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How Task Types and Cognitive Styles Make a Difference: Metadiscourse Units and EFL Learners' Oral Production Linguistic Complexity

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Abstract

Many scholars have long contributed to making the instruction of oral production more effectively. This study compared three task types (information-gap, reasoning-gap, and opinion-gap tasks) and two cognitive styles (field-independence and field-dependence) regarding their effects on English as a foreign language (EFL(learners' oral production linguistic complexity. The current study was quantitative in research methodology and followed the comparison group design. Initially, 230 Iranian learners were selected using convenience sampling. After the participants sat the proficiency test, the number of participants was reduced to 180 BA students at the university of Mohaghegh Ardabili and Islamic Azad University, Ardabil Branch. They were randomly divided into six experimental groups. Two groups were randomly assigned to field-independent (FI) and field-dependent (FD) information-gap tasks, the next two groups to FI and FD reasoning-gap tasks, and the other two groups to FI and FD opinion-gap task types. Each group consisted of 30 advanced EFL learners and was taught oral production using one of the above-mentioned task types. Michigan test of English Language Proficiency test (Phakiti, 2003) and group embedded figures test (Witkin et al., 1971) were used to determine proficiency level and measure cognitive styles. A two-way ANCOVA (analysis of covariance) procedure was run to examine the data. The results revealed significant differences among task types and cognitive styles, with FD learners and opinion-gap task being the most effective on EFL Learners' oral production linguistic complexity. The interaction between cognitive styles and task types is more likely to account for language learners' oral performance.

Keywords: Cognitive styles, Linguistic complexity, Metadiscourse, Oral performance, Task types

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Introduction

Metadiscourse adds extra information to a text type or speech sample made by its producer in the course of writing or speaking. Communicators employ language, both to bear information, and to use it to shape the information and encourage the audience to understand the unfolding discourse. As Hyland (2005) stated, metadiscourse refers to "a cover term for the self-reflective expressions used to negotiate interactional meanings in a text, assisting the writer (or speaker) to express a viewpoint and engage with readers [or listeners] as members of a particular community" (p. 37). He pointed out that "a text has to talk to readers or

hearers in ways that they find familiar and acceptable, which means that the processes of comprehension and participation are not just a matter of informational clarity, but of the individual writer's or speaker's projection of a shared context" (p. 14). Metadiscourse researchers (Ädel, 2006; Crismore & Abdollehzadeh, 2010; Hyland, 2010) claimed that successful communication happens along with social impact in engaging with the audience, shaping their propositions to create convincing texts by choosing a language in social contexts. The management of such interaction seems to be challenging for second language learners (Hu & Cao, 2011). Most models proposed in metadiscourse move away from the fact that there are different perceptions and interpretations of the same text/speech or event by different individuals. That is, it is falsely assumed that when participants engage in communication, they are equipped with some shared knowledge and that they are able to share experience and knowledge and reach the same interpretations (Herriman, 2022). When interactors use metadiscourse in speech, they help the hearer interpret the discourse meaning that speech is negotiated better. The presence and role of the audience may affect the language an addresser chooses, indicating the significance of audience awareness in building the discourse of oral performance and dialogic discourse (Kashiha, 2022). Hyland (2005) defined metadiscourse as how writers or speakers make plans for their text/speech to interact with their audience. In communication, both speakers and listeners share the expectation that the speech understanding is assisted by the speaker's use of such linguistic device as metadiscourse to highlight the relative importance of ideas. When these linguistic devices are not detected by listeners, it may have trouble understanding the message delivered, and problems in communication may arise (Aguilar, 2008). Regarding advertisements persuading customers to buy products, both visual and linguistic metadiscourse play a significant role in constructing the discourse, attracting the audience, and catching the consumers' interest, thereby becoming an integral aspect of persuasive writing (Al-Subhi, 2022).

Considering metadiscourse use as an important factor in communication, it is believed that a skillful speaker, following complex language, can accomplish tasks fluently and accurately, (Ellis, 2009). Skehan (1998) stated that second language speakers enjoy exemplars and a rule-based system, indicating that performance depends on the task conditions. Currently a debate arises within the SLA reflecting the impact of task varieties on oral language performance (CAF). A number of researchers have examined metadiscourse regarding language modalities and have proved the strategic role of metadiscourse markers in an interaction (Dahl, 2004; Ifantidou, 2005).

Ellis (2009) remarked that there are four features presenting a task. First, a task should be pragmatic; i.e., it is supposed to put more emphasis primarily on the meaning. Second, the task should follow a non-linguistic outcome. Thirdly, the students should feel free to select the linguistic resources required in performing the task. Finally, the task should enable learners to fill in "gaps" to comprehend whatever they are undertaking.

According to Prabhu (1987), there are three kinds of gaps including information gap, reasoning gap, and opinion gap. In information gap type, learners are required to either exchange information with each other to transfer it from one form to another or from one place to another (Ahmadian & Long, 2021). For instance, learners are required to interview with each other to complete a form containing personal information. In reasoning-gap types, learners are expected to arrive at some new information from the given information through inference, deduction, distinguishing patters or relationships, and reasoning. They may come up with different outcomes, one of which may or may not be the correct outcome (Ellis et al., 2020). For example, learners in groups figure out the cheapest route to a particular destination based on the information given on a train timetable. In opinion gap type, learners express a personal preference, feeling or attitude in response to a particular situation (Erlam & Tolosa, 2022). Talking about one's favorite movie director, car, or travel plan are typical example of this type of task.

On the other hand, how an individual uses his/her cognitive ability to tackle a problem such as learning a language can be referred to cognitive styles. There are different styles, however, field dependence and field independence are focus in this study. They relate to one's tendency to attend to the whole or parts of a phenomenon. In fact, field dependent people see the whole field and make a general picture of the concept they encounter (like figuring out the general idea of a reading passage), while field independent people are usually able to concentrate on one thing (like reading a book in a noisy bus) or focus on the details and the building blocks of a new entity (Brown, 2014).

Despite studies conducted on the impacts of task types on second language oral skill, few studies have been done on the effects of metadiscourse use as lexical chunks on EFL learners' oral production regarding cognitive styles. Reviewing the task type and CAF literature shows that there are many questions left unanswered, one of which was emphasized in this study including whether it is practical to help task performers to pay attention to metadiscourse units while producing

language through different task types to improve their oral performance, and, if so, what effects it may have on linguistic complexity in oral performance. In this study, the effects of employing metadiscourse units in task types on the linguistic complexity of EFL field-independent/dependent learners' oral production were investigated.

In what follows, this study aimed to determine the possible differential task type effects on participants' oral performance across cognitive styles and the participants' oral performance regarding complexity was investigated to determine the effect of metadiscourse units on improving complexity. Thus, the following research question guided the study:

RQ: Are there any significant differences among task types using metadiscourse units in the development of linguistic complexity in advanced EFL learners' oral performance across field independent and dependent cognitive styles?

Method

Research Design

The present study was quantitative in research paradigm and quasi-experimental in research methodology, because the participants of the current study were randomly assigned into experimental groups. A comparison group design was employed to draw plausible conclusions from the statistical analysis of the data gathered from the performance of the six groups. Specifically, the relationship between task types and cognitive styles was taken into account. This was an appropriate design to be employed for the purpose of this study because it makes comparisons between groups regarding the manipulation of any independent variables (Mackey & Gass, 2021).

Participants

An initial number of 230 EFL Iranian learners, aged between 25 and 34, were selected using convenience sampling (Dornyei, 2007) based on their availability from among advanced EFL learners of both university of Mohaghegh Ardabili and Islamic Azad University, Ardabil Branch. Having administered the Michigan Test of English Language Proficiency (MTELP) and taken the results into account, the researchers reduced the number of participants to 180 male and female advanced BA (Bachelor of Arts) students. The participants' first language was mostly Turkish. Fifty participants were excluded from the study. Since the university did not allow us to assign the learners in different groups, the participants were required to attend the Rezvan Institute, Ardabil Branch, and then they were assigned to six experimental groups.

Keeping privacy and confidentiality reduces potential psychological pressure such as distress and embarrassment on the research participants. The purpose of the study was officially told to all of the participants. Since the researchers needed students' recorded voices to analyze the personal metadiscourse units, the participants' voices were coded by numerical values rather than their names. Moreover, the researchers made an attempt to reserve the participants' rights through getting permission in different phases of the study. Finally, the researchers assured them that their narratives including personal metadiscourse units would be kept confidential.

Materials and Instruments

To come up with data for the current study, the instruments were utilized as it follows. More information about these tests is given below.

- Michigan Test of English Language Proficiency
- Group Embedded Figures Test
- Pretest on Metadiscourse Use
- Posttest on Metadiscourse Use

Michigan Test of English Language Proficiency

MTELP includes three parts in multiple-choice format. This reliable test includes 40 items on grammar in conversational format, 40 items on vocabulary focusing on synonyms or sentence completion, and 20 items on reading comprehension. It was extracted from a Michigan Test booklet (Corrigan et al., 1978).

The administration of the whole test took 100 minutes. The students who achieved more than 70 percent of scores were considered as language learners at the advanced level (Phakiti, 2003). MTELP is a reputable test. Nevertheless, to check the test reliability, the KR-21 formula was utilized, and the reliability index appeared to be .72.

To make sure that the learners' placement into the advanced level by the universities was all right, all the participants took the general proficiency test.

Group Embedded Figures Test

GEFT was proposed by Witkin et al. (1971) for research in cognitive functioning and consists of 18 items to differentiate FD and FI learners. In this test, the participants were presented with a booklet consisting of basic perceptible figures placed inside consistently more complex perceptible figures. There were eighteen complex shapes in the GEFT, each with an inserted

basic shape. Regarding the number of accurate answers presented by the participants, the scores on this test ranged from 0 (the most FD) to 18 (the most FI).

The participants were required to find the covered simple figure in the more complex one in 12 minutes. Yoo (2006) believes that those relying on exterior cues are not capable of detecting the simple figures, so they are considered FD, and those relying on interior cues are capable of detecting figures, so they are regarded as FI. The construct validity of the GEFT is confirmed in many relevant studies (Grant, 2020). The reasonably high correlation between the GEFT and the embedded figures tests suggests that GEFT can also be considered a valid measure (Witkin et al., 1971). In terms of the reliability of the GEFT instrument, Cronbach's alpha was estimated and it turned to be .72.

Pretest on Metadiscourse Use

Participants were provided with a pretest on metadiscourse to determine the participants' knowledge of personal metadiscourse use. They were asked to listen to the stories twice for 30 minutes and write down personal metadiscourse units. A set of 15 different pictorial story-telling tasks was given to the participants to narrate the given pictures to see if they were able to apply personal metadiscourse units as certain prefabricated units.

Posttest on Metadiscourse Use

An oral narrative task as the posttest measuring the language learners' ability to retell short stories was administered after the treatment to determine the relative effects of task types on the learners' ability to narrate short stories orally using personal metadiscourse units. The posttest, also, consisted of a picture story including a set of pictures to measure oral production in terms of linguistic complexity.

Procedure

Initially, 230 advanced Iranian EFL male and female university students were selected. Next, the participants' level of proficiency was checked by MTELP. Having given the test to the learners, the 180 homogeneous participants were selected. Then, GEFT was given to the learners to determine which cognitive styles they belong to.

The study stimulated the participants' conscious of the presence of personal metadiscourse as lexical chunks in oral performance. The second author of the current study taught the metadiscourse units in the classes. To elicit the pertinent data, all the participants sat for the personal metadiscourse pretest prior to going through grouping procedures and the related instruction which contained speeches adopted from story-telling genre in the first phase of the study. The pretest on personal metadiscourse knowledge, a 30-minute audio tape, was given to measure the participants' knowledge of personal metadiscourse use. The participants were required to listen to the stories (monologic genre) twice and determine and take notes of personal metadiscourse units. In the pretest, having listened to the 30-minute audio tapes, the participants were given a set of 15 different pictorial story-telling tasks, in the course of which the learners were to describe the given pictures to see if they were able to use personal metadiscourse units as certain prefabricated units. To put it simply, before the treatment, the participants were given a pretest to get awareness of the metadiscourse units as certain prefabricated units. Then, they were into six experimental groups consisting of *Group A*, field independent learners receiving explicit instruction on the use of metadiscourse units via information-gap tasks; *Group B*, field dependent learners receiving explicit instruction on metadiscourse units via information-gap tasks; *Group C*, field independent learners receiving explicit instruction on metadiscourse units via reasoning-gap tasks; *Group D*, field dependent learners receiving explicit instruction on metadiscourse units via reasoning-gap tasks; *Group E*, field independent learners receiving explicit instruction on metadiscourse units via opinion-gap tasks; and *Group F*, field dependent learners receiving explicit instruction on metadiscourse units via opinion-gap tasks.

Each group contained 30 learners. The classes were three times a week for ten treatment sessions. Each lasted 90 minutes, and the treatment was given during 90 minutes of the class time.

The treatment lasted for ten sessions. Each group received instruction on the same personal metadiscourse units in one of the experimental conditions. All groups, in the first session, were presented with the importance of personal metadiscourse units and metadiscourse regarding structures referred to prefabricated phrases and formulas. The instructor explained that "linguistic units that can be defined as chunks of language of varying length, conventionalized structures that occur more frequently and have more idiomatically determined meaning than language that is put together each time appear to be quite common in metadiscourse" (Ädel, 2006, p. 199). This implies that metadiscourse was operationalized as 'prefabricated phrases', 'conventionalized language', and 'formulas' in the study. The researchers inquired the participants to talk about the type of metadiscourse units they mostly used in speaking as chunks. Few participants knew about personal metadiscourse units. As a result, the instructor

discussed personal metadiscourse units and their uses. In addition, the participants were given a handout containing a brief explanation of personal metadiscourse units.

In the second and third sessions, the researchers devoted the class time to presenting dichotomies of personal metadiscourse units, rehearsing, preparing, and highlighting them in the reading passages in their handouts. For the next seven weekly sessions, in addition to the treatment sessions, the participants in all groups worked intensively on one reading passage. That is, in each 90-minute session, 30 minutes were devoted to reading one passage and the usual methodology of translating and clarifying the meaning of words was followed. Then, the participants practiced and highlighted different types of personal metadiscourse units and determined how they were used. The remaining 60 minutes of each session was dedicated to the treatment in different groups.

Group A and Group B followed the following three tasks to practice using metadiscourse in the treatment sessions. Using information-gap tasks, the learners were required to speak using the chunks as metadiscourse units, extracted from story-telling genre Ädel, (2006), including speaker-, participant-and listener-oriented ones given to them each on a piece of paper. The way of extracting oral chunks was that a manual analysis was done to study the data for possible metadiscoursal units within the chosen chunks of oral performance. The oral chunks were carefully examined in their conditions to validate that they were considered as metadiscourse units. Each of these 30 papers contained a topic on it. For example, one of the learners was given the card with sandwich written on it and using chunks as metadiscourse units, he or she had to describe its taste, once he or she had sandwich, the substance needed to prepare it, etc. Later, as a controlled speaking practice, the instructor asked the learners to think about how to narrate their received story regarding the metadiscourse units they had newly learned in the first two sessions prior to the treatment sessions. Here are some examples of the learners' sentences:

• *I am telling you how to make delicious sandwiches for breakfast.* (Participant-oriented metadiscourse units)

• *If you will, you will have a sandwich that tastes as good as you hoped.* (Listener-oriented metadiscourse units)

Following reasoning-gap tasks, each group was divided into two subgroups of 15 learners each. Then, the learners, in each subgroup, were required to be before their subgroup one at a time. Each learner was presented with a pictorial card (e.g., a garden, a cell-phone) by the other subgroup and the learner had to explain the picture via chunks as metadiscourse to make his/her group members guess the word. The language learner was not supposed to produce the word and could only define it. Here are some examples of how the learners define the word:

• *I will now develop the idea that it's a plot of land next to a house where grass, flowers, and bushes can be grown.* (Speaker-oriented metadiscourse units)

• *As we know, it enables a user to communicate almost anywhere in the world.* (Participant-oriented metadiscourse units)

Regarding opinion-gap tasks, each group was into three subgroups of ten and one member of each subgroup was called one after the other to take up a wrapped paper among 30 such papers in a box with a word written on it (for example, hijacking). The learner made an effort to draw it on the board to make her/his peers guess that word. Here is an example of making the learners understand the word:

• *I am talking about an act of unlawfully seizing an aircraft, vehicle, or ship while in transit.* (Speaker-oriented metadiscourse units)

Group C and Group D were engaged in the following three tasks to practice using metadiscourse units in treatment sessions.

Through information-gap tasks, the learners, in each group, worked in pairs or groups to figure out the cheapest route to a particular destination (e.g., a shopping center) via chunks as metadiscourse units based on the information given on a train timetable. Here is an example of describing the route.

• *I should explain that a shopping center is … .* (Speaker-oriented metadiscourse units)

In the reasoning-gap tasks, the learners, in each group, were divided into pairs, each of whom gave some indirect information about the age of a particular person using metadiscourse units and required learners to come up with the exact age. The example is:

• *I want to focus on his physical appearance first. Then, I tried his academic experiences.* (Speaker-oriented metadiscourse units)

Considering the opinion-gap tasks, the students, in each group, were required to solve a riddle. The learners were asked to use the results of their surveys or interviews to determine their personal metadiscourse use. The example is as follows:

• *To conclude the discussion of which one may be popular, we consider the questions that interviewees answered.* (Speaker-oriented; participant-oriented metadiscourse units)

E and Group F fulfilled the following three tasks to practice using metadiscourse in treatment sessions.

In the information-gap tasks, the learners, in each group, were divided into pairs. Each pair had to

individually state their own ideas. Then, they put their ideas in common and the instructor selected one group to explain and describe their opinions and selected another pair to raise some questions. For instance, the instructor asked a question. They had three minutes to talk about their personal ideas in groups. After that, the teacher selected one of the groups to put their ideas about the topic in common with other groups and also went for another group to raise questions about their opinions. The following sentence is an obvious example.

• *I believe this flexibility gives you students studying at American colleges.* (Speaker-oriented; listener-oriented metadiscourse units)

Through reasoning-gap tasks, the learners were given a paragraph about a topic (e.g., unemployment), then each learner was given the chance to talk about his/her ideas and beliefs. The learners were required to talk about, and agree or disagree, and explain their opinions along with their reasons. Everyone was given a chance to speak.

• *I am proposing that the best way of getting rid of the unemployment is … .* (Speaker-oriented metadiscourse units)

As for opinion-gap tasks, the instructor asked the learners to quote about a well-known person; then, he collected them and chose one or two controversial ones. For instance, the quote "Education is a system of imposed ignorance." by Noam Chomsky was considered as the topic to be discussed. The learners talked individually about their ideas and commented on others' opinions.

• *As far as I and you are concerned this sentence implies rigid answers to things rather than fostering a spirit of inquiry.* (Participant-oriented metadiscourse units)

The subjects may use the "avoidance strategy" whereby they consciously avoided doubtful metadiscourse units and produced perfectly correct English without revealing any of the many problems they have with metadiscourse use as chunks. According to Brown and Abeywickrama (2010), in order to avoid the avoidance strategy, "if one is eliciting specific grammatical or discourse features, she/he might add to the direction something like "Tell the story that these pictures describe. Use the samples of metadiscourse units given to you" (p. 181). Moreover, the occurrences of metadiscourse units in the participants' speech were taken into account. The participants were required to use the metadiscourse units given to them and they were allowed to change the metadiscourse units with their own words.

Each of these tasks was carried out by both FI and FD groups. That is, having classified the participants as FD or FI regarding their scores on the GEFT, the researchers assigned them into six groups: information-gap task-FI group, information-gap task-FD group, reasoning-gap task-FI group, reasoning-gap task FD group, opinion-gap task-FI group, and opinion-gap task-FD group.

In session nine, in all groups, the instructor had a brief review of what learners knew about the use of metadiscourse units and if they could use them in the sentences while they were communicating with each other. A posttest was administered after ending the instructional sessions. In the last session, the learners took the posttest. The posttest was administered in the same way as the pretest.

Task type was the independent variable in the study. This surveyed the impact of task type on metadiscourse use in language performance. Another independent variable measured and compared regarding metadiscourse use was two cognitive learning styles, namely, FI and FD. The rationale behind selecting these two cognitive styles was that some learners appear to be more able than others to take out things from the context in which they are placed and consider them as separate entities (Brown, 2014). Therefore, the researchers aimed to know which groups of learners can identify the personal metadiscourse units in the input they receive and then use them in their own performance. The learners' oral performance was assessed through oral narrative tasks in terms of linguistic complexity (Tavakoli & Wright, 2020).

Data Analysis

To analyze the learners' oral performance, T-units were first measured and the indices for complexity (lexical and grammatical) were computed. The following procedure was employed to identify and measure T-unit and lexical and grammatical complexity. Larsen-Freeman (2006) suggested that a T-unit is "an independent clause and any associated dependent clauses; grammatical complexity refers to "average number of clauses per T-unit", and lexical complexity refers to "a sophisticated type-token ratio, word types per square root of two times the words" (p. 597).

To examine the research question of the study, a two-way analysis of covariance (ANCOVA) was required since the study enjoyed two independent variables, each with some levels: learning modalities (task types) and also a personality style (field dependent vs. field independent learners) and one dependent variable (complexity).

Findings

The researchers investigated the effect of task-types using personal metadiscourse units on the development

of linguistic complexity in advanced EFL learners' oral performance across field independent and dependent cognitive styles. To address this question, a two-way between-groups ANCOVA was used. Prior to running the ANCOVA, its assumptions including normality, homogeneity of variances, reliability of the covariate, linearity, and homogeneity of regression slopes were checked.

Table 1.
Results of the Test of Normality of Data in Linguistic Complexity of Oral Performance

	task	**Kolmogorov-Smirnov**		
		Statistic	df	*P*
Linguistic complexity	information-gap task	.11	60	.053
	reasoning-gap task	.08	60	.200*
	opinion-gap task	.09	60	.200*

* *p* □ .05

Information in Table 1 checks the normality of distributions of scores. The result was not significant (Sig. value greater than .05) (Pallant, 2016). In this case, the Sig. values are greater than .05, suggesting normality of data. Thus, it is found that the data are normally distributed.

There need to be no significant differences among the group variances. Box's Test, as shown in Table 2, was checked to confirm the assumption.

Table 2.
Box's Test of Equality of Covariance Matrices for Linguistic Complexity of Oral Performance

Box's M	44.613
F	1.422
df1	30
df2	68421.681
Sig.	.063

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.
a. Design: Intercept + Group

P values for Box's Test should be larger than .001 (Tabachnick & Fidell, 2013). The data did not violate this assumption (p = .063). Next, equality of error variance was examined. The test results are shown in Table 3. All p values except fluency (p < .05) in the study were larger than .05, indicating that the equal variances were assumed in complexity and accuracy.

Table 3.

Levene's Test of Equality of Error Variances for Linguistic Complexity of Oral Performance

	F	**df1**	**df2**	***P***
Linguistic complexity	.510	5	174	.768

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

The relationship between pretest and the predicted variable should be linear. A Pearson product-moment correlation was used to establish pretest (covariate) and posttest (complexity) relationship. There is a strong, positive correlation between pretest (covariate) and posttest (complexity), which was statistically significant (r = .777, n = 540, p = .000) (Table 4).

Table 4.
Results of the Correlation between Covariates and Dependent Variables: Linguistic Complexity

Correlations		Pretest (covariates)	posttest (Complexity)
Pretest (covariates)	Pearson Correlation	1	.777**
	Sig. (2-tailed)		.000
	N	540	540
Posttest (Complexity)	Pearson Correlation	.777**	1
	Sig. (2-tailed)	.000	
	N	540	540

**. Correlation is significant at the 0.01 level (2-tailed).

Two-way ANCOVA requires that the relationship between the predicted variable and the covariate be the same across the groups. The non-significant interaction between task types and cognitive styles (F(5,168) =1.38, p >.05), between task types and covariates (F(2,168) =.14, p >.05), between cognitive styles and covariates (F(1,168) = 2.2, p >.05), and between task types-cognitive styles-covariates (F(2.168) = 2.16, p >.05) showed that the researchers me the assumption of homogeneity of regression slopes (Table 5). After checking the assumptions, the ANCOVA procedure was used, the result of which is manifested in Table 6.

Table 5.
Results of Homogeneity of Regression Slopes for Linguistic Complexity of Oral Performance

Source	Type III Sum of Squares	df	Mean Square	F	*P*
Corrected Model	11029.151[a]	11	1002.65	1.42	.16
Intercept	29895.642	1	29895.64	42.34	.00
Task types * cognitive styles	4888.603	5	977.72	1.38	.23
Task types * covariates.pretest	197.133	2	98.56	.14	.87
Cognitive styles * covariates.pretest	1498.310	1	1498.31	2.12	.14
Task types * cognitive styles * covariates.pretest	3049.530	2	1524.76	2.16	.11
Error	118617.827	168	706.05		
Total	762378.000	180			
Corrected Total	129646.978	179			

a. R Squared = .085 (Adjusted R Squared = .025)

Table 6.
Tests of Between-Subjects Effects for Linguistic Complexity of Oral Performance

Source	Type III Sum of Squares	df	Mean Square	F	*P*	Partial Eta Squared
Corrected Model	18168.741[a]	6	3028.124	42.996	.000	.599
Intercept	3871.306	1	3871.306	54.969	.000	.241
sqfluency	231.247	1	231.247	3.283	.072	.019
Task types	3706.092	2	1853.046	26.311	.000	.233
Cognitive styles	12286.814	1	12286.814	174.460	.000	.502
Task types * cognitive styles	1911.899	2	955.949	13.573	.000	.136
Error	12183.987	173	70.428			
Total	893277.000	180				
Corrected Total	30352.728	179				

a. R Squared = .599 (Adjusted R Squared = .585)

Table 6 displays that the interaction effect is significant (F (2, 173) = 13.573, p < .05). Moreover, cognitive styles appear to make significant difference in the participants' linguistic complexity (F (1, 173) = 174.460, p < .05). Alternatively stated, the effect of independent and dependent cognitive styles on improving the participants' linguistic complexity appeared to be significantly different. In addition, the difference between the three task types of instruction is also statistically significant (F (2, 173) = 26.311, p < .05). In fact, the three tasks had differential effects on improving participants' oral linguistics complexity. Moreover, the table displays that students' performance on the pretest was not significant covariate of the posttest scores (F (1, 173) = 3.283, p > .05).

Based on partial eta squared value, thirteen percent of the total variability between groups is accounted for by the interaction between independent variables and about fifty percent of the differences is attributed to the cognitive styles and about twenty-three percent is attributed to the task types.

The independent variable, task types, with three different levels was taken into account to do follow-up analysis to find out where the significant differences exist. Since complexity was significant in ANCOVA, a Tukey test was used to locate the exact differences (Aryadoust & Raquel, 2019). As shown in Table 7, statistically significant differences (p < .05) can be found between all task types except for information gap and reasoning gap task.

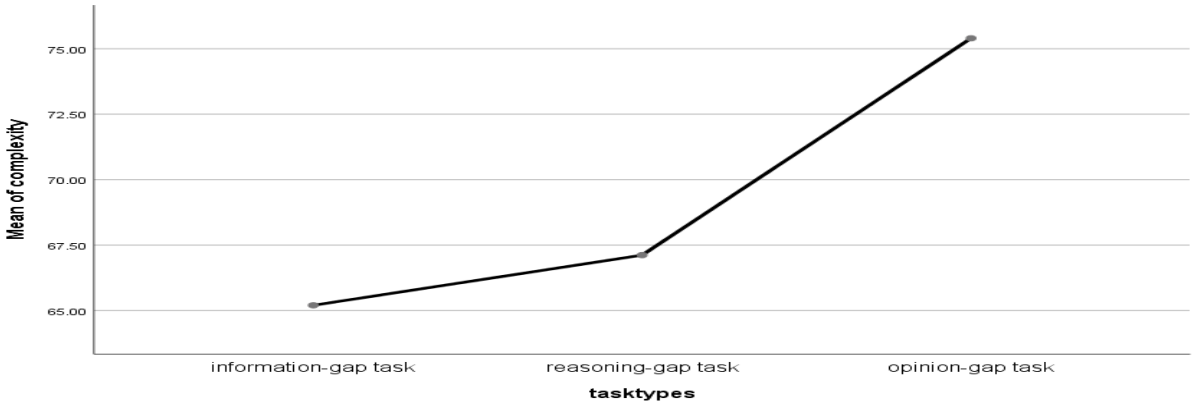
Figure 1 displays graphic representation of the differences among task types more conspicuously.

Table 7.
Post-hoc Tukey's Tests for Three Task Types in Linguistic Complexity of Oral Performance

(I) task types	(J) task types	Mean Difference (I-J)	Std. Error	*P*	95% Confidence Interval	
					Lower Bound	Upper Bound
information-gap task	reasoning-gap task	-1.91667	2.24	.67	-7.22	3.39
	opinion-gap task	-10.20000*	2.24	.00	-15.51	-4.88
reasoning-gap task	information-gap task	1.91667	2.24	.67	-3.39	7.22
	opinion-gap task	-8.28333*	2.24	.00	-13.59	-2.97
opinion-gap task	information-gap task	10.20000*	2.24	.00	4.88	15.51
	reasoning-gap task	8.28333*	2.24	.00	2.97	13.59

*. The mean difference is significant at the 0.05 level.

Figure 1.
The Mean Plot of the Difference among Task Types on Linguistic Complexity



According to Pallant (2016), since the independent variable (cognitive style) has less than three levels, the researcher referred to the Table 8 labeled Estimated Marginal Means to locate the exact differences of mean scores for linguistic complexity between FD and FI learners. Since there is a covariate in the analysis, the mean was adjusted for the effect of the covariate

(George & Malley, 2016). The result shows that FD learners outperformed FI learners.

Table 8.
Estimated Marginal Means on Cognitive Styles for Linguistic Complexity of Oral Performance

Dependent Variable	Cognitive styles	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Linguistic complexity	field-independent	60.92	.89	59.16	62.68
	field dependent	77.55	.89	75.79	79.31

Finally, the interaction of the task types and cognitive styles was found to be significantly different in linguistic complexity, ($F(2,173) = 13.573$, $p < .05$), implying that the main effects are overshadowed. In other words, the main effects are somewhat washed away. This suggests that FI and FD learners performed differently in task types (Table 9).

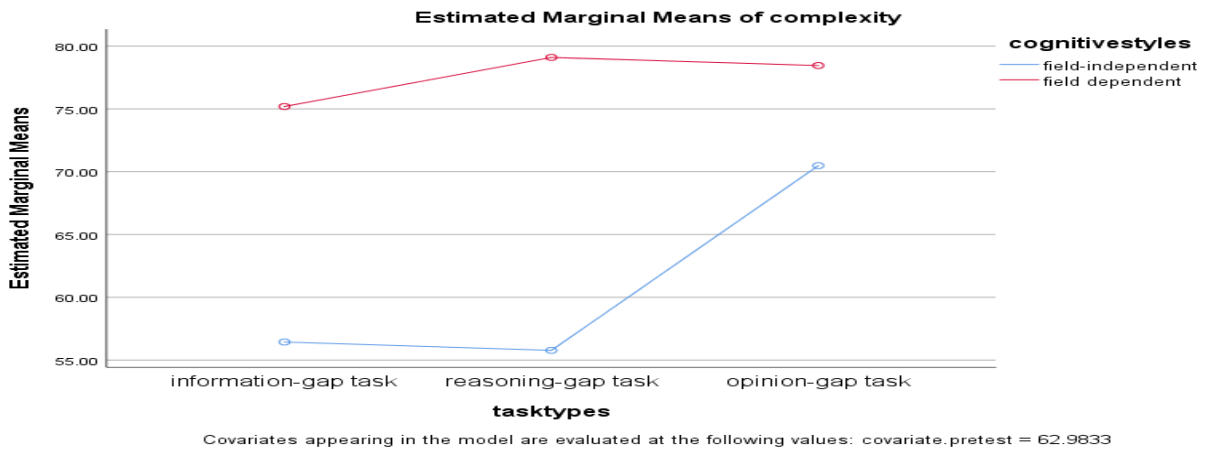
The differences among three task types on complexity is best illustrated by a means plot. Taking look at Figure 2, it can be safely claimed that there is an interaction effect since the lines are not parallel. Learners enjoying field-dependency outperformed FI learners in linguistic complexity. However, except for opinion-gap task, FI learners performed worse in complexity, using information- and reasoning-gap tasks.

Table 9.
The Interaction Effect of Task Types and Cognitive Styles on Linguistic Complexity of Oral Performance

Dependent Variable	Task types	Cognitive styles	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
complexity	information-gap	field-independent	56.440[a]	1.56	53.35	59.52
		field dependent	75.190[a]	1.55	72.12	78.25
	reasoning-gap	field-independent	55.774[a]	1.53	52.73	58.81
		field dependent	79.097[a]	1.53	76.06	82.12
	opinion-gap	field-independent	70.482[a]	1.62	67.28	73.67
		field dependent	78.451[a]	1.57	75.33	81.56

a. Covariates appearing in the model are evaluated at the following values: covariate.pretest = 62.9833.

Figure 2.
The Mean Plot of the Difference between Task Types and Cognitive Styles on Linguistic Complexity of Oral Performance.



Discussion

Considering the research question, significant differences between task types as to mean scores in complexity after controlling for the effect of pretest were realized. The results of post-hoc comparison revealed that the differences in all task types are statistically significant except for information gap and reasoning gap tasks. Opinion-gap tasks had a significantly higher mean than the other two tasks on the posttest in linguistic complexity. Regarding the cognitive styles, the difference between FI and FD learners' mean scores was statistically significant, i.e., FD learners had a better performance in linguistic complexity. Moreover, the interaction effect between task types and cognitive styles in linguistic complexity appeared to be statistically significant.

The finding is that performance on complexity between information-gap and opinion-gap tasks, on the one hand, and between opinion-gap and reasoning-gap tasks, on the other, came up to be statistically significant. To promote negotiation of meaning, learners are required to solve a task or a problem by locating and exchanging the missing information following information-gap tasks (Larsen-Freeman & Cameron, 2008).

The findings show that information-gap tasks, compared to reasoning-gap and opinion-gap tasks, did not improve complexity. This finding may lend support to the trade-off hypothesis (Skehan, 2009), in which some linguistic elements are given priority over others because the current study suggests the different levels of performance in complexity using different tasks types meaning that regarding other aspects of oral performance, accuracy and fluency, the result may be different. The results showed that information-gap and opinion-gap tasks are statistically different for complexity. From a psycholinguistics point of view, information exchange is required in information-gap tasks, meaning that learners cannot complete the task unless they exchange the information, whereas in opinion-gap tasks it is optional (Erlam & Tolosa, 2022). More complex sentences are used when learners cannot rely on context or feedback to make themselves clear when task requires giving opinion and preferences. According to the interaction hypothesis (Long, 1996), opinion-gap tasks are context-dependent; however, information-gap tasks are context-free. Regarding discourse domain, the former is descriptive and expository, while the latter is narrative and collaborative (Sudharshana & Mukhopadhyay, 2022).

FI learners outperformed FD individuals in resisting interference in short-term memory tasks, which is in line with Gass and Selinker (2008). On the one hand, reasoning-gap tasks require learners to produce an utterance once they are given an input. On the other hand, opinion-gap tasks, as mentioned by Ellis and Shintani (2014), are likely to engage in the input that the individuals already have in mind. Relying on these assumptions, it can be understood that field-independent learners are expected to perform better when they are involved in a reasoning-gap task, due to their ability to focus attention on relevant aspects of a situation. Consequently, considering their ability, if a reasoning-gap task is given to FI learners and then they are asked to provide an oral output, they will have a better performance in terms of linguistic complexity. However, this did not appear in the current study. FI learners performed better in information-gap and opinion-gap tasks rather than in reasoning-gap tasks for linguistic complexity improvement. As far as field-independent learners function atomistically and tend to learn the content item by item due to their peculiar approach to learning, the same process surfaces when it comes to meaningful activities with information-gap and opinion-gap orientations. These activities require language data without too much weight on the inferencing as is the case with reasoning-gap activities.

As for interaction effects, since the researchers found that interaction effect was significant, the main effects are not simply and easily understood and it seems unwise to interpret only the main effects (Denis, 2020; Pallant, 2016). This is why, to describe the impact of task types or cognitive styles, it is requisite to identify the level of the other independent variable.

When it comes to complexity, field-dependent learners performing reasoning-gap tasks improved their complexity dimension of oral performance. It is the reasoning-gap tasks that help learners derive latest information from old information through processes of speculation and reasoning, which are the characteristics of field-dependent learners (Ellis et al., 2020). Field-dependent learners are thought to achieve more success through focusing on meaning, and it is argued that reasoning-gap tasks are more likely to result in engagement with meaning than information-gap and opinion-gap tasks (Ellis & Shintani, 2013; Saville-Troike, 2012). On the other hand, field-independent learners performed better in complexity through opinion-gap tasks. They enjoy form-focused instruction, and this entails opinion-gap activities with the target forms enhanced through expressing feeling and exchanging opinions (Loewen, 2014). Consistent with Ellis et al. (2020), who stated that task-based language teaching improves learners' oral performance, this study revealed that opinion-gap tasks help the FI and FD learners to mostly improve complexity and accuracy. However, regarding fluency, FI learners enjoyed

information-gap tasks more than other tasks. Moreover, considering CAF, FD learners performed better than FI learners. Using these findings, the researcher argues that FI and FD learners use metadiscourse units as lexical chunks to facilitate smooth communication.

Conclusion

One of the ways to acknowledge how metadiscourse functions is through tasks including scanning and locating metadiscourse units in a text, classifying them, and identifying different types of metadiscourse (Hyland, 2005). The findings of current study indicated that TBLT is useful to get a good grasp of metadiscourse units in that opinion-gap tasks were more effective than other task types. Learners may be encouraged to produce metadiscourse items, using such tasks to have a good understanding of metadiscourse categories (Jalilifar & Alipour, 2014).

Taking learners' communicative needs seriously means that metadiscourse devices should be taught based on creating tasks, using authentic texts. In Hyland's (2005) words, "metadiscourse practices are closely related to the social activities, cognitive styles and epistemological beliefs of academic communities" (p. 170). Involving learners in different text types about metadiscourse may contribute to improvements in their production. This includes tasks which sensitize learners to meta-discursive features that tend to recur in particular genres and communities. The significance of these findings indicates that metadiscourse shows an interpersonal coloring, building a relationship with speakers of different cognitive learning styles, drawing them into the discourse, and establishing a different stance and attitude to arguments (Triki, 2021).

This study, like other studies, had some limitations as follows. The study population was limited to the age range between 25 and 34 years; therefore, this cannot be generalized to all learner groups. The proficiency level of the learners was advanced, so it is suggested to conduct the same study with different proficiency levels to reach more reliable findings. Since the current study focused on the two cognitive styles, it is suggested to investigate other cognitive learning styles in metadiscourse instruction, including ambiguity of tolerance. The dependent variable was limited to the oral performance complexity, it is also suggested to examine oral performance accuracy and fluency in future studies.

The findings of the current study have practical implications for EFL learners. The language teachers were required to present metadiscourse units as chunks in a variety of tasks to improve language learners' oral performance in this study. Providing the language learners with metadiscourse units as input in reading or listening skills may facilitate their fluency in their language production. In EFL contexts, since there is little exposure to language out of classroom, it seems necessary to provide conditions for learners to take maximum advantage of the class time. The knowledge of how each task types and cognitive styles affects oral performance can help learners be careful of their choice of the learning tasks. Such knowledge can also help language learners to resist the temptation to stick to the security of routines and to use a pre-selected set of tasks simply because they are used to them.

In the future, researchers should consider examining the plausible relationship between metadiscourse units and other aspects of oral performance including accuracy and fluency. Other studies should be conducted to investigate cognitive styles other than FD and FI such as ambiguity tolerance and its relationship with learning metadiscourse units as chunks. Participants' proficiency level can be another variable which is yet to be examined regarding metadiscourse learning.

Conflicts of Interest

No conflicts of interest declared.

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