

Task Complexity Manipulation and EFL learners' interactions in the process of collaborative pre-planning

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Received: 2018/07/18

Accepted: 2018/09/25

Abstract: Today, learners' interaction and collaborative task performance have attracted increasing attention from language teachers and researchers. The present study investigated whether collaborative pre-planning, task complexity manipulation, and language proficiency level play a role in learners' interactions. To this end, 128 EFL learners from two different language proficiency levels carried out three different tasks, whose complexity was manipulated based on Robinson's task complexity framework. Retrospective semi-structured interviews were conducted which led the researchers to a better understanding of the unobservable underlying processes they underwent in the pre-task planning stage. The learners' interactions were closely examined, analyzing all their language related episodes quantitatively as well as qualitatively. The results partially supported the Cognition Hypothesis and highlighted that cognitively demanding tasks provide more learning opportunities as learners confront more challenges, compared to undemanding tasks. The results were highly revealing about the process learners undergo in the pre-task planning stage, which can be considered by applied linguists, language teachers and material designers in providing considerable learning opportunities.

Keywords: Collaborative Pre-planning; Cognition Hypothesis; Language-related Episodes; Task Complexity.

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ISSN (Online): 2322-5343, ISSN (Print): 2252-0198

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Introduction

Communicating needs, wants, and ideas is considered as the primary purpose of language; therefore, learning to speak is an essential skill in the process of language learning (Nation & Newton, 2009). If we define communication as the exchange of ideas, information, etc., between two or more persons (Richards & Schmidt, 2002) we see that, in this age of globalization, communication has become much more important than before. People need to be linked with others; thus, for many people the ability to speak a foreign language means knowing the language to use it for effective communication. A considerable frustration learners commonly experience is mastering the speaking skill (Shumin, 2002). Today, it is believed that language learning results from such processes as interaction between the learners, collaboration in creating meaning, creation of meaningful verbal interactions, negotiation of meaning, and the like (Richards, 2006). Thus, investigating the processes learners undergo in such interactions and collaborations can be highly revealing (Mackey & Polio, 2009).

In Iran, the traditional form-focused and product-oriented instruction have been dominant approaches to language teaching for several decades; hence, accuracy has been strongly emphasized in learners' performances (Zarrabi & Brown, 2015). In the past couple of decades, however, there has been a dominant shift from product-oriented approach to a process-oriented approach with the aim to enhance L2 Learners' communicative abilities (Richards, 2006). It has been argued that learners learn a language through the process of communication, and meaningful communication provides considerable opportunities for learning (Adams, 2007; Fujii & Mackey 2009). In Iran, also, attempts have been made to move from the traditional grammar-based approach to communicative approaches (Safari & Sahragard, 2015). Hence, a great number of studies have been conducted to investigate the use of tasks and benefits of learner-learner interactions in the process of collaborative task-based language learning (e.g., Abadikhah, 2011; Birjandi & Alipour, 2010; Roohani, Forootanfar, & Hashemian, 2017; Tavakoli & Rezazadeh, 2014; Yaghobian, Samuel & Mahmoudi, 2017).

Taking advantage of pair work or small group work in second language classrooms rests on strong theoretical and pedagogical bases (Ellis & Shintani, 2014). It is generally believed that effective interactions are authentic exchanges of ideas, during which learners use their L2 Knowledge in order to produce meaningful utterances (Cummins, 2011). It suggests that performing interactive tasks cause interaction processes like negotiation of

meaning, provision of feedback, and production of modified output (Gass & Mackey, 2007), which are all helpful in the process of L2 development. Brown (2007) posits that the Interaction Hypothesis has had considerable influences on SLA research, since it considers language classrooms not only as a place where learners of different backgrounds, cognitive abilities, and thinking and learning styles mingle, but also as a place in which learners can effectively interact.

In this regard, an important concept which has been discussed extensively is collaborative pre-planning. Pre-task planning provides learners with time to prepare for performing the task by considering the content they want to encode and to find specific language codes to express that content. In collaborative pre-planning, planning activities are completed by peers being engaged in the planning activity (Ellis, 2005). Generally, a considerable benefit of collaborative pre-planning is that it provides learners with a social context for generating ideas, conceptualizing thoughts, and finally making linguistic decisions by the help of peers (Hanjani, 2015; Wigglesworth & Storch, 2009). Therefore, researchers have appreciated the benefits of collaborative pre-task planning and learner-learner interactions in collaborative task-based language learning (e.g., Bygate, Skehan, & Swain 2001; Ellis, 2003; Kim, 2009; Samuda & Bygate, 2008).

A great number of studies have been carried out to investigate the quality of learners' oral performances with regard to pre-planning conditions (e.g., planning time, guided/unguided, individual/collaborative, etc.) and cognitive task complexity (e.g., Ahmadian & Tavakoli, 2011; Ahmadian, Tavakoli & Dastjerddi, 2015; Fakhraee & Ghaemi, 2017; Lee, 2018; Tuan & Storch, 2007; Yuan & Ellis, 2003, to name only a few). It has generally been reported that planning conditions and task complexity play crucial roles in learners' final performance's quality. Thus, the literature has more than enough to support the fact that different task designs and their implementation conditions can affect L2 performances. The question facing foreign language teachers is how strongly they should encourage learners to work jointly on performing tasks, and how to design tasks to gain the advantages of using collaborative pre-planning in the process of language teaching; they need to know what learners actually do in the pre-planning stage.

Background

In task-based language research, planning has been considered as one of the task implementation variables which affect the quality of L2 production. Ellis (2009) presents a

comprehensive review of a number of studies on the effects of different kinds of planning on L2 learners' oral performances. In his wide-ranging review, there is sufficient convincing evidence that pre-task planning, specifically collaborative pre planning is considered to be highly beneficial for learners' performances. But, it can be reasonably argued that most of the existing studies on pair and group work in L2 production have adopted a product-oriented approach. However, some studies have investigated the process that learners undergo in the pre-planning stage of oral tasks. Nakakubo (2011), for example, investigated not only the final performance of the learners, but also the process under which they pre-planned. He tried to understand the process of pre-planning by retrospective interviews after completion of each task. His findings indicate that learners select similar strategies, regardless of planning conditions.

Kunitz (2013), also, studied the process of pre-planning by adopting a conversation analytic perspective to explore the way through which students collaboratively create and work on emergent linguistic features in their L2 performances. She found significant differences between the presence and absence of pre-task planning by showing how students actively accomplish a task based on their ongoing interpretations of the task and specific settings in which they perform them.

Despite advances in this area of research, many fundamental questions about the language processes learners undergo in their pre-planning have still remained unresolved. How collaborative planning benefits learners' performances in different stages of their language development is one of the indistinct areas which calls for further investigation. Not only learners' communicative performances, but also their strategic pre-task planning interactions need to be closely examined.

Moreover, the role of task complexity, which can be manipulated to serve different purposes (Gilbert, 2007) in the process of collaboration, needs to be investigated to see how cognitive demands may affect the way learners interact in the pre-planning stage. In this regard, one of the theoretical perspectives on language learning which supports the use of interaction for learning is the sociocultural theory. Sociocultural research findings suggest that collaborative activities encourage language learners to consider their own language use and collaboratively find solutions for their language-related problems (Swain, 2000, 2001). According to Storch (2005), proponents of the social constructive perspective believe that learners need to be involved in activities which facilitate "interaction and co-construction of knowledge" (p. 154).

Swain's output hypothesis is another theoretical motivation for task planning research (Swain, 2005). It is generally suggested that with the opportunity to plan for a task, learners produce better outputs (Gilabert, 2007; Ortega, 2005; Skehan & Foster, 2005). In other words, task planning can increase the potential to facilitate second language learning; in fact, these studies show that planned conditions result in improved performances.

Developments in this area of research support the idea that pre-task planning as well as the task itself play a crucial role in developing learners' performances. Limited Attentional Capacity Model (Skehan, 1998; Skehan & Foster, 2001) and the Multiple Attentional Resources Model or Cognition Hypothesis (Robinson, 1995, 2007, 2011) are two of the best known models which explain the specific roles tasks play on learners' linguistic performances.

The Cognition Hypothesis offers an account of the role of task complexity in influencing the quality of L2 learner's output and their interaction in the L2. Closely related to this hypothesis is Robinson's (2007) Triadic Componential Framework for task classification. Robinson acknowledges three sources for task cognitive demand as: (1) task complexity (cognitive factors relating to the specific ways based on which tasks are designed); (2) task conditions (interactional factors relating to participant variables and their kind of participation); and (3) task difficulty (learner factors concerning affective and learner ability variables).

In Robinson's (2007) framework, task complexity factors can either be resource-*directing* or resource-*dispersing* with regard to cognitive resources such as attention and memory. Resource-*directing* factors are those which make cognitive and/or conceptual demands on attention and memory resources, directing them to aspects of the linguistic code; whereas resource-*dispersing* factors are those which make performative and/or procedural demands on attention and memory resources. Examples of resource-*directing* factors are: +/- few elements, +/- here and now, and +/- reasoning demand, while examples of resource-*dispersing* factors include: +/- planning, +/- single task, and +/- prior knowledge. It is clearly specified by Robinson and Gilabert (2007) that *both* resource-*directing* and resource-*dispersing* task complexity factors will "result in greater amounts of interaction, and negotiation for meaning" in interactive tasks (p. 167).

The Cognition Hypothesis puts considerable emphasis on learners' linguistic performance and the interactional processes they undergo as well as the learning opportunities provided for them. Therefore, to be able to test the cognition hypothesis more

thoroughly, from theoretical as well as pedagogical perspectives, and to put more emphasis on the role that task complexity can play in L2 pedagogy, the effect of task complexity on providing learning opportunities needs more careful investigation.

Learners' views toward collaborative pre-task planning is another issue which needs further investigation. A great number of studies have investigated learners' attitudes towards collaboration; however, due attention has not been paid to their views on the actual process they undergo in collaborative pre-task planning (strategic planning), and only a few studies (e.g., Nakakubo, 2011; Ortega, 2005; Tajima, 2003) have tried to shed some light on the issue. According to Ellis (2009), "It cannot be taken for granted that learners do actually plan (either strategically or on-line) when given time to do so, especially if they do not see the planning time as useful" (p. 505). In this regard, Pang and Skehan (2014) investigated learners' planning behavior and its effects on their final performances. They used learners' self-reports to find out what they really did while they were planning for performing an oral narrative task. The researchers concluded that there was a relationship between learners' planning behavior and their subsequent performances.

The issues discussed above attracted Iranian researchers' interest too. In Iran, a great number of studies have investigated the role of task complexity manipulation on language learners' performances (e.g., Ahmadian & Tavakoli, 2011; Ahmadian, Tavakoli, & Dastjerdi, 2015; Birjandi & Alipour, 2010). A few studies were also conducted to investigate the effects of task complexity manipulation on learner-learner interactions.

Heidari-Shahreza, Dabaghi, and Kassaian (2012), for example, explored the effects of task complexity manipulation on the occurrence of LREs during learner-learner interactions. Their study provided mixed results. While in some versions of the tasks, complexity and the occurrence of LREs positively correlated, this pattern did not hold true for all the tasks and proficiency levels. Thus, the study could not confirm the claims of neither Robinson's Cognition Hypothesis nor Skehan's Limited Attentional Resources Model.

Generally speaking, such studies were successful in providing insights on task design and implementation in a variety of EFL settings and different proficiency levels indicating the point that task complexity should be manipulated with great care and caution otherwise it may not bear any fruit. Therefore, more extensive studies are needed to get into a more comprehensive understanding of learner-learner interactions during the planning stage.

Thus, the present study was set to examine learners' interactions in the pre-task planning stage and the role task complexity manipulation and language proficiency can play in the process.

Method

Design

This descriptive study was set to explore the process Iranian EFL learners underwent in collaborative pre-task planning while performing simple and complex tasks. To this end, a multi-methods approach was employed to analyze the data both quantitatively and qualitatively. The quantitative analysis of the data provided a general view of learner-learner interactions in their collaborative pre-task planning stage, while the qualitative analysis presented a detailed understanding of the process the participants underwent in the pre-planning stage.

Participants

The participants of the study were male and female EFL university students majoring in TEFL, translation studies, and English literature at Skeikhbahaee University, Isfahan. A total of 193 students took part in a placement test (Oxford Quick Placement Test) to be assigned to two groups of language proficiency levels. To ensure that the students were able to interact in English, five students whose scores were below 18 (considered as beginners by the designers of the test) had to be excluded. To assign the rest of the participants to two groups, those who scored 18-29 were considered as the participants in Group I (low level), and the ones who scored 30-47 were assigned to Group II (High Level). The rationale behind this division was the levels defined by the designers of the placement test as elementary and intermediate. Table 1 shows the distribution of the participants in the two groups.

Table 1. *Distribution of the Participants in the Two Language Proficiency Levels*

	Number of participants	Minimum scores	Maximum scores
Group I	95	18	29
Group II	93	30	45

Finally, from among those 188 participants, 128 from the two different language proficiency levels took part in the study. The participants from each level were randomly assigned to three groups to perform the tasks. Table 2 presents the distribution of the participants and tasks they were assigned to perform.

Table 2. *The Distribution of the Participants and the Tasks They Performed*

		Control	Simple	Complex	Total
Level	Low	20	20	20	60
	High	22	22	24	68
Total		42	42	44	128

Instruments

In each level, the participants performed three oral tasks, simple and complex versions of a pictorial task (in experimental groups) and another oral task (in control groups). Immediately after performing the tasks, the researchers conducted retrospective semi-structured interviews to gain more in depth information about the process the participants underwent in the pre-planning stage.

Placement Test

Since the proficiency level was one of the variables in this study, in order to assign the L2 learners with the same level of language proficiency in each group, the Quick Placement Test (QPT) version 2 was administered. The test contained 60 multiple-choice items. With regard to its scoring procedure, each correct answer counted as “one” point, while each incorrect and no response counted as “zero”; therefore, a total of sixty was the maximum score each participant could obtain.

Oral Tasks

Within the resource-directing dimensions, +/- reasoning demands, +/-spatial reasoning, and +/- few elements were the three manipulated factors to create two versions of the task (designed to be cognitively complex). The researchers adopted and adapted the tasks used in Malicka and Levkina (2012). Since considerable changes were made to the tasks, they were finalized based on the feedback received from four experts in applied linguistics.

In the simple version (Appendix I), the participants were given a two page picture task, one was a living room in which a sofa was placed as a point of reference, and the next page was ten pictures related to the furniture they needed to furnish the living room. Their task was to choose six objects and provide reasons for their selection, and then they needed to explain where they wanted to place the objects in the living room.

In the complex version (Appendix II) of the task, again a two page picture task was designed. In this task, however, no points of reference were provided on the first page for the living room. On the second page, twenty three objects were presented. Participants were supposed to choose ten objects to furnish the living room. They were asked to provide reasons for their selection and explain where they wanted to place the objects and why.

To ensure the comparability of the results, another task was designed to be performed by the control group (Appendix III). In this task, participants were asked to furnish a living

room which was described in the form of a conversation between two friends in which one described the new apartment she had just moved in and had not furnished the living room yet. The participants were asked to choose objects to furnish the living room, and justify their choices. Then, they had to decide where to place the objects and provide reasons for their decision.

In performing the three tasks, the participants were given 20 minutes time for collaborative pre-planning.

Semi-structured Interviews

A semi structured interview protocol was developed to get an in-depth view of the process learners underwent in the pre-task planning stage. A list of questions were prepared to regard such issues as the main points of discussion during the pre-task planning stage, their attitudes toward such collaborations, the way the collaborations could help them meet the challenges they faced, the reasons behind the use of L1, and also avoidance. The questions were finalized based on the constructive feedback received from the same panel of experts in applied linguistics. Interviews were conducted immediately after performing the tasks, in order not to miss the points they wanted to mention about the task and the process they had undergone in the pre-task planning stage; each interview took 20 to 30 minutes long. They were conducted in learners' L1 (Persian) to ensure that language of the interview is not a barrier to the participants' self-expressions.

Procedure

The three tasks were administered to the participants in pairs. First, detailed instruction was given, and then the tasks were presented. The participants were given 20 minutes time for collaborative pre-planning to ensure that they had enough time to discuss different aspects of the task. Immediately after completing the tasks, 70 participants were randomly selected for semi-structured interviews. The interviews led the researchers to a better understanding of unobservable underlying processes the participants underwent in the planning stage. The interviews were essential, as they permitted a level of in-depth information gathering, as well as flexible and free responses that might not be obtained else way.

The whole process of the collaborative pre-task planning stage and retrospective interviews was audio recorded and transcribed for later analysis. In order to find out how the learners strategically planned their tasks, their collaboration in pre-task planning was closely

analyzed quantitatively and qualitatively. All Language Related Episodes (LREs) were carefully examined to get a comprehensive view of their linguistic collaboration in the pre-task planning stage.

Data Analysis

The qualitative analysis of the data gave an in-depth view of the process the learners underwent in the planning stage. In fact, the researchers explored not only the learners' opinions presented in the interviews, but also the LREs that occurred in their interactions. The quantitative analysis, on the other hand, presented a general view of the LREs in their collaborative pre-planning stage. The reason behind choosing LREs as units of analysis was the fact that they include a variety of discourse functions in learners' interactions; for example, explicit and implicit feedback, identifying information gaps, negotiation sequences, etc. (Jackson, 2001).

Data obtained in semi-structured interviews helped the researchers to get an in-depth view of the participants' ideas on LREs and what they exactly did during the pre-task planning stage. To serve the purposes of quantitative analysis, all the LREs produced by the participants were identified and counted based on the definitions provided for each kind of episode. To classify the LREs as comprehensively as possible, the researchers examined a number of previous studies (Kim, 2009; Leaser, 2004; Swain, 1998; and Swain & Lapkin, 1998) and finally analyzed the LREs based on the classification presented below:

I. Content of LREs

A. Lexical

B. Grammatical

II. Resolution of LREs

A. Correctly resolved

B. Incorrectly resolved

C. Unresolved

III. Learner initiated questions to the teacher

IV. Language of LREs

A. L1

B. L2

V. Kind of interaction

A. Interactive

B. Non interactive

Results

Occurrence of LREs

The researchers investigated the relationship between task complexity manipulation and the occurrence of LREs produced by the learners from different language proficiency levels during collaborative pre-task planning. Analyzing the data, they found 636 instances of LREs in all the tasks performed by the participants. Table 3 depicts the frequency of LRE occurrences during pre-task planning.

Table 3. *Distribution of LREs*

		Task			Total
		Control	Simple	Complex	
Proficiency	Low	71 (47.3%)	115 (47.9%)	127 (51.6%)	313 (49.2%)
	High	79 (52.7%)	125 (52.1%)	119 (48.4%)	323 (50.8%)
Total		150 (100.0%)	240 (100.0%)	246 (100.0%)	636 (100.0%)

According to Table 3, the participants who completed the simple and complex tasks faced more linguistic challenges compared to the control group. In order to analyze the data further and compare LRE occurrences in the three groups, a two-way ANOVA was conducted, the results of which are presented in Table 4.

Table 4. *Results of the Two-way ANOVA by Group and Language Proficiency Level*

	Sum of Squares	Df	Mean Square	F	Sig.
Intercept	6319.564	1	6319.564	262.448	.000
Group	251.546	2	125.773	5.223	.008
Level	14.250	1	14.250	.592	.445

The obtained values in this test showed that there was a significant difference among the three groups with regard to their use of LREs ($p=0.008$). In order to see how the groups exactly differed, the Tukey's Honest Significant Difference test (Tukey HSD) was conducted (Table 5).

Table 5. *The Tukey HSD Test for Multiple Comparisons of the Three Groups*

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Control	Simple	-4.29	1.514	.017	-7.93	-.64
	Complex	-4.04	1.497	.024	-7.64	-.44
Simple	Control	4.29	1.514	.017	.64	7.93
	Complex	.25	1.497	.985	-3.35	3.85
Complex	Control	4.04	1.497	.024	.44	7.64
	Simple	-.25	1.497	.985	-3.85	3.35

As depicted in Table 5, there was a significant difference in the use of LREs between the control group and the other two groups ($p= 0.017$, $p= 0.24$); in the control group the occurrence of LREs was less frequent than in the other two groups. The difference between the two groups performing simple and complex tasks was not statistically significant ($p= 0.985$). The results indicate that in the control group, the participants faced fewer challenges compared to the other two groups.

In the retrospective interviews, also, the participants mostly believed that the collaborative pre-task planning was useful, and the LREs were helpful. They pointed out that it was through the LREs that they could learn something from the tasks; whereas, content related episodes could only help them in making up their minds to design the living room.

In order to see whether the difference between the occurrences of LREs in the pre-task planning stage for learners from different language proficiency levels was statistically significant, a Chi-square test was run, whose results are presented in Table 6.

Table 6. *Results of the Chi-square Test for the Occurrences of LREs for Learners from Different Language Proficiency Levels*

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.946 ^a	2	.623

According to the results, there was no statistically significant difference between occurrences of LREs in the two language proficiency groups ($p=0.623$), which shows that both groups faced challenges while performing the tasks.

Types of LREs

In order to analyze the LREs more comprehensively, the researchers classified them by kind, resolution, and content as well as learner initiated questions to the teachers. Table 7 depicts the occurrences of different types of LREs in the participants' interactions.

Table 7. Occurrences of Different Types of LREs

Simple	Complex	Task		
		Control		
Language proficiency				
Content of LREs				
Lexical	High	111 (88.8%)	111 (93.3%)	72 (91.1%)
	Low	90 (78.3%)	102 (80.3%)	64 (90.1%)
Grammatical	High	14 (11.2%)	8 (6.7%)	7 (8.9%)
	Low	25 (21.7%)	25 (19.7%)	7 (9.9%)
Resolution of LREs				
Correctly resolved	High	87 (69.6%)	86 (72.3%)	66 (8.35%)
	Low	93 (80.9%)	97 (76.4%)	54 (76.1%)
Incorrectly resolved	High	31 (24.08%)	22 (18.5%)	6 (7.6%)
	Low	14 (12.2%)	24 (18.9%)	15 (21.1%)
Unresolved	High	7 (5.6%)	11 (9.2%)	7 (8.9%)
	Low	8 (7.0%)	6 (4.7%)	2 (2.8%)
Learner initiated questions to the teachers				
	High	29 (23.2%)	33 (27.7%)	6 (7.6%)
	Low	30 (23.6%)	75 (24.0%)	14 (19.7%)
Language of LREs				
L1	High	65 (52.0%)	52 (43.7%)	46 (58.2%)
	Low	76 (66.1%)	84 (66.1%)	60 (84.5%)
L2	High	60 (48.0%)	67 (56.3%)	33 (41.8%)
	Low	39 (33.9%)	43 (33.9%)	11 (15.5%)
Kind of interaction				
Interactive	High	125 (100%)	114 (95.8%)	76 (96.2%)
	Low	114 (99.1%)	122 (96.1%)	71 (100%)
Non-interactive	High	0 (0.0%)	5 (4.2%)	3 (3.8%)
	Low	1 (0.9%)	5 (3.9%)	0 (0.0%)

Table 7 is a concise summary of LRE occurrences in the whole process of pre-task planning interactions. The researchers aimed at exploring the role that language proficiency and task complexity play in the occurrence of different types of LREs. To this end, a series of Chi-square tests were run. The tests showed whether the differences in occurrence of LREs in the pre task planning stage and by learners from the different language proficiency levels were statistically significant in different tasks. Tables 8 and 9 show the results of the Chi-square tests.

Table 8. Results of Chi-square Tests for Occurrences of Types of LREs by Task

	Value	df	Sig
Content of LREs	3.780	2	.151
Resolution of LREs	2.027	4	.731
Learner initiated questions to teachers	9.457	2	.009
Language of LREs	9.551	2	.008

Table 9. Results of Chi-square Tests for Occurrences of Types of LREs by Language Proficiency Level

	Value	df	Sig
Content of LREs	11.587	1	.001
Resolution of LREs	2.192	2	.334
Learner initiated questions to the teachers	.772	1	.380
Language of LREs	26.075	1	.000
Kind of interaction	.231	1	.630

The following sections present the quantitative as well as qualitative analysis of the data for the different types of LREs.

Content of the LREs

Analyzing the content of the LREs, the researchers attempted to find out whether the challenges the learners faced were more related to grammatical or lexical issues. According to Table 7, the participants generally used lexical LREs more frequently than grammatical ones. Based on the Chi-square test results (Table 8), the researchers found that there was no statistically significant difference between occurrences of lexical and grammatical LREs ($p=0.151$), which means all the three groups confronted more lexical challenges than grammatical ones.

In the interviews, also, when the participants were asked about the content of the LREs, they mostly emphasized lexical challenges and how they overcame them. They reported that collaboration had positive effects on expanding their vocabulary knowledge; they had learned new words in the pre-task planning stage. Some of them emphasized the superiority of vocabulary over grammar in the whole process of language learning. They said that in their linguistic performances, lexical challenges were primary. One of the participants stated her view in this regard as follows:

“In my point of view, once I find the unknown words, I can present my idea in one way or another without taking my minds busy with grammar”.

Moreover, the participants from the simple and complex groups reported that they had more time to talk about language problems, since pictures provided the content they needed. The participants in the control group, on the other hand, believed they had to spend more time on the content of the task and not to its language.

The next issue the researchers addressed was the differences between the occurrence of lexical and grammatical LREs in the two language proficiency groups. According to Table 9,

the difference between the content of the LREs from the two language proficiency groups was statistically significant ($p=0.001$). The frequencies in Table 7 indicate that the learners from the high language proficiency group were concerned with lexical issues; while the ones from the lower level had more grammatical challenges.

To analyze the issue more precisely, the researchers reviewed the LREs more extensively. In the Low Group collaborations, once the participants found the new word they were looking for, they tried to use them without paying close attention to grammar. In the High Group, on the other hand, the participants cared not only for vocabulary, but also grammar. Moreover, in the High Group, the participants addressed grammatical questions and provided corrective feedback to their partners; while in the Low Group, the grammatical LREs were mostly in the form of questions.

In their interviews also, the participants from the High Group reported their gains from grammatical as well as lexical points, while the Low Group believed grammar was not their main concern.

Resolution of LREs

Examining how the participants tackled their communication problems, the researchers considered three conditions: positively resolved (the problem was solved), negatively resolved (a wrong answer was found for the question), and unresolved (no specific answer was provided for the question). According to Table 7, the participants were successful in finding correct solutions to problems.

In the interviews, almost all the interviewees referred to their problem solving opportunities in their collaborations. They acknowledged that, being accompanied by a peer could encourage them not to let problems remain unresolved. They also stressed the use of such sources like dictionaries, books, and teachers as their resorts for solving problems, which they believed motivated them and gave them the courage to ask questions and insist on finding answers.

Moreover, the researchers further conducted Chi-square tests to analyze the resolution of the LREs. According to Table 8, there was no statistically significant difference among the groups doing the simple, complex and control tasks with regard to the resolution of the LREs ($p=0.731$). Table 9, also, indicates that the participants in both language proficiency groups could solve their problems, and the differences between their resolution types were statistically insignificant.

In the retrospective interviews, most of the participants stated that they liked collaborative pre-planning, because they could discover new things. When the learners were asked about avoidance due to lack of knowledge, they said they did not make use of avoidance strategies, because they preferred to have an opportunity to learn. One of the participants accentuated the learning opportunities provided for them and said:

“I think we could learn when we searched for answers to our questions. When I faced a problem, first, I asked my partner if she didn’t know the answer, I checked my dictionary. If I couldn’t solve the problem, I referred to my teacher. Why avoidance, when we have many ways to find answers for our questions?”

Learner Initiated Questions to the Teacher

Another issue the researchers considered was learner initiated questions to the teacher. Table 7 shows the extent to which the learners initiated questions to their teachers while performing the tasks. In order to test the significance of the differences between the occurrences of this type of episode, Chi-square tests were run; the results of which are presented in Tables 8 and 9.

As shown in Table 8, the difference between the frequency of initiating questions to teachers was statistically different ($p=0.009$). While performing the control tasks, the participants initiated fewer questions to their teachers compared to simple and complex tasks.

In the interviews, when the participants presented their ideas about the process of approaching the tasks, there was a considerable difference in their reports. Those who performed simple and complex tasks said they had to talk about the specific elements and the design they wanted in the task. For doing the control task, on the other hand, they did not have such restrictions and started from what they knew.

One of the participants who performed the complex task reported the process she went through like this:

“My partner and I first looked at the pictures to search for the unknown words in our dictionaries. If we could not find the intended word, then we referred to our teacher and she helped us to find the word. Sometimes, we faced grammatical problems too. We went through the same process to find solutions, but they were more difficult to be resolved by ourselves. We often had to refer to our teacher.”

Another participant who performed the control task, referred to the process of approaching the task as follows:

“We first reviewed the conversation to visualize the living room. Then we started to design the living room. I, personally, started from what I knew and tried to do the task. Generally, I did my best to do the task based on my own knowledge. If I did not know something, I did my best to find the answer by asking my partner, consulting dictionaries, or asking the teacher.”

Interestingly, the difference between the frequency of referring to teachers by the participants from the two levels of language proficiency was statistically insignificant ($p=0.380$).

Language of LREs

The researchers also aimed at investigating the language of LREs in the participants' interactions. Table 7 shows the participants' use of L1 and L2 in LREs by group and by language proficiency.

Chi-square tests were run to see whether the observed differences in using the L1 by the participants from the two language proficiency levels were statistically significant. According to Table 8, the participants used their L1 differently ($p=0.008$). Compared to the simple and complex tasks, they used their L1 more frequently while doing the control task. Moreover, the differences between the participants' use of their L1 from the high and low levels of language proficiency was statistically significant ($p=0.000$). Comparing the figures reported in Table 7, the researchers concluded that in all the three groups, the lower level participants used L1 more frequently than the participant who enjoyed a higher level of language proficiency. Analyzing the data more meticulously, the researchers found that, the participants used L1 mostly in lexical LREs; whereas, the participants from the lower level used it more frequently in discussing grammar, the other group used it for the diction.

In the interviews, when the participants were asked about their use of L1, they stressed that they used L1 to solve lexical problems; they referred to L1 mostly in content related episodes.

Kind of Interaction

As shown in Table 7, more than 95% of the LREs were interactive, which indicates that the participants tried to use this opportunity of collaboration as much as possible. In the interviews, they referred to interactions as their best experience of doing the task. All the respondents, except one, reported interactions were highly beneficial. The one who did not like to be part of a group believed that it was his personal preference. He said that:

“I do not want to say that this type of collaboration is not useful, never.... . The problem is that it does not suit my personal characteristics. Personally, I prefer to do things alone”

All the other interviewees stated that they could take advantage of collaboration. As an example,

“I found the process of collaboration very interesting and at the same time helpful. When you see that you are not alone in accomplishing a single task, you'll be more motivated. I really liked this kind of collaboration”

Since the frequency of non-interactive LREs was less than 5 for the three groups of simple, complex and control, Chi-square tests could only show the degree of differences between the two language proficiency groups. As the results in Table 9 illustrate, there was no significant difference between the two language proficiency groups, which means the participants from both levels communicated interactively.

Discussion

The current study was set to examine the effects of task complexity manipulation on the occurrence of LREs and consequently learning opportunities during pre-task planning processes learners from different proficiency levels undergo. The findings partially support the Cognition Hypothesis and highlight that task type and learner proficiency are important factors affecting the role of task complexity on L2 learning opportunities.

Generally, collaborative planning can help learners overcome challenges they confront in the planning stage by providing opportunities to exchange immediate feedback on language. It has been noticed that verbalizing specific linguistic features can lead to a more in-depth understanding of those features (Swain & Watanabe, 2013). Hence, the findings support the literature on the benefits of collaborative planning, as the participants discussed lexical as well as grammatical aspects of their language production and tried to provide a joint understanding of the problems they faced.

The related literature generally reports that planning and its effects can be taken as cognitive processes which have implications for learners' subsequent performances of the task. Batstone (2005) supports this view in SLA research and contends that when learners engage in a communicative discourse and have to link form to meaning their interlanguage develops best. When learners, he argues, do not have to adopt a purely communicative approach, and instead, they see the task and task planning as unique opportunities to stretch

their linguistic resources through their adventurous spirit, they will develop best. The qualitative and quantitative analyses of the LREs in the present study strongly confirm Batstone's (2005) view.

In the current study, no significant difference was found between the occurrence of LREs in the participants' interactions during the planning stage for complex and simple tasks. The findings are consistent with those of Solon, Long and Gurzynski-Weiss (2017) who report no significant difference between the number of LREs produced in simple and complex tasks. According to the Cognition Hypothesis, increasing task complexity is expected to facilitate interaction and promote noticing and consequently create language learning opportunities. However, this was not confirmed in the present study.

However, fewer LREs occurred in the learners' interaction in pre-planning for control task, compared to simple and complex tasks, which indicate that in the control group, the participants faced fewer challenges compared to the other two groups. It can be inferred that since the participants were free with regard to the content, they chose the elements and structures which were less challenging for them. Actually, they tried to present what they knew, instead of trying to learn new things. For the ones who fulfilled the simple and complex tasks, on the other hand, the tasks were challenging, since they had to talk about the objects presented in the tasks. In fact, while doing the simple and complex tasks, the participants benefited from more learning opportunities.

Nuevo (2006) contends that learners produce more LREs in complex compared to simple tasks. The present study did not confirm this. Based on the findings, there was no statistically significant difference between the occurrences of LREs in the performances of the different language proficiency groups, which is also in contrast with the findings of Kim (2009) and Riccardi (2014). They report differences in the occurrence of LREs in the pre-task planning stage for learners from different proficiency levels doing simple and complex tasks. They reported that in performing simple tasks, the low group learners produced significantly more LREs compared to the high proficiency group. In contrast, performing complex tasks, the high group learners produce more LREs compared to the low group. In this study, the frequency of occurrence of LREs as well as their contents were analyzed and significant differences were found with regard to their content. More lexical LREs were observed in the High Group, while there were more grammatical LREs in the Low Group. This is in line with the findings of Kim (2009).

The next factor considered was the use of L1. Looking at the matter from a sociocultural perspective, L1 can play a crucial role as an important psychological tool that can facilitate interaction processes (Brooks-Lewis, 2009). The learners' L1 affects their interactions, sharing ideas, and finding solutions to problems (Anton & DiCamilla, 1998). In this study, the researchers observed that learners made effective use of L1 in their interactions. It was revealed that the Low Group learners made more use of L1 than the High Group, which can be justified by the language repertoire each person has.

Finally, the researchers studied the resolution of LREs and learner initiated questions to teachers. In most cases, the learners did their best to handle the challenges they met; referring to the teacher was their last resort, which shows that such collaborations help learners to be more independent of teachers. The researchers also noted that most of the LREs were positively resolved. Robinson (2007) argues that complex tasks produce a greater amount of uptake compared to simple ones; however, in this study no statistically significant difference was found in the resolution of LREs.

With regard to learner initiated questions to teachers, it was found that the participants initiated fewer questions to their teacher in performing the control task, compared to the simple and complex tasks. It can be inferred that since these differences resulted from the cognitive demands of the tasks, the learners experienced more cognitive demands, they faced more complicated questions, and therefore, they had to refer to their teachers seeking for solution.

The findings of this study confirm the Cognition Hypothesis only in a few cases; most of the predictions made by Robinson did not come true. Generally speaking, the learners found collaborative pre-planning highly beneficial. In the interviews they identified several benefits for collaborative pre-planning which can be listed as:

- Ability to organize and formulate thought,
- Ability to solve lexical and grammatical problems,
- Help availability to retrieve known information,
- Availability of learning opportunities,
- Possibility of self-confidence enhancement,
- Possibility of peer-feedback on performance,
- Absence of avoidance conflict due to presence of help.

Conclusion

To date, considering Cognition Hypothesis and task complexity manipulation, many researchers have conducted studies to examine accuracy, complexity, and fluency of learners' final production (e.g., Ellis & Yuan, 2005; Gilbert, 2007; Sangarun, 2005; Tavakoli & Skehan, 2005) ; however, little attention has been paid to the learners' interaction in the process of pre task planning (e.g., Kunitz, 2013; Nakakubu, 2011; Ortega, 2005). Since such interactions can be considered as generated learning opportunities, they become a fundamental topic for research in the field of task-based language teaching.

Based on the Cognition Hypothesis, the current study investigated the effects of task complexity manipulation and language proficiency on the occurrence of LREs. The findings did not support the Cognition Hypothesis in that the differences in the occurrence of LREs of the learners from different proficiency levels performing different tasks were statistically insignificant. Qualitative analysis of the data was highly illuminating and enhanced our understanding of the collaborative pre-task planning stage and nature of learners' interactions. The findings suggest that collaborative pre-task planning is beneficial in offering learning opportunities.

The findings suggest several pedagogical and theoretical implications for applied linguists, language teachers, and material designers. Description of task characteristics and pre-task planning stage can broaden our view toward the process of language production and the challenges caused by certain tasks for learners. Such information will be helpful in broadening our understanding of cognitive-interactionist theories of SLA. The findings can help material designers and language teachers in providing considerable learning opportunities; moreover, they can consider the findings of the study for observing logical task sequencing to be presented to the learners. Language teachers are recommended to use interactive tasks in L2 classes as much as possible to provide opportunities for learners from different language proficiency levels to meet challenges which can pave the way for learning. Material designers are also recommended to pay due attention to pre-task planning and specific collaborative interactions in the materials they develop.

Although the research has reached its goals, there were some unavoidable limitations. A notable shortcoming is that the data was obtained in a one-shot design; therefore, the roles of some affective factors like motivation, anxiety, attitudes, etc., were not considered. If there were opportunity to collect data in a time series design, the researchers could be more confident to generalize the findings. Another problem was the limited number and kinds of

tasks. If the researchers had the opportunity to provide a variety of tasks, the findings would be more informative.

For further research, researchers may take individual differences, different planning conditions, and different modes of communication into account. More experimental studies are also suggested to discover more about specific effects of collaborative task planning on learning progress. Moreover, learners' uptake of the resolved LREs can be investigated to see how much the LREs contribute to language learning.

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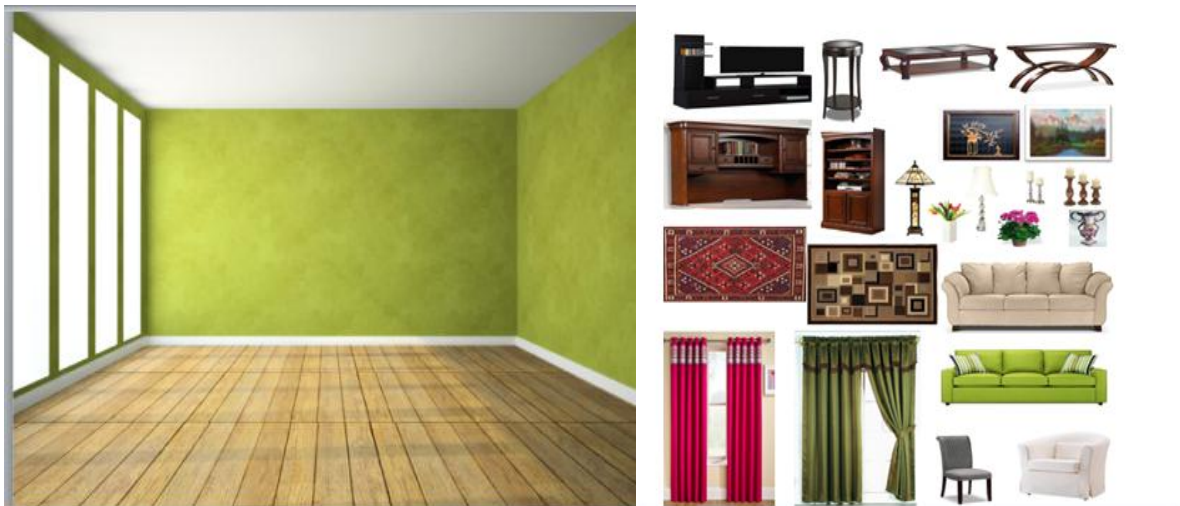
Appendix I (Simple Task)

First, choose six objects to furnish the living room, and justify your choice. Then, decide where you want to place the objects and provide reasons for your decisions. You have 20 minutes time to discuss with a friend to make good choices and how to present the ideas.



Appendix II (Complex Task)

First, choose ten objects to furnish the living room, and justify your choice. Then, decide where you want to place the objects and provide reasons for your decisions. You have 20 minutes time to discuss with a friend to make good choices and how to present the ideas.



Appendix III (Control Task)

Read the following conversation carefully

Lili: Welcome to my new home, Mike! Let me show you the house. The room in the north is a study, which is only 12 square meters

Mike: It doesn't look so small. The desk and bookcase are reasonably designed.

Lili: This room in the south is the bedroom. It is about 25 square meters.

Mike: Wow! It's fantastic. I like the color of the walls. Purple is really lovely. Let me take a look at your kitchen. How stylish it is! The stove and the large cupboard look beautiful.

Lili: The kitchen utensils are ready, too. I'm going to invite colleagues to have a dinner party in my new home.

Mike: great idea

Lili: But the problem is I have not furnished the living room yet. It is about 40 square meters.

Mike: Wow. Very nice, that's quite spacious. What a big window! It must have a good lighting effect. I love this living room. Do you have enough furniture?

Lili: Actually I haven't bought anything yet. I thought I should first think about the design and then start buying furniture, but I could not decide what to buy and how to arrange it.

Mike: You're right

Can you help the woman furnish her living room? First, choose objects to furnish the living room, and justify your choice. Then, decide where to place the objects and provide reasons for your decisions. You have 20 minutes time to discuss with a friend to make good choices and how to present the ideas.