocultural theory. Engeström's framework, comprising six elements, i.e., subject, object, tools, rules, community, and division of labor, explains these contradictions as follows.

Teachers in the study believe that task-based grammar teaching, inductive approach, focus on function approach, and peer correction are effective methods for teaching grammar. However, their practices show that they rely more on traditional methods, such as PPP, deductive approach, focus on forms approach, and teacher correction.

Also, the physical tools incorporated by respondent teachers comprise computers, textbooks, and worksheets, and the cognitive tools were their pedagogical beliefs, L1-use, and classroom practices in EFL grammar teaching. However, the study found that classroom activities resulting from teachers' input and students' output do not align with the teachers' pedagogical beliefs and L1-use of effective grammar teaching methods. Moreover, the objective of teaching grammar in the Saudi Arabian context is to enhance students' accuracy and fluency. However, the study discovered that the teachers' beliefs about achieving this goal differ from their actual classroom practices.

Additionally, the curriculum and assessment standards in the Saudi Arabian educational system might impose specific requirements for EFL grammar teaching that emphasize accuracy over fluency and communication. Such rules might constrain the teachers' practices, leading them to use more traditional methods despite their beliefs in more communicative approaches. Besides, the social and institutional context in which the teachers operate may also contribute to the cognitive contradictions. If colleagues, policy makers, or parents reinforce the importance of traditional grammar teaching methods, teachers might feel pressure to conform to these expectations, even if they contradict their own beliefs. Finally, the distribution of responsibilities and tasks related to grammar teaching among different stakeholders in the educational system might also influence teachers' practices. For instance, if various stakeholders involved in the educational system see in different directions and have different choices, it becomes impossible for the teachers to create a conducive learning atmosphere. Resultantly, teaching and learning context becomes detrimental for the teachers and the taught. Furthermore, the cognitive contradictions revealed by the data in the activity systems of EFL teachers in teaching grammar can be classified within the activity systems of Engeström's fourth principle of Contradictions and its sub-principles as follows:

The primary cognitive contradictions identified in teachers' perceptions are contradictory to their actual classroom practices. Although they advocate communicative tasks, inductive approach, and focus on functions approach, their classroom observations reveal a contrasting picture. They mainly tend to practice traditional, deductive methods focusing on forms. They showed intolerance towards errors and discouraged peer correction contrary to their beliefs. This dichotomy indicates a gap in EFL teachers' beliefs of effective grammar instruction and their actual classroom practices. To fill the gap between TC and classroom practices, it is paramount to examine the factors responsible for the difference. Potential factors such as institutional anticipations, assessment essentials, shortage of resources, and few opportunities for professional growth may influence teachers to employ traditional approaches, even if they personally approve alternative methods. Moreover, continuous professional development needs to be implemented to provide teachers with the necessary knowledge, skills, and resources to achieve their visions effectively.

The study also pictures the opposing beliefs within an individual's belief system. EFL instructors' contradictory beliefs about the teaching of grammar can create confusion and make their instructional practices inconsistent. Those who support function-based and intensive grammar teaching approaches may not strike a balance between these two perspectives in their classroom instruction. To address this issue, a

more in-depth investigation of instructors' underlying beliefs, values, and pedagogical principles is needed. Motivating teachers to introspection and self-reflection about this discrepancy, and having professional dialogues may help them identify inconsistencies. Resultantly, it may work towards a more coherent and integrated understanding of effective grammar instruction.

In this study, respondent EFL teachers come from different strata: Arabic speaking, non-Arabic speaking, male, and female teachers. The polarities observed in their beliefs and practices, for example, the use of L1 (Arabic), underscore the effect of their socio-psychological, cultural, and linguistic standpoints on decision-making. Arab and non-Arab EFL instructors may disagree on the suitability and scope of using students' L1 in the EFL classroom, which leads to divergences in teaching approaches. However, with an inclusive and collaborative professional learning community, this issue may be addressed. Another way is to share experiences and promote dialogue among all teachers with different backgrounds, which may be beneficial. Developing a shared understanding of effective language instruction can promote effective pedagogical strategies and foster a supportive and inclusive learning environment.

The cognitive contradictions in teachers' activity system at the secondary level are rather extensive. They influence the activity system in significant ways because all actions in the activity system are directed towards the Object. The interactions between two components involve specific actions. These actions are directed towards the Object of the activity system to enhance students' proficiency level in EFL grammar by subjects (EFL grammar teachers). It is executed through the mediation of cognitive tools and tertiary tools (rules, Community, and division of labour). Tensions between the two components impact teachers' actions toward the outcome. These secondary contradictions are particularly important in the teachers' activity system. The transformation of teachers' current activity system into a new and productive one is only possible after resolving these secondary contradictions.

Another form of secondary contradiction emerged between the subject and cognitive tools. The subjects (Arab plus non-Arab EFL instructors) contradict the cognitive tool of L1-use. Data from questionnaire and classroom observation reveal that non-Arab EFL teachers use Arabic because of students' preferences. However, Arab EFL teachers use Arabic not because of students' choice but it is on their own wish list. It implies that, in the realm of English as a foreign language teaching, Arab educators promote the extensive utilization of students' native language, while their non-Arab counterparts advocate for its restricted, careful, and methodical use.

In conclusion, addressing the primary and secondary contradictions within the EFL teacher activity systems requires a comprehensive and multi-faceted approach. This involves promoting reflective practice, providing targeted professional development, fostering collaborative learning communities, and aligning institutional policies and resources with teachers' beliefs and practices. By resolving these contradictions, the activity system can be transformed into a more cohesive and effective framework for promoting students' proficiency in EFL grammar.

The findings of the study present a true picture of the cognitive contradictions in the EFL teachers' activity systems at various levels within the framework of AT. The cognitive contradictions within teachers' perceptions, between teachers' perceptions and practices, among the various stakeholders, and among all components victimize not only EFL teacher cognition in grammar teaching but also weaken their students' proficiency in English grammar. The findings reveal traditional grammar teaching approaches prevail in the classrooms, contrary to what teachers perceive, and also against the expectations of the policy makers. The cognitive contradictions in teachers' activity systems at primary and secondary level are prominent and extensively influencing EFL grammar teaching and learning in significant ways. However, acknowledging the contradictions may lead to expansive transformation in EFL teachers' activity systems resulting in a conducive teaching and learning atmosphere.


Conclusion

This study uncovers prominent contradictions within the activity systems in which EFL grammar teacher cognition operates through the lens of Activity Theory. The contradictions that emerged within EFL teachers' beliefs, practices, cognition, and context negatively affected the outcome of the activity. Resultantly, EFL grammar proficiency of their students remains the victim. Exploring relationships in the activity system of EFL grammar teachers, and subsequently identifying contradictions in the relationships is not a cause for concern. It is only through uncovering these contradictions that the transformation process can be started through expansive learning and reformulation of the activity system. Revealing contradictions is only the starting point, but the ultimate objective is to instigate productive changes in the system in order to address these contradictions. Several contradictions in the activity system of teachers indicate unstable teaching and learning processes in the Saudi Arabian educational landscape, representing the accurate picture of the Saudi educational context. Teachers are cognitively imbalanced, and suffer from contradictions within themselves and with cognitive tools. Eventually, they experience a lack of harmony with the other stakeholders in the tertiary tools, that is, context. Thus, it influences the Object negatively, resulting in low proficiency level of the students. However, acknowledging contradictions in the activity system by the potential parties involved can transform the activity system, leading to productive changes. The presence of these contradictions signifies the importance of improving the cognitive processes of EFL teachers within their current educational context. Engeström (1987, 2001) suggests that expansive transformation is key to improving an activity. To initiate expansive transformation, it is crucial to first identify and analyze the contradictions present in the activity system, and then acknowledge their existence. As a result, stakeholders would replace the old activity system with a new one to bring changes conducive to EFL teaching and learning. This study was conducted with certain limitations. The number of teachers for classroom observations was limited. Further studies can be undertaken to enhance comprehensive data through interviews and more classroom observations. Moreover, this study is limited to unraveling prominent cognitive contradictions in the activity system of EFL teachers' grammar teaching; future studies can focus on expansive

transformations in the activity system of EFL teachers based on the contradictions revealed through empirical data. As a result, the old activity system of EFL teacher cognition in grammar teaching can be replaced by a more productive one.

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References

- Ahmad, I., Hussain, M. S., & Radzuan, N. R. M. (2017). Teachers' beliefs versus learners' beliefs in grammar teaching: Harmonizing teaching and learning for adult learners' improved proficiency in English. *International Journal of Applied Linguistics & English Literature*, 6(7), 130-142. <http://dx.doi.org/10.7575/aiac.ijalel.v.6n.7p.130>
- Ahmad, I., Hussain, M. S., & Radzuan, N. R. M. (2018). Use of first language in the classroom: Non-native EFL teachers' beliefs in teaching English to adult learners in bilingual context. *Arab World English Journal*, 9(2), 186-199. <https://dx.doi.org/10.24093/awej/vol9no2.13>
- Ahmad, I. (2018). Teacher cognition and grammar teaching in the Saudi Arabian context. *English Language Teaching*, 11(12), 45-57. <https://doi.org/10.5539/elt.v11n12p45>
- Al-Seghayer, K. (2011). *English teaching in Saudi Arabia: Status, issues, and challenges*. Hala Print Co.
- Anthony, A. B. (2012). Activity theory as a framework for investigating district-classroom system interactions and their influences on technology integration. *Journal of Research on Technology in Education* 44(4), 335-356. <https://files.eric.ed.gov/fulltext/EJ976472.pdf>
- Ary, D., Jacobs, L. C., Sorensen, C. K., & Walker, D. A. (2019). *Introduction to research in education* (Tenth edition. student). Cengage.
- Aziz, A. A., Hassan, M. U., & Hamza, M. H. B. (2023). Lawful Instruction of Using Cali for Higher Secondary Level Students in Pakistan: The Post Covid-19 Context. *Russian Law Journal*, 11(7s), 395-405. <http://dx.doi.org/10.52783/rlj.v11i7s.1229>
- Başar, S. (2020). Teacher cognition in grammar teaching: A case study in a Turkish EFL context. *International Journal of Modern Education Studies*, 4(2), 57-80. <http://dx.doi.org/10.51383/ijonmes.2020.51>
- Borg, S. (2018). Evaluating the impact of professional development. *RELC Journal*, 49(2), 195-216. <https://doi.org/10.1177/0033688218784371>
- Borg, S. (2003). Teacher cognition in grammar teaching: A literature Review. *Language Awareness*, 12(2), 96-108. <https://doi.org/10.1080/09658410308667069>.
- Borg, S. (2015). *Teacher cognition and language education: Research and practice*. (Bloomsbury Classics in Linguistics). Bloomsbury Academic.
- Camargo-Henriquez, I., & Silva, A. (2022). An activity theory-based approach for context analysis, design and evolution. *Applied Sciences*, 12(2), 920. <https://doi.org/10.3390/app12020920>

- Cooper, H., & Hedges, L. V. (2012). *The handbook of research synthesis*. Russel Sage Foundation.
- Creswell, J. W., & Poth, C. N. (2023). *Qualitative inquiry and research design: Choosing among five approaches* (5th ed.). Sage.
- Creswell, J. W., & Guetterman, T. C. (2021). *Educational research: planning conducting and evaluating quantitative and qualitative research* (6th ed. global). Pearson.
- Denzin, N. K. (2012). Triangulation 2.0. *Journal of Mixed Methods Research*, 6(2), 80-88.
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative and mixed methodologies*. Oxford University Press.
- Engeström, Y. (1987). *Learning by expanding: An activity theoretical approach to development research*. Orienta-Konsultit.
- Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical conceptualization. *Journal of Education and Work*, 14(1), 133-156.
- Farrelly, R. E. (2012). *Emerging from the echo chamber: An activity theory perspective on L2 teachers of adult emergent readers* [Unpublished doctoral dissertation]. The University of Utah, United States.
- Fraenkel, J., Wallen, N., & Hyun, H. (2022). *How to design and evaluate research in education*. (10th ed.). McGraw-Hill.
- Griffiee, D. T. (2012). *An introduction to second language research methods: Design and data*. TESL-EJ Publications.
- Guo, K., Li, Y., Li, Y. & Chu, S. K. W. (2024). Understanding EFL students' chatbot-assisted argumentative writing: An activity theory perspective. *Education and Information Technologies*, 29, 1–20. <https://doi.org/10.1007/s10639-023-12230-5>
- Harvey, F., Nilsson, P. (2022). Contradictions and their manifestations in professional learning communities in mathematics. *Journal of Mathematics Teacher Education*, 25, 697–723. <https://doi.org/10.1007/s10857-021-09513-4>
- Hashim, N. H., & Jones, M. L. (2007, September 3-5). Activity theory: A framework for qualitative analysis [Paper presentation]. *4th International Qualitative Research Convention (QRC)*. PJ Hilton, Malaysia.
- Javid, C. Z., Farooq, U., & Gulzar, M. A. (2012). Saudi English-major undergraduates and English Teachers' perceptions regarding effective ELT in the KSA: A comparative study. *European Journal of Scientific Research*, 85(1), 55-70.
- Khan, I. A. (2011). The teacher of English: Pedagogic relevance in Saudi Arabia. *English Language Teaching*, 4(2), 112–120. <https://doi.org/10.5539/elt.v4n2p112>.
- Kim, E. (2011). Ten years of CLT curricular reform efforts in South Korea: An activity theory analysis of a teacher's experience. In K. E. Johnson & P. R. Golombek (Eds.), *Research on second language teacher education: A sociocultural perspective on professional development*. (pp. 225–238). Routledge.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30, 607-610.
- Li, J. (2012). *University tutors' beliefs about and practices in assessing undergraduates' writing- A New Zealand case study* [Unpublished doctoral dissertation]. The University of Waikato, New Zealand.
- Li, Li. (2020). *Language teacher cognition: A sociocultural perspective*. Palgrave Macmillan.
- Machaal, B. (2012). The use of Arabic in English classes: A teaching support or a learning hindrance? *Arab World English Journal*, 3(2), 194–232.
- Mastandrea, A. (2012). *Language teacher beliefs in context: An activity theoretical approach* [Unpublished doctoral dissertation]. The University of Hawaii, USA.
- Narayanan, S.C., Emad, G.R. & Fei, J. (2023). Theorizing seafarers' participation and learning in an evolving maritime workplace: an activity theory perspective. *WMU Journal of Maritime Affairs*, 22, 165–180. <https://doi.org/10.1007/s13437-023-00311-8>
- Nasim, S. M. (2022). Metacognitive listening comprehension strategies of Arab English language learners. *Education Research International*, 1-7. <https://doi.org/10.1155/2022/9916727>
- Nasim, S. M., Mujeeba, S., AlShraah, S. M., Khan, I. A., Amir, & Ali, Z. (2024). Exploring pedagogical perspectives of EFL instructors: advantages, disadvantages, and implications of Blackboard as an LMS for language instruction. *Cogent Social Sciences*, 10(1). <https://doi.org/10.1080/23311886.2024.2312659>
- Oranje, J., & Smith, L. F. (2017). Language teacher cognitions and intercultural language teaching: The New Zealand perspective. *Language Teaching Research*, 22(3), 1-20. <https://doi.org/10.1177/1362168817691319>
- Rahman, M., & Alhaisoni, E. (2013). Teaching English in Saudi Arabia: Prospects and challenges. *Academic Research International*, 4(1), 112-118.
- Rahnuma, N. (2023). Exploring ESL students' experiences of academic writing in higher education- a cultural historical activity theory perspective. *Education Inquiry*, 1–23. <https://doi.org/10.1080/20004508.2023.2222450>

- Ren, B., & Zhu, W. (2023). A Chinese EFL student's strategies in graduation thesis writing: An Activity Theory perspective. *Journal of English for Academic Purposes*, 61, 101202. <https://doi.org/10.1016/j.jeap.2022.101202>
- Sang, Z. (2023). Towards a methodology for translation activity: an activity theory approach. *Asia Pacific Translation and Intercultural Studies*, 10(3), 244–258. <https://doi.org/10.1080/23306343.2023.2285175>
- Seliger, H. W., & Shohamy, E. (2015). *Second language research methods*. Oxford University Press.
- Setoodeh, K., Jadidi, E., & Rassaei, E. (2020). An in-depth exploration of EFL teacher's grammar teaching cognition. *International Journal of Language Education*, 4(2), 309-321. <https://doi.org/10.26858/ijole.v4i2.13935>
- Shah, S. R., Hussain, M. A., & Nasseef, O. A. (2013). Factors impacting EFL teaching: An exploratory study in the Saudi Arabian context. *Arab World English Journal*, 4(3), 104–123.
- Soleimani, N., & Rahimi, M. (2021). (Mis) Alignment of Iranian EFL Teachers' Written Corrective Feedback beliefs and practices from an Activity Theory Perspective. *Cogent Education*, 8(1). <http://dx.doi.org/10.1080/2331186X.2021.1901640>
- Storch, N., & Sato, M. (2019). Comparing the same task in ESL vs. EFL learning contexts: An activity theory perspective. *International Journal of Applied Linguistics*, 30(1), 50-69. <https://doi.org/10.1111/ijal.12263>
- Tasker, T. (2011). Teacher learning through lesson study: An activity theoretical approach toward professional development in the Czech Republic. In K. E. Johnson & P. R. Golombek (Eds.), *Research on second language teacher education: A sociocultural perspective on professional development* (pp. 204–221). Routledge.
- Yamazumi, K. (2009). Expansive agency in multi-activity collaboration. In A. Sannino, H. Daniels, & K. D. Gutierrez (Eds.), *Learning and expanding with activity theory* (pp. 228–239). Cambridge University Press.
- Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies*, 3(2), 254–162. <https://doi:10.4304/tpls.3.2.254-262>