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The effect of concept checking questions on Iranian EFL learners' vocabulary, grammar, and motivation

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Abstract

Employing the technique known as Concept Checking Question, teachers of English as a foreign language can identify those individuals who face difficulties with the material and ascertain whether or not supplementary practice is required. Nevertheless, the full extent of CCQ's impact on various language skills and systems remains to be fully explored, particularly in the context of Iran. Consequently, the present study aims to examine the impact of CCQ implementation on the vocabulary, grammar, and motivation of intermediate Iranian EFL learners. To achieve this, 36 intermediate EFL learners were recruited from a private language institute in Kerman, Iran. Employing a quasi-experimental design, the participants were divided into an experimental class of 17 and a control class of 19. Data were collected through the application of the Oxford Placement Test, a lexis test, a grammar test, and a motivation questionnaire. The results of independent samples t-tests suggest that the CCQ class demonstrated significantly better performance in terms of lexis and grammar improvement when compared to the control class. Furthermore, a chi-square test revealed a significant association between CCQ implementation and the motivation of intermediate EFL learners. The results of this study may be beneficial for educators and other stakeholders who wish to incorporate CCQs into language classes as a means of enhancing grammar, lexis, and motivation.

Keywords: Concept checking questions; EFL Learners; grammar; lexis; motivation

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1. INTRODUCTION

In contemporary times, an increasing number of individuals are exhibiting an inclination towards learning the English language due to a multitude of lucid reasons. They seek to acquire proficiency in English expeditiously and fruitfully to attain their objectives. Furthermore, apart from the endeavors of language learners, the most consequential factor in this process is the caliber of language teachers. As noted by Blömeke et al., (2022), and Fan (2022) teacher quality, which encompasses their pedagogical techniques and the methodologies they implement in the classroom, exerts a momentous impact on the success and learning accomplishments of learners. Although some language institute managers and policymakers still adhere to the belief that great teachers are born, recent findings contradict this assertion and reveal that effective teacher training and professional development courses can engender great teachers through efficacious learning and feedback mechanisms (Candal, 2015; Ghiasvand et al., 2023).

Consequently, thriving language institutes and proficient language teachers must keep abreast of the latest research and innovations, and update their beliefs, attitudes, and practices to comprehend and enhance educational processes. This will prove advantageous for both teachers and learners. One technique that has been recently proposed and utilized by language teachers, and which has been reported to have an impact on learners' learning performance, is the concept checking question (CCQ) (Thornbury & Watkins, 2007; Florkowska, 2018). CCQs are questions that teachers use to assess learners' true understanding, thus allowing them to identify those who may be struggling with the material and determine whether additional practice is necessary (Derakhshan & Ghiasvand 2022).

Lexis and grammar are considered to be two crucial language systems, serving as the foundation for every language, and directly impacting the improvement of the four language skills. Without mastering these two key elements, learners would not be able to develop their language skills, thus hindering their language achievement. Language researchers and teachers have introduced and implemented various techniques to facilitate and enhance learners' lexis and grammar development, among which CCQs have been found to have an impact on these two language systems' development. Furthermore, numerous studies have focused on learners' motivation to learn English, as motivated learners are known to learn more actively and effectively. Thus, implementing CCQs in English classes may enhance learners' motivation to learn.

A thorough examination of the pertinent literature on the influence of concept-checking questions (CCQs) on diverse language skills and systems indicates that this subject has not been adequately researched, possibly due to the recent introduction and use of this technique by language educators. The sole instances of empirical investigations into the impact of CCQs on language skills and systems were conducted by Hadi et al., (2021) in the area of reading comprehension, Barghi (2014) in lexis, Demetgül (2019) in language skills and systems, Kargar and Divsar (2019) in grammar, Ivanovna (2020) in vocabulary and grammar, and Nugraha (2017) in reading, vocabulary, and grammar. All of these studies concluded that CCQs are significant. Additionally, no research has been conducted to explore the potential for CCQs to enhance EFL learners' motivation. Consequently, given the limited research available on the influence of concept-checking questions on language learners' lexis, grammar, and motivation, particularly within the Iranian context, further investigation is warranted.

1.1. Literature review

Feedback is an essential component for the enhancement of learners' fundamental knowledge and competencies. Furthermore, it plays a significant role in augmenting the achievements and proficiency of English as a Foreign Language students. This, in turn, may result in heightened levels of motivation. Therefore, the provision of feedback is a crucial factor in fostering motivation for learning (Xie & Liu 2024). Black and William (1998) have identified two types of feedback: directive feedback, where the teacher provides guidelines and explanations, and facilitative feedback, in which learners are guided to develop their own language-learning practices.

Concept-checking questions is a technique that language teachers employ to provide feedback. As suggested by Workman (2008), "concept checking involves checking for understanding of difficult aspects of the target structure in terms of function and meaning" (pp. 6-7). The use of this technique indicates to teachers that learners have comprehended the material thoroughly. Asking questions such as "Do you understand?" or making remarks such as "OK" are unlikely to elicit an honest response from all learners and, thus, do not achieve the goal of checking learners' understanding. In other words, learners may believe that they have understood something correctly when they have not, or they may be reluctant to admit that they do not understand something for fear of ridicule. Workman (2008) provides several rules for using CCQs when teaching English, including planning CCQs, posing simple questions, using a variety of CCQ formats, and considering vocabulary usage.

The technique of concept-checking questions is closely linked to various models, approaches, and hypotheses, among which the interaction hypothesis, comprehensible input, comprehensible output, and negotiation of meaning are the most significant. According to Long (1996), and Hu & Wang (2023) the development of language proficiency is facilitated by face-to-face interaction and referential and display questions in communication. As willingness to interact and communicate helps in the development of language proficiency also (Anani Sarab & Jabbarzadeh Sani 2024). Through the employment of display and referential concept-checking questions, language teachers can ascertain whether learners have comprehended the input. Furthermore, such questioning technique leads to increased student talking time and interactivity, thereby enhancing the quality of output.

Although there has been significant theoretical discussion on the impact of concept-checking questions on language learning, language skills, and systems, there remains a dearth of relevant empirical studies in this area. To address this gap, Hadi et al., (2021) undertook an experimental investigation to examine if concept checking questions affect reading comprehension of language learners in the context of Iraq. The results demonstrated that the employment of CCQs had a marked impact on the enhancement of reading comprehension proficiency of the learners. Similarly, Kargar and Divsar (2019) conducted an experimental investigation to ascertain the effect of concept-checking questions on the grammatical proficiency of English as a foreign language learner. The results of the study indicated that the employment of CCQs was beneficial in improving the grammatical abilities of English as a Foreign Language learners. In a study conducted by Florkowska (2018), the employment of CCQs by CELTA trainers as well as trainees was examined. Moreover, CCQs influence learning development at two levels of English proficiency, namely pre-intermediate and advanced were assessed. Concerning the suitability of concept-checking questions for students at different proficiency levels, a majority of views expressed disagreement which might be explained by teachers' academic educations and training, teaching experience, and attitudes. Moreover, it was ascertained that the adverse consequences of concept-checking questions might be alleviated by employing referential questions which have been empirically demonstrated to have an advantageous impact on language learning.

Nugraha's (2017) investigation confirmed the positive impact of CCQs on cadets' vocabulary, grammar, and reading comprehension improvement. Moreover, Barghi's (2014) experimental study aiming to explore the effects of Concept Checking Questions as well as Use Questions on vocabulary retention and accuracy of language learners, revealed that participants who experienced CCQ intervention had relatively improved lexical learning and accuracy compared with those who did not. Therefore, it was concluded that CCQs and UQs significantly impacted learners' lexis development.

1.2. Purpose of study

The outcomes of this study could benefit language institutes and schools, supervisors, researchers, educators, language teachers, teacher trainers, and curriculum designers. A greater understanding of the effects of concept-checking questions on the improvement of EFL learners' lexis, grammar, and

motivation may facilitate and deepen the language learning process. This study endeavors to examine and provide insights into three distinct research questions as enumerated below:

Q1. What is the influence of incorporating concept-checking questions on EFL learners' lexis development?

Q2. What is the influence of incorporating concept-checking questions on EFL learners' grammar development?

Q3. What is the influence of incorporating concept-checking questions on EFL learners' motivation improvement?

2. METHODS AND MATERIALS

2.1. Research design

The current investigation aimed to ascertain the effects concept checking questions might have on the two language systems, namely lexis and grammar, as well as EFL learners' motivation. To this end, a quasi-experimental design was utilized to establish the association between concept-checking questions as an independent variable, and lexis, grammar, and motivation as the three dependent variables in this study. As such, the participating language learners were assigned to experimental and control classes. The learners in the experimental class underwent concept-checking questions as the treatment. Regarding the context of this study, the subjects were recruited from a private English language institution in Kerman, Iran.

2.2. Participants

The participants included 40 Iranian intermediate EFL learners. It is pertinent to note that after administering OPT to ascertain the actual and desired level and homogeneity of the participants, four learners were excluded. Consequently, the sample comprised 36 intermediate learners. The participants encompassed 16 males and 20 females. The learners, who were selected through a convenient sampling procedure, were roughly aged between 18 and 25 (M= 21) and had registered at a private English language institute in Kerman, Iran. The language learners were assigned an experimental class (N = 17) and a control class (N = 19).

2.3. Data collection instruments

The current investigation utilized four testing materials including (1) Oxford Placement Test (2) Cambridge intermediate vocabulary for IELTS test, (3) a researcher-made intermediate grammar test, as well as (4) a motivation test.

2.3.1. Oxford placement test

The objective of this investigation was to study the influence of employing CCQs on the lexis, grammar, and motivation development of intermediate language learners. To achieve this objective, the researchers utilized OPT (Allen, 2004) to accurately determine the participants' proficiency level, which was deemed intermediate. This test consists of 200 multiple-choice questions, including listening, structure, and vocabulary sections, and was time-limited to 100 minutes. According to (Allen, 2004), the validity and internal consistency of OPT have been extensively evaluated. As the test results indicate, the intermediate level corresponds to scores ranging from 120 to 149. Furthermore, the researchers confirmed the entire test's reliability by calculating Cronbach's alpha, 0.79.

2.3.2. Lexis test

After ensuring the homogeneity of the participants concerning their level, determined by OPT, a lexis assessment was conducted to evaluate the intermediate learners' knowledge of lexis. The aforementioned assessment consisted of 30 multiple-choice questions and was administered within a 30-minute time frame. The source material for the test was the intermediate Cambridge Vocabulary for IELTS book authored by Pauline Cullen (2008). Following the administration of the pre-tests and

treatment, the same IELTS lexis evaluation was utilized at the end of the study to ascertain whether significant variances could be observed comparing the control and experimental classes' scores. While the assessment was derived from a standardized source, namely the intermediate Cambridge Vocabulary for IELTS book by Cullen (2008), its reliability and validity were examined and found to be acceptable. Specifically, a panel of experts evaluated the content validity of the assessment. To gauge the internal consistency of the vocabulary assessment, Cronbach's alpha was used, 0.76.

2.3.3. Researcher-made grammar test

The investigation employed a research-made grammar assessment tool which was formulated based on the intermediate-level English grammar presented in Murphy's 5th edition book (2019) to assess language learners' grammar knowledge at the beginning of the study as a pre-test. The assessment included a set of 45 MC questions, and the learners were given 45 minutes to complete it. The same grammar assessment was administered after the CCQ treatment at the end of the study to establish any significant differences between the control and experimental classes. The test's validity was analyzed by three TEFL university instructors, and after some modifications, it was deemed acceptable. Furthermore, the research utilized Cronbach's alpha to evaluate the internal consistency of the grammar test, 0.75.

2.3.4. Motivation questionnaire

To assess the motivation levels of intermediate EFL learners, a questionnaire derived from a motivation model by Laine (1988) was implemented. The questionnaire comprises 36 items and employs a 5-point Likert Scale in which 1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, and 5 = strongly disagree. Both the experimental and control groups were administered the motivation instrument before and after the treatment. According to Rahimi et al., (2008), the internal consistency of the questionnaire was deemed satisfactory and produced a satisfactory coefficient of 0.80. In the current investigation, the researcher utilized Cronbach's alpha to evaluate the test's reliability which was found to have a satisfactory level of consistency, 0.78.

2.4. Data collection procedure

To achieve the objectives of this investigation, 40 intermediate English as a foreign language students were selected from a private English language institution in Kerman, Iran. After the administration of OPT (Allen, 2004), 36 learners were identified as true intermediate learners and were recruited in this investigation. Next, the selected language learners were assigned to two classes of experimental (N=17) control (N=19). Before beginning the research, both groups undertook three pretests consisting of a lexis test, a grammar test, and a motivation questionnaire. The teaching materials used for the study included the Intermediate Cambridge Vocabulary for IELTS book, designed for intermediate learners and written by Cullen (2008), and Intermediate English Grammar in Use, 5th edition, by Murphy (2019). The lexis and grammar classes comprised 10 sessions each, and the data collection phase spanned 3 months. It is noteworthy that the first 10 and 20 lessons of the lexis and grammar books, respectively, were selected for teaching.

Language learners in the control class experienced conventional methods of lexis instruction, which included engagement, meaning, pronunciation, and form, followed by written and oral exercises, and lastly, the activation phase was carried out. The learners in the control class were asked to report any problems they faced. On the other hand, the CCQ group's participants underwent the same procedure as the control class, except that concept-checking questions (CCQs) were incorporated, and the subjects were asked some concept-checking display and referential questions. Finally, after the completion of the treatment, the post-tests (the same lexis and grammar tests used before the treatment) were administered to assess the subjects' learning, and if the language learners' grammar and vocabulary scores in the control and CCQ classes significantly differed. Additionally, the

same motivation questionnaire was administered to determine changes in the learners' motivation towards language learning.

2.5. Data analysis

The current investigation encompasses three dependent variables, namely EFL learners' lexis, grammar, and motivation, as well as an independent variable, concept-checking questions. The experimental groups utilized CCQs, while the control group did not. Subsequently, an independent samples t-test was utilized to examine (1) if learners in both classes were homogenous in terms of grammar and vocabulary knowledge at the beginning of the study and (2) if there was a significant variance between the control and experimental groups' pretests and posttests, after ensuring normality distribution. Furthermore, to gauge the learners' improvement within the groups, the researcher used a paired t-test. Additionally, a chi-square test of independence was utilized to determine (1) if the learners were motivationally homogenous in both groups before the instruction and (2) if there was a meaningful difference between the control and experimental classes' pretests and posttests in terms of language learners' motivation level. To assess the learners' motivation progression within the groups, McNemar's chi-square test was employed. It is worth mentioning that the researcher used Cronbach's alpha to determine if this investigation's instruments were reliable.

3. RESULTS

3.1. RQ1. What Is the Influence of Incorporating Concept-Checking Questions on the Lexis of Intermediate EFL Learners?

The first objective of the current study was to examine the impact of concept-checking questions on the development of lexis among intermediate language learners. An independent samples t-test was used to determine if the pretests and posttests of the control and experimental groups differed significantly. Additionally, through paired t-tests, participants' development inside the CCQ and control classeswas evaluated. It is worth noting that the data collected from the study exhibited normal distribution.

Table 1

Descriptive Statistics for Experimental and Control Groups Lexis Pretests

	Exp - Cont	N	Mean	Std. Deviation	Std. Error Mean
Lexis Pretests	Exp	17	12	1.17	.284
	Cont	19	11.7	.97	.224

Table 2

Independent Samples T-Test between the Experimental and Control Groups Lexis Pretests

		Levene's Test		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Lexis Pretests	Equal variances assumed	.55	.46	.58	34	.56	.21	.35	-.51	.93

	Equal variances are not assumed.	.58	31.3	.56	.21	.36	-.52	.94

Tables 1 and 2 present descriptive and referential analyses of the lexis pretests of both classes. As can be seen in Table 1, the mean scores of the CCQ and control groups were 12 and 11.7, respectively. Furthermore, the standard deviation of the CCQ group was slightly larger than the control group's (CG-SD = .97, EG-SD = 1.17). The findings of the independent samples t-test, as presented in Table 2, demonstrated that no significant variances between the CCQ and control groups in terms of their vocabulary knowledge before the implementation of the concept checking question treatment (t = .58, p = .56 > .05). Therefore, it can be asserted that the learners in experimental and control groups were homogeneous at the beginning of the study.

Table 3

Descriptive Statistics for Control Group Lexis Pretest Posttest

	N	Mean	Std. Deviation	Std. Error Mean
Con Lexis Pretest	19	11.78	.97	.223
Con Lexis Posttest	19	13.52	1.02	.234

Table 4

Paired T-Test between the Control Group Lexis Pretest Posttest

Paired Differences								
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Con Lexis Pretest Con Lexis Posttest	-1.73	1.14	.26	-2.28	-1.18	-6.60	18	.000

Tables 3 and 4 present the outcomes of the pretest and posttest descriptive statistics as well as a paired t-test of the control group's lexis. As shown in Table 3, the means of pre and post-tests in the control group were calculated at 11.78 and 13.52, respectively. Additionally, the pretest standard deviation was marginally smaller than the posttest (Control Group Pre SD = .97; Control Group Post SD = 1.02). As for the advancement of learners within the control group, Table 4 shows a meaningful difference comparing the pretest and posttest (t = .6.60, p = .000 <.05). It is plausible to associate this discrepancy with the learning experience they have undergone. An independent samples t-test comparing the posttests of the CCQ and control classes reveals if there is a meaningful difference between the classes.

Table 5

Descriptive Statistics for Experimental Group Lexis Pretest Posttest

	N	Mean	Std. Deviation	Std. Error Mean
Exp Lexis Pretest	17	12	1.17	.28
Exp Lexis Posttest	17	16	1.06	.25

Table 6

Paired T-Test between the Experimental Group Lexis Pretest Posttest

Paired Differences	t	df

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Sig. (2-tailed)
				Lower	Upper			
Exp Lexis Pretest Exp Lexis Posttest	-4	1	.24	-4.51	-3.48	-16.49	16	.000

Tables 5 and 6 present the outcomes of the pretest and posttest descriptive statistics and a paired t-test of the experimental group's vocabulary. According to Table 5, the experimental class's pretest and posttest mean scores were 12 and 16, respectively. Additionally, the pretest and posttest standard deviations were 1.17 and 1.06, respectively. Through examination of the participants' progression within the CCQ group, as can be seen in Table 4, a meaningful statistical difference between the pre and posttests was established (t = 16.49, p = .000 < .05). This can be attributed to either learning or the CCQ treatment. However, an independent samples t-test comparing the groups ' posttests can reveal if there is any meaningful difference between the groups.

Table 7

Descriptive Statistics for Experimental and Control Groups Lexis Posttests

	Exp – Cont	N	Mean	Std. Deviation	Std. Error Mean
Lexis Posttests	Exp	17	16.00	1.061	.257
	Cont	19	13.53	1.020	.234

Table 8

Independent Samples T-Test between the Experimental and Control Groups Lexis Posttests

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Lexis Posttests	Equal variances assumed	.002	.96	7.1	34	.000	2.47	.34	1.76	3.17
	Equal variances are not assumed.			7.1	33.2	.000	2.47	.34	1.76	3.18

Tables 7 and 8 display the results of descriptive statistics and an independent samples t-test regarding the learners' performances in the lexis posttests in both the control and CCQ groups. As shown in Table 7, the control and experimental classes' posttests' means were 13.53 (CG-SD = 1.02) and 16 (EG-SD = 1.06), respectively. As can be seen in Table 8, a meaningful difference was observed comparing the control and experimental classes' posttests (t = 7.1, p = .000 <.05). Therefore, based on the means and the p-value, it can be claimed that EFL learners in the experimental class demonstrated a significant improvement in lexis compared to learners in the control class.

3.2. RQ2. What Is the Influence of Incorporating Concept-Checking Questions on the Grammar of Intermediate EFL Learners?

The second objective of this investigation was to discover whether the implementation of CCQs has an impact on intermediate language learners' improvement in grammar. To establish if there was a statistically meaningful difference between the pretests and posttests of both classes, an independent samples t-test was utilized. Additionally, the researcher utilized paired t-tests to measure the development of learners in each group. It should be noted that the normality distribution of the data was ensured.

Table 9

Descriptive Statistics for Experimental and Control Groups Grammar Pretests

	Exp – Cont	N	Mean	Std. Deviation	Std. Error Mean
Grammar Pretests	Exp	17	12.59	.795	.193
	Cont	19	12.47	.905	.208

Table 10

Independent Samples T-Test between the Experimental and Control Groups Grammar Pretests

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Grammar Pretests	Equal variances assumed	.436	.514	.401	34	.691	.115	.285	-.466	.695
	Equal variances are not assumed.			.40	33.99	.689	.115	.283	-.461	.690

The results of descriptive statistics and an independent samples t-test comparing the grammar pretests of both groups are provided in Tables 9 and 10. As can be seen in Table 9, the pretests' means of the control and experimental classes were12.47 (CG-SD = .90) and 12.59 (EG-SD = .79), respectively. As shown in Table 10 which reveals the results of an independent samples t-test, it was concluded that there was no meaningful difference in the grammar knowledge of the learners in control and CCQ classes' pretests (t = .41, p = .691 >.05). Thus, the participants' homogeneity regarding their grammar proficiency, at the beginning of this investigation, was determined.

Table 11

Descriptive Statistics for Control Group Grammar Pretest Posttest

	N	Mean	Std. Deviation	Std. Error Mean
Con Grammar Pretest	19	12.47	.90	.207
Con Grammar Posttest	19	14.10	.99	.228

Table 12

Paired T-Test between the Control Group Grammar Pretest Posttest

	Paired Differences							
				95% Confidence Interval of the Difference				
Con Grammar Pretest	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	Df	Sig. (2-tailed)
Con Grammar Posttest	-1.63	.83	.19	-2.03	-1.23	-8.56	18	.000

Table 11 displays the descriptive statistics of the control class's grammar pre and post-tests. The grammar means of the learners at the beginning and the end of the study were 12.47 (CG-Pre-SD = .90) and 14.10 (CG-Post-SD = .99), respectively. Table 12 evaluates the learners' grammar progression within the control group. As the results of the paired t-test revealed, a statistically meaningful difference between the pretest and post-test scores was observed (t = 8.56, p = .000 <.05). This might be attributed to the learning experience they have undergone. An independent samples t-test comparing the CCQ and control classes' grammar posttests determines if a meaningful difference exists between the groups.

Table 13

Descriptive Statistics for Experimental Group Grammar Pretest Posttest

	N	Mean	Std. Deviation	Std. Error Mean
Exp Grammar Pretest	17	12.58	.79	.19
Exp Grammar Posttest	17	17.11	.92	.22

Table 14

Paired T-Test between the Experimental Group Grammar Pretest Posttest

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Exp Grammar Pretest Exp Grammar Posttest	-4.52	.79	.19	-4.94	-4.11	-23.34	16	.000

As can be seen in Tables 13 and 14, the results of descriptive statistics and a paired t-test concerning the CCQ group's grammar pre and post-tests are presented. The grammar means scores of the learners in the CCQ class before and after the intervention were determined 12.58 (SD = .79) and 17.11 (SD = .92), respectively. Comparing the experimental class's grammar pre and post-tests through a paired t-test, a statistically meaningful difference between the two mean scores was determined (t = 23.34, p = .000 <.05). However, the results of the independent samples t-test, as shown in Table 16, comparing the CCQ and control classes' grammar posttests can answer if there is a meaningful difference between the groups.

Table 15

Descriptive Statistics for Experimental and Control Groups Grammar Posttests

	Exp - Cont	N	Mean	Std. Deviation	Std. Error Mean
Grammar posttests	Exp	17	17.12	.928	.225
	Cont	19	14.11	.994	.228

Table 16

Independent Samples T-Test between the Experimental and Control Groups Grammar Posttests

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Grammar Posttests	Equal variances assumed	.06	.79	9.36	34	.000	3.012	.322	2.359	3.666
	Equal variances are not assumed.			9.40	33.93	.000	3.012	.320	2.361	3.663

Tables 15 and 16 provide information on descriptive statistics and an independent samples t-test comparing the grammar posttests of CCQ and control classes. The data indicates that the posttests' mean scores of the participants in the CCQ and control classes were 17.12 and 14.11 respectively. Additionally, the standard deviations of the experimental and control classes' posttests were determined as .92 and .99, respectively, as can be observed in Table 15. Table 16 exhibits the outcomes of an independent samples t-test indicating a statistically meaningful difference between the control and experimental groups concerning their grammar knowledge after the introduction of the concept checking question intervention ($t = 9.36$, $p = .000<.05$). Thus, based on the means and p-value, it could be claimed that the English as a foreign language learner in the experimental group significantly outperformed their counterparts in the control group concerning their grammar learning. In conclusion, considering the data in Tables 15 and 16, it is concluded that concept-checking question treatment had a significant influence on EFL learners' grammar improvement.

3.3. RQ3. What is the Influence of Incorporating Concept Checking Questions on the Motivation of Intermediate EFL Learners?

The last research question aimed to investigate whether the incorporation of concept checking questions in grammar and lexis instruction affected the motivational levels of the participants. To this end, the motivation questionnaire responses of the participants were computed both before and after the intervention. Specifically, the purpose was to find out if any meaningful differences existed in the motivation of the learners in the CCQ and control classes' pre and post-tests. After computing the frequency of motivated and unmotivated participants at the beginning and end of the study in experimental and control classes, cross-tabulation and a chi-square test were employed. Additionally, McNemar's chi-square test was employed to evaluate the variation in learners' motivation within the groups.

Table 17

Experimental and Control Groups Motivation Pretests Crosstabulation

		Unmotivated	Motivated	Total
EX-CON	Experimental	11	6	17
	Control	13	6	19
	Total	24	12	36

Table 18

Chi-Square Test between the Experimental and Control Groups Motivation Pretests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.056[a]	1	.813	1.000	.546
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.056	1	.813	1.000	.546
Fisher's Exact Test				1.000	.546
N of Valid Cases	36				

a. 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 5.67.

b. Computed only for a 2x2 table

Table 19

Strength of Association between Experimental and Control Groups' Motivation Pretests

				Monte Carlo Significance		
					95% Confidence Interval	
		Value	Approximate Significance	Significance	Lower Bound	Upper Bound
Nominal by Nominal	Phi	-.039	.813	1.000[c]	.920	1.000
	Cramer's V	.039	.813	1.000[c]	.920	1.000
N of Valid Cases		36				

c. Based on 36 sampled tables with starting seed 624387341.

Tables 17, 18, and 19 present the outcomes of a crosstabulation, a chi-square test, and or the strength of association comparing the motivation pretests of both experimental and control groups, respectively. As seen in Table 17, it is evident that out of the 17 learners in the experimental group, 11 and 6 learners were identified as unmotivated and motivated, respectively. Similarly, the control group encompassing 19 learners had 13 and 6 learners who were unmotivated and motivated, respectively. As shown in Table 18, the outcomes of the chi-square test comparing the motivation pretests of both the CCQ and control classes demonstrate no meaningful differences (X2(1) = .056, p = 0.813). This suggests that the motivation level of the subjects in both groups was homogeneous and the learners did not differ significantly at the beginning of this investigation in terms of motivation. Cramer's V and Phi coefficients for the test were determined at .039 and -.039, respectively.

Table 20

McNemar's Chi-Square Test between the Control Groups Motivation Pretest Posttest

	Con Motivation Posttest			Con Moti Pretest Posttest
Con Motivation Pretest	Unmotivated	Motivated	N	19
Unmotivated	12	1	Exact Sig. (2-tailed)	1.000[a, b]
Motivated	0	6	Exact Sig. (1-tailed)	.500[a]
			Point Probability	.500[b]

a. Exact results are provided instead of Monte Carlo for this test.

b. Binomial distribution used.

Table 20 depicts the outcomes of McNemar's chi-square test that compares the motivation pretest and posttest of the control class. Out of the 19 EFL participants in the control group, 13 and 6 learners were unmotivated and motivated, respectively, at the onset of the study. These numbers did not change considerably in the posttest, and the count was determined as 12 unmotivated and 7 motivated learners. Additionally, the McNemar test presented that the participating learners' pre and post-motivation tests in the control group were not significantly different, p = 1 (2-sided).

Table 21

McNemar's Chi-Square Test between the Experimental Groups Motivation Pretest Posttest

	Exp Motivation Posttest			Exp Moti Pretest Posttest
Exp Motivation Pretest	Motivated	Unmotivated	N	17
Motivated	6	0	Exact Sig. (2-tailed)	.031[a]
Unmotivated	6	5	Exact Sig. (1-tailed)	.016
			Point Probability	.016

a. Binomial distribution used.

Table 21 illustrates the results of the CCQ class's pre and post-motivation tests. Among 17 language learners in the CCQ class, 11 and 6 EFL learners were determined unmotivated and motivated, respectively, at the beginning of the study, while the number of motivated learners in the posttest escalated to 12 out of 17. Moreover, the McNemar test indicated that the EFL learners' motivation in the pretest and posttest was significantly different, p = .031 (2-sided). Hence, it can be highlighted that CCQ implementation had a significant influence on the students' motivation.

Table 22

Experimental and Control Groups' Motivation Posttests Crosstabulation

		Unmotivated	Motivated	Total
EX-CON	Experimental	5	12	17
	Control	12	7	19
	Total	17	19	36

Table 23

Chi-Square Test between the Experimental and Control Groups Motivation Posttests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	4.100[a]	1	.043	.054	.045
Continuity Correction[b]	2.857	1	.091		
Likelihood Ratio	4.190	1	.041	.054	.045
Fisher's Exact Test				.054	.045
N of Valid Cases	36				

a. 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 8.03.

b. Computed only for a 2x2 table

Table 24

Strength of Association between Experimental and Control Groups' Motivation Posttests

				Monte Carlo Significance		
					95% Confidence Interval	
		Value	Approximate Significance	Significance	Lower Bound	Upper Bound
Nominal by Nominal	Phi	-.337	.043	.056[c]	.000	.130
	Cramer's V	.337	.043	.056[c]	.000	.130

N of Valid Cases	36

c. Based on 36 sampled tables with starting seed 329836257.

Tables 22, 23, and 24 show the outcomes of a crosstabulation, a chi-square test, and or the strength of association comparing the motivation posttests of both experimental and control groups, respectively. Based on Table 22, it is evident that out of the 17 students in the CCQ class, 5 and 12 learners exhibited unmotivated and motivated behavior, respectively, during the motivation Posttest. On the other hand, the control group's motivation posttest revealed that 12 and 7 learners exhibited unmotivated and motivated behavior, respectively. It is noteworthy to mention that the number of motivated participants in the CCQ group post-test (N = 12) exceeded that of their counterparts in the control group (N = 7). As Table 23 indicates, the chi-square test comparing the motivation posttests of the experimental and control classes demonstrated a significant difference (X2 (1) = 4.1, p = .043). Considering the number of motivated learners in the CCQ class's post-test as compared to that of the control group and the p-value obtained from the chi-square test, it could be claimed that the motivated EFL learners in the experimental group outnumbered the participants in the control group at the end of this class. This can be attributed to the CCQ treatment. Moreover, the Cramer's V and Phi coefficients are .337 and -.337, respectively.

4. DISCUSSION

The three objectives investigated in this study included the influence of concept checking questions (CCQs) employment on lexis, grammar, and motivation of intermediate EFL learners in Kerman, Iran. The first research question aimed to evaluate the effect of CCQs on language learners' lexis improvement. While the lexical performance of the learners in the pretests in both experimental and control groups was similar, there was a meaningful difference in the lexis posttests' comparison of the groups. Therefore, it was concluded that CCQ implementation affected intermediate EFL learners ' lexis improvement significantly. The substantial impact of CCQs on learners' lexis improvement can be attributed to specific features of the concept-checking question technique. The concept checking question technique is associated with various models and hypotheses, including interaction hypothesis, comprehensible input, comprehensible output, and negotiation of meaning. In other words, CCQ employment in the class encourages more interaction, more student talking time, and more activity. Additionally, the learners experience more comprehensible input, which leads to more comprehensive output. Through CCQ, teachers can ensure that most learners, if not all, achieve the lesson objectives; thus, lexis learning is more guaranteed when learners leave the classroom.

Although the theoretical effects of concept-checking questions on language learning, language skills, and systems have been well-addressed, there have been few relevant empirical studies conducted on this issue. The findings align with Brock's (1986) assertion that an increase in classroom interaction can aid language learners in acquiring the target language more easily. Long (1996) discovered that the types of questions language teachers use can facilitate language improvement. Later more specifically, he suggests that among various kinds of questions teachers might employ, referential questions play a significant role in language learning development (Long, 1996). The utilization of CCQs by teachers increases the number of display and inferential questions and, therefore, contributes to more language learning. The findings regarding the beneficial influence of CCQs on lexical learning improvement of language learners align with Nugraha's (2017) research investigation, which confirmed the positive effects of Concept Checking Questions on cadet's vocabulary. Barghi's (2014) study aimed to explore the effects of concept-checking questions and the use of questions on language students' vocabulary retention and accuracy. Consistent with the present study's findings, the results of his research study determined the constructive effect of CCQs on learners' lexis development.

In terms of this study's second question, the influence of CCQs on English as a foreign language students' grammar improvement, it was discovered that while the grammar performance of the

learners in experimental and control groups' pretests were relatively similar, a meaningful difference was observed in the posttests. Therefore, it was determined that CCQ implementation had a significant influence on EFL learners' grammar improvement. This might be attributed to the explicit features of CCQs. Primarily, concept-checking questions employed by teachers in grammar instruction enable them to ensure that learners have understood the grammar point being taught. If the learners do not respond well to Concept Checking Questions (CCQs), teachers may opt to reteach the point, provide additional examples and explanations, and offer more controlled and free practice to ensure that the learners have achieved the objectives of the grammar lesson. Among the notable features of CCQs that contribute to improved grammar attainment among learners are increased interactivity, enhanced student talking time, employment of display and inferential questions, provision of comprehensible input and output, and greater negotiation of meaning.

Long (1996), Brock (1986), Kargar and Divsar (2019), and Nugraha (2017) have conducted studies regarding the influence of CCQs on English learners' grammar, and their findings are consistent with the present investigation. In particular, Long (1996) has argued that teachers' questions, including referential questions, can facilitate learning in general. In grammar lessons, the implementation of CCQs is typically accomplished through the use of teacher display and inferential questions. Brock's (1986) claim that there is a correlation between the amount of classroom quality interaction and language learning is consistent with the results of this investigation, which are also in line with those of Kargar and Divsar (2019), who examined the impact concept check questions have on the grammar of EFL learners and realized that CCQ employment was beneficial EFL learners' grammar development. Nugraha (2017) conducted an investigation, in line with this study's findings, in which the advantageous influence of Concept Checking Questions on grammar development was confirmed,

Lastly, the current investigation aimed to study the influence of CCQs on the motivation of English language learners. The findings point out that the motivational level of learners in the control and experimental classes was comparable at the beginning of this research study. However, comparing the experimental and control classes in the posttests revealed a significant difference in the participants' motivation. Consequently, it was concluded that concept-checking questions employed by teachers had a great influence on the enhancement of motivation among EFL students in this research study. This improved motivation of learners can be attributed to specific features of CCQs, as noted by various researchers (Plante et al., 2013; Steinmayr et al., 2019; Wigfield et al., 2016). These researchers have highlighted a direct relationship between achievement and motivation and believe that motivation builds determination and leads to success and achievement. As noted by Dornyei (2009), motivation plays a critical role in determining academic achievement, as well as success in learning and similarly improvement in learning can lead to increased motivation. Through examination of the first and second research questions, as well as similar studies, it has been established that CCQs have a beneficial influence on improving lexis and grammar. This technique, which facilitates comprehensible input, output, negotiation of meaning, STT, exchanged questions, and class interaction, has a substantial influence on learners' language skills and systems' development, ultimately leading to heightened motivation among learners.

5. CONCLUSION

An extensive review of the literature regarding concept-checking questions reveals that this topic has not been sufficiently explored through empirical research. Consequently, this investigation aimed to determine the influence of concept-checking questions on the lexis, grammar, and motivation of EFL learners, utilizing a quasi-experimental design. The results indicate that CCQs influence lexis, grammar, and motivation development considerably. If used appropriately, CCQs possess significant characteristics that facilitate language learning. They promote more interaction and speaking time for students, make learners' input more comprehensible, and therefore, more comprehensible output can be expected. In addition, the negotiation of meaning is achieved. All of these factors directly and indirectly contribute to language learning and enhance learners' motivation.

When assessing learners' comprehension, teachers may employ concept-checking questions to obtain a more accurate assessment of students' understanding. Thus, these questions enable teachers and learners to confirm that the lesson has been understood. CCQs can be employed whenever a teacher wishes to pose the question, "Do you understand?" or similar expressions. Questions such as "Do you understand?" do not verify any specific concept that has been taught. These queries also do not provide any insight into learners' level of comprehension and are prone to elicit only a yes or no response. EFL instructors are advised to plan their CCQs, ask simple questions, and employ various types of CCQs, such as referential, and display yes/no, wh, tag, and alternative questions.

The findings can raise stakeholders' awareness regarding the beneficial impact of concept-checking questions on language teaching and learning. Language institutes, teacher trainers, language school supervisors, as well as observers, language teachers, and, most importantly, language learners will benefit from CCQs in English classes. Additionally, the outcomes of this investigation enhance and confirm the existing knowledge regarding CCQs.

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REFERENCES

Allen, D. (1992). *Oxford placement test 1*. Oxford University Press.

Anani Sarab, M. R., & Jabbarzadeh Sani, B. (2024). Enhancing Elementary EFL Learners' Willingness to Communicate Through Communication Strategy Training. *English Teaching & Learning*, *48*(1), 117-144. https://link.springer.com/article/10.1007/s42321-022-00133-6

Barghi, A. H. (2014). *The Impact of Concept Checking and Use Questions while Teaching Vocabulary on the EFL Learners' Lexical Retention and Accuracy* [Presentation]. Malaysia International Conference on English Language Teaching. Kuala Lumpur, Malaysia.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: principles, policy & practice*, *5*(1), 7-74. https://www.tandfonline.com/doi/abs/10.1080/0969595980050102

Blömeke, S., Jentsch, A., Ross, N., Kaiser, G., & König, J. (2022). Opening up the black box: Teacher competence, instructional quality, and students' learning progress. *Learning and Instruction*, *79*, 101600. https://www.sciencedirect.com/science/article/pii/S0959475222000214

Brock, C. A. (1986). The effects of referential questions on ESL classroom discourse. *TESOL Quarterly*, *20*(1), 47-59. https://onlinelibrary.wiley.com/doi/abs/10.2307/3586388

Candal, C. S. (2015). Great Teachers Are Not Born, They Are Made: Case Study Evidence from Massachusetts Charters. White Paper No. 130. *Pioneer Institute for Public Policy Research*. https://eric.ed.gov/?id=ED565732

Cullen, P. (2008). *Cambridge Vocabulary for IELTS with Answers: Self-study Vocabulary Practice.* Cambridge University Press.

Demetgül, K. (2019). *A constructivist approach to multidimensional elicitation: An attainment-based perspective through communicative concept checking* (Master's thesis, Eğitim Bilimleri Enstitüsü). https://avesis.gazi.edu.tr/dosya?id=6e888d7f-1b78-48d1-a9d1-3d76e0f4c200

Derakhshan, A., & Ghiasvand, F. (2022). Demystifying Iranian EFL teachers' perceptions and practices of learning-oriented assessment (LOA): Challenges and prospects in focus. *Language Testing in Asia*, *12*(1), 55. https://link.springer.com/article/10.1186/s40468-022-00204-2

Dörnyei, Z. (2009). *Motivation in second and foreign language learning*. Cambridge University Press

Fan, Y. (2022). Reviewing the effect of English as a foreign language teachers' positive and negative affectivity on their work engagement. *Frontiers in Psychology*, *13*, 852687. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.852687/full

Florkowska, K. (2018). The use of Concept Checking Questions in the EFL classroom: Reflections on the CELTA experience. *Kingston University, London. British Council ELT Master's Dissertation Awards*. https://www.teachingenglish.org.uk/sites/teacheng/files/karolina_florkowska_kingston_university_london_dissertation.pdf

Ghiasvand, F., Kogani, M., & Nemati, F. (2023). "Teachers as conflict managers": mapping novice and experienced Iranian EFL teachers' professional identity conflicts and confrontation strategies. *Asian-Pacific Journal of Second and Foreign Language Education*, *8*(1), 45. https://link.springer.com/article/10.1186/s40862-023-00219-z

Hadi, M. A. F., Al-Khateeb, M. M., & Akbar, N. A. (2021). THE IMPACT OF CONCEPT CHECKING QUESTIONS STRATEGY IN DEVELOPING IRAQI EFL PREPARATORY PERFORMANCE IN READING COMPREHENSION. *Elementary Education Online*, *19*(1). https://tinyurl.com/mse8jezf

Hu, L., & Wang, Y. (2023). The predicting role of EFL teachers' immediacy behaviors in students' willingness to communicate and academic engagement. *BMC psychology*, *11*(1), 318. https://link.springer.com/article/10.1186/s40359-023-01378-x

Ivanovna, V. N. (2020). *Concept checking questions for teaching professional vocabulary and grammar in medical English* (Abstract). The 1st International Scientific and Practical Conference. London, United Kingdom, 21-27. https://sci-conf.com.ua/i-mezhdunarodnaya-nauchno-prakticheskaya-konferentsiyathe-world-of-science-and-innovation-19-21-avgusta-2020-goda-londonvelikobritaniya-arhiv/

Kargar, Y., & Divsar, H. (2019). The Effect of Using Concept Check Questions on Iranian Female EFL Learners‟ Grammar. *International Journal of English Language and Translation Studies*, *7*(2), 91-97. https://www.academia.edu/download/60311891/11-7-2-1920190816-87327-1pchk1k.pdf

Laine, J. E. (1987). Affective factors in foreign language learning and teaching cross-language studies. *Jyvaskyla: Jyvaskyla University*.

Long, M. (1996). The role of the linguistic environment in second language acquisition. *Handbook of second language acquisition*. https://cir.nii.ac.jp/crid/1571980075392115840

Murphy, R. (2019). English grammar in use. http://biblioteca.isctem.ac.mz/bitstream/123456789/633/1/English%20Grammar%20in%20Use%2C%20Fifth%20Edition%20by%20Raymond%20Murphy%20%28z-lib.org%29.pdf

Nugraha, D. S. (2017). The implementation of concept checking question (CCQ) in increasing the cadet's understanding toward grammar vocabulary concepts in an English text. *Jurnal Bébasan*, *4*(1) 65-75.

Plante, I., O'Keefe, P. A., & Théorêt, M. (2013). The relation between achievement goal and expectancy-value theories in predicting achievement-related outcomes: A test of four theoretical conceptions. *Motivation and Emotion*, *37*, 65-78. https://link.springer.com/article/10.1007/s11031-012-9282-9

Rahimi, M., Riazi, A., & Saif, S. (2008). An investigation into the factors affecting the use of language learning strategies by Persian EFL learners. *Canadian Journal of Applied Linguistics*, *11*(2), 31-60. https://journals.lib.unb.ca/index.php/CJAL/article/view/19915

Steinmayr, R., Weidinger, A. F., Schwinger, M., & Spinath, B. (2019). The importance of students' motivation for their academic achievement–replicating and extending previous

findings. *Frontiers in Psychology*, *10*, 464340. https://www.frontiersin.org/articles/10.3389/fpsyg.2019.01730/full?ref=blog.toptutors.dk

Thornbury, S., & Watkins, P. (2007). *The CELTA course: Certificate in English Language Teaching to Adults trainee book*. Cambridge University Press.

Wigfield, A., Gladstone, J. R., & Turci, L. (2016). Beyond cognition: Reading motivation and reading comprehension. *Child development perspectives*, *10*(3), 190-195. https://srcd.onlinelibrary.wiley.com/doi/abs/10.1111/cdep.12184

Workman, G. (2008). Concept questions and timelines (Vol. 108). Gem Publishing.

Xie, Z., & Liu, W. (2024). What matters in the cultivation of student feedback literacy: exploring university EFL teachers' perceptions and practices. *Humanities and Social Sciences Communications*, *11*(1), 1-9. https://www.nature.com/articles/s41599-024-02648-8