A Correlational Study on Japanese EFL Learners’ Creativity and Their Language Performance
A Correlational Study on Japanese EFL Learners' Creativity and Their Language Performance

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By
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Abstract

This study aims to explore the importance of English language learners' creativity in the classroom by analyzing the correlation between their creativity and communicative task performance. Second language acquisition (SLA) research has investigated the ways in which learners acquire linguistic abilities, focusing on task-based language teaching (TBLT) for the past three decades. Their major concern has been how learners’ linguistic abilities or socio-affective factors, including motivation, personalities, and learning strategies, determine their performance in TBLT. In addition to those abilities and factors, however, we believe that learner’s creativity plays another significant role in successful task performance. The creativity here refers to the ability to produce many ideas in responding to a particular task and is quantifiable with a standardized creativity test. Learners’ creativity is required particularly when learners are involved in open-ended tasks such as a narrative task, in which learners plan and present a story based on a prompt. This task requires learners to generate many ideas to complete their own stories. However, very few studies have been conducted to investigate the relationship between learners’ creativity and task performance. Albert and Kormos (2011) is one of the few exceptions. Their research clarified that there were modest correlations between Hungarian learners’ creativity and their narrative task performance. Following Albert and Kormos (2011), we conducted an exploratory study under the Japanese EFL context to demonstrate whether the relations which were found in Albert and Kormos would be replicated with our Japanese EFL learners. In addition to the narrative task, we explored whether there were any correlations between
Japanese learners’ creativity and their role play performance. Since narrative task and role play are different types of task in that the former is a monologic type and the latter is more interactive type of task, we suspected that these two task performances would correlate with creativity in different ways.

This thesis is composed of four chapters. Chapter 1 provides the discussion on the concept of creativity. The first difficulty we encountered when we clarified the concept of creativity was that there are various types of definition of “creativity” from multifarious viewpoints (e.g. psychology, philosophy and art). In this research, we specified the concept of creativity as the capacity which all individuals possess to a certain degree and we adopted the concept of creativity defined by American psychologist J.P. Guilford (1950), who is the first developer of the standardized creativity test. He defined that creativity consists of four factors (creative fluency; the ability to produce a large number of ideas, flexibility; the ability to produce a wide variety of ideas, originality; the ability to produce unusual ideas and elaboration; the ability to develop or embellish ideas and to produce many details). These four factors were described in detail in Chapter 1. Chapter 2 provides the discussion on the concept of tasks in SLA. TBLT has been one of the mostly and variously researched issues in SLA research over the last thirty years. Based on the classifications of the task types by Richards (2001) and Pattison (1987), we selected two open-ended types of the tasks, a narrative task and a role play. Chapters 3 and 4 investigated whether there would be different relationships between learners’ creativity and a narrative task performance and between their creativity and a role play performance. In Chapter 3 (Study I), the process and result of correlational study between creativity and narrative task performance
by Japanese college students was reported. The students’ creativity was measured by SA Creativity test (Tokyo Shinri, 1972). The task used in Study I was a narrative task, which required participants to narrate the story they made based on the picture. Their task performances were scored by predetermined criteria including accuracy (the grammatical correctness), quantity of talk (number of words produced), fluency (quantity of talk per minute), lexical variety (broadness of vocabulary use), complexity (syntactical complexity in the sentence), narrative structure (the capacity for developing the story) and use of original words (tendency to use atypical word). Based on Albert and Kormos (2011), we hypothesized that (1) participants who generate more ideas (i.e. high creative fluency) would tend to speak more in the narrative task; (2) participants who used more unique ideas in the creativity test (i.e. originality) would tend to speak less in the narrative task, (3) participants whose originality was high would tend to produce a story with a better chronological sequence, and (4) participants with high originality scores tend to use more unique words in the narrative task. The correlational statistics was performed and the results showed that the four hypotheses were supported. In Chapter 4 (Study II), the process and result of correlational study between creativity and role play performance were discussed. Here, the participants were given a role play, in which they were required to talk with a shop clerk in order to exchange the items they had purchased but had not liked with a new item or get their refund. Scoring criteria we used were reaction time (the time delay learners took until they first reacted to the problem posed by the interviewer); the quality of negotiation, and the quantity of talk. We hypothesized that (1) participants with higher fluency tend to respond more quickly to the interviewer and (2)
participants with higher flexibility are able to produce qualitatively better utterances. Statistical correlations were performed and the results showed that only hypothesis (2) was verified. In concluding the present study, some limitations were pointed out and pedagogical implications were presented which emphasized the significance of creativity education with some remaining issues to be further discussed.
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Introduction

During the past three decades, second language acquisition (SLA) research has investigated the ways in which learners acquire linguistic abilities, by focusing on task-based language teaching (TBLT). TBLT researchers have examined how particular types of tasks, such as open-ended or closed tasks, affect second language (L2) learners' language performance. Their major concern has been the roles that the learners' linguistic abilities and socio-affective factors including motivation, personalities, and learning strategies play in their language acquisition. Here we propose that learners need to demonstrate another type of competence in addition to linguistic competence: creativity. The concept of creativity as used here is the ability to produce ideas — an ability possessed by everyone to a certain extent.

For example, an open-ended task such as a narrative task requires learners to plan and present a story based on a prompt. In planning a story, we believe, L2 learners use their creativity to generate ideas necessary for the story. Thus, a correlation would be expected between L2 learners' performance in oral tasks and their creativity. However, very few SLA studies have investigated the correlation between creativity and language performance. A report by Albert and Kormos (2011) is an exception. Their study showed a modest correlation between Hungarian language students' creativity and their narrative task performance.

Here we conducted an exploratory study of Japanese students learning English as a Foreign Language (EFL) to test whether the correlation found by Albert and Kormos would be replicated with our Japanese EFL learners. In
addition to a narrative task, we examined whether there is any correlation between the Japanese learners' creativity and their performance in a role play. Since narrative tasks and role play are different in that the former is a monologic-type task and the latter is a dialogic-type task, we suspected that the L2 learners' performance on these two tasks would correlate with creativity in different ways.

This thesis is structured as follows. In Chapter 1, the concept of creativity is discussed. One of the most difficult points in the field of creativity research is that there are varying definitions of creativity from multiple viewpoints (e.g., psychology, philosophy and art). In addition, some have defined creativity as a factor possessed only by high-level artists, scientists and scholars (Otto 1998), but we consider creativity to be a capacity that all individuals possess to some extent. We adopt the concept of creativity defined by American psychologist J.P. Guilford (1950), who was the first developer of a standardized creativity test.

In Chapter 2, the concept of tasks in SLA is discussed. TBLT has been a focal area in SLA research for many years. To select appropriate tasks for the present study, we reviewed the two types of task classification offered by Pattison (1987) and Richards (2001). We chose two open-ended type tasks (a narrative task and a role play task) and we describe their use in the present study. In Chapter 3, the process and results of our study of the relationship between creativity and the narrative task performance by Japanese college students are reported (Study I). In Chapter 4, the process and results of the study of the relationship between creativity and role play performance (Study II) are presented. In Chapter 5, we suggest some pedagogical implications from the
results of our studies, with some remaining issues to be investigated in future research.
Chapter 1: Creativity

1.1. Theoretical Definitions of Creativity

The importance of creativity has been discussed in psychology, education and other fields for many decades. However, it has always been difficult to capture the concept of creativity within a single definition because of its multifaceted nature. For example, Albert and Kormos (2011) observed that "authors working within the psychodynamic and the humanistic, as well as the socio-psychological, approaches have put forward theories in an attempt to account for the phenomenon of creativity" (p. 76). Creativity can be described as requiring two subprocesses: (1) the process of producing an idea, and (2) the process of embodying the idea in one's actions (Otto, 1998). The second process is based on the first process. The difference between the genius who can create outstanding work and an ordinary person who creates normal work may be based on the difference in their ability to take action on their ideas.

In the present study, we defined creativity as "the process of making ideas." A second difficulty encountered when trying to define creativity is the way that creativity has long been associated with only those "acts at the highest level, that is, with the best and most valued works of artists, scientists and scholars." However, Otto (1998) suggested that creativity should be viewed as an ability (or cluster of abilities) possessed by all individuals to a certain extent (p. 764).

Thus, the focus of our research on creativity was not only geniuses or persons considered highly creative in their field. Rather, we use the concept of
creativity as an ordinary human ability or set of abilities, and we used this concept to examine the relationship between creativity and language learning. In other words, we paid more attention to the cognitive work underlying creativity, and we considered creativity to be an ability to produce ideas which is generally possessed by everyone to a certain degree.

Here we will review the relevant previous literature on creativity, paying special attention to how creativity has been conceptualized in the field of psychology.

1.2. Guilford's Studies of Creativity

J.P. Guilford (1950) was the first psychologist who attempted to define the cognitive processes of creativity. He suggested that these processes include sensitivity to problems, an idea fluency of production, the ability to come up with novel ideas, flexibility of the mind, synthesizing ability, analyzing ability, reorganization or redefinition of organized wholes, a high degree of complexity of the conceptual structure, and evaluation skills. In later research, Guilford (1960) reported that he suspected that people are very good or very bad at the combinations of different factors of intelligence. He created a model of the structure of the human intellect. Three dimensions, as summarized by Baer (1993) are:

1. Operations: Thought processes, or operations, that can be performed
2. Contents: Contents to which the operations can be applied
3. Products: Products that might result from performing operations in different content categories.
These three dimensions can be combined different ways to encompass 120 different mental abilities. Here is a brief explanation.

Operations are based on five factors (cognition, memory, divergent thinking, convergent thinking, and evaluation). Contents are composed of four factors (figural, symbolic, semantic, and behavioral), and products are comprised of six factors (units, classes, relations, systems, transformations, and implications). Guilford proposed that the work of intelligence is accomplished by the combinations of these factors (5 x 4 x 6 = 120 mental abilities) in three dimensions. For example, when we perceive an item through our eyes, we "cognate" the "unit" of a "visual," and when we memorize the meaning of a word, we "memorize" the "system" of a "symbol." Thus, the process of the cognition is constructed by combinations of cognitive factors.

In addition, in the process of researching this cognitive model of intelligence, Guilford found that 'divergent thinking,' which is one of the cognitive factors listed above and fulfills the function of generating many different ideas, is very similar to the concept of creativity, much like Baer's (1993) description: "creativity has come to mean divergent thinking" (p. 12). Guilford had fought against "the very popular conception that intelligence is learning ability and that it is a universal ability," and he suspected that most of the tests generally used in classroom settings are the type in which all of the students aim for one common answer (that is, they are tests in which the students use only cognitive thinking). Guilford pointed out that divergent thinking is ignored in general intelligent tests, and he attempted to develop a standardized creativity test. In his 1967 study, he hypothesized that divergent thinking has four independent facets which are all related to creativity:
• Idea fluency: the ability to produce a large number of ideas
• Flexibility: the ability to produce a wide variety of ideas
• Originality: the ability to produce unusual ideas
• Elaboration: the ability to develop or embellish ideas and to produce many details

The pictures below may help explain these four facets of divergent thinking (All the pictures are author’s original).

Idea fluency is the ability to create many ideas based on the requirements of a task or question (see Figure 1). The more ideas that a person creates, the higher idea fluency he or she has. For example, if a person is presented with the task "List some uses of bricks," he or she may produce three ideas: "constructing a building," "constructing a house," and "constructing a wall". The person's creative fluency score is thus 3.

![Figure 1. Visualization of creative fluency](image)

Flexibility means the ability to produce various categorizable ideas (see Figure
2). A person who produces many ideas from angles that differ from those of other ideas has high flexibility. Using the same question about the uses of bricks, the two ideas "constructing a wall" and "constructing a house" are categorized as the same type, whereas the two ideas "constructing a wall" and "use the bricks as a weight to make pickles" are in different categories, and the flexibility score will be higher for the latter two ideas.

![Figure 2. Visualization of creative flexibility](image)

Originality is the ability to produce ideas that others can't produce. In Figure 3, the circles surrounded by the large circle represent general ideas with low originality. An individual with high originality can produce many atypical ideas (e.g., creating the circle with the letter "O"). For example, in response to the test question about the uses of bricks, many people tend to produce ideas such as "constructing a wall" but a person with a high level of originality can produce many atypical ideas such as "roasting beef, as a heated slab of stone."
Elaboration is the ability to produce ideas with concrete and detailed contents. Individuals with high elaboration can produce ideas with many detailed images of the ideas' content (see Figure 4). For example, in the test about uses of bricks, the idea "constructing a wall" is not highly elaborate since this idea doesn't contain any details or concrete explanation. The response "installing bricks in a parking lot as a barrier to keep vehicles from hitting the wall" is more elaborate, since the idea contains a fairly detailed explanation.

The theory of divergent thinking has been criticized as being difficult to
apply across different fields and as having limited reliability, but the theory is still used widely in the field of creativity research as the primary theory of creativity (Niu & Sternberg 2002). The theory of divergent thinking was also the basis of our present research. To investigate the relationship between people's creativity and their language performance, we needed to adapt the concept of creativity to quantifiable factors that all people generally have to some degree. In the next chapter, we turn our attention to the concept of tasks in learning EFL.

1.3. Summary

In this chapter, we presented Guilford's theory of divergent thinking, the theory we adopted for the present research. The concept of creativity in our study is defined as the ability to produce a wide variety of ideas, unusual ideas and concrete ideas fluently. With this definition established, we can turn to the concepts underlying the tasks encountered in learning EFL.
Chapter 2: Tasks in SLA Research

2.1. Tasks and Second Language Acquisition

Over the last three decades, approaches in EFL have shifted toward more communicative, aiming "to develop the learner's ability to take part in spontaneous and meaningful communication in different contexts, with different people, on different topics, for different purposes" (Celce-Murcia, Dornyei & Thurrell, 1997, p. 149). Task-based language teaching is one of these approaches. Skehan (1996) defined tasks as "an activity in which: meaning is primary; there is some relationship to the real world; task completion has some priority; and the assessment of task performance is in terms of task outcome" (p. 38). In order to assess task outcome, Robinson (2001) defined three independent facets of tasks: task complexity, task difficulty, and task conditions. Task complexity mirrors the learner's divergent information-processing required by the structure of the task. Task difficulty is the disparity between the learner's ability to process English and the resources the task requires for the solution. Task conditions are all aspects of the context in which the learner performs (e.g., planning time). Of these three factors, the issue of task difficulty has been of central importance to researchers (Nunan, 2004) in that the determinability of a task's difficulty can be a guide for selecting appropriate tasks that suit the learner's level. According to Nunan (2004), task difficulty is determined by at least three intersecting sets of factors: learner factors, task factors and text factors. The subordinate factors that contribute to each of these three factors are:
Learner factors — confidence, motivation, learning experience, ability to learn at the pace required, language skills, and relevant cultural knowledge

Task factors — cognitive complexity, quantity of steps, quantity of context, hints, whether grammatical accuracy is required, and time limits

Text factors — short or long (degree of text density), clearness of presentation, quantity of contextual clues, and familiarity with the content

(Based on Nunan, 2004; p. 85)

Since these factors can be used to determine whether the students' level matches the task difficulty, the factors can also be used in the process of specifying task types. Although learner factors such as motivation and language skill were presented as subordinate factors that affect a learner's performance on tasks, the learners' creativity has not been discussed as a significant factor, to our knowledge.

2.2. Task Types

The effort that language learners need to make in carrying out a task depends upon the nature of the task. Thus, the classification of task types based on their demands is important in TBLT (Nunan, 1999; Pica et al, 1993). Because of the limited space herein it is not possible to list every type of tasks defined in the relevant previous studies; we will focus on and review "communicative" tasks. Below is the classification proposed by Pattison (1987), who set out seven task and activity types.
1. Q and A: These activities are based on the notion of creating an information gap by letting learners make a personal and secret choice from a list of language items which all fit into a given frame.

2. Dialogue and role plays: Pretending to be somebody else and using the language for the situation you are in.

3. Matching: the task for the learner is to recognize matching items, or to complete pairs or sets. (e.g., Bingo)

4. Communication strategies: These are activities designed to encourage learners to practice communication strategies such as paraphrasing, borrowing or inventing words, using gestures, asking for feedback and simplifying.

5. Pictures and picture stories: Many communication activities can be stimulated through the use of pictures.

6. Puzzles and problems: These require learners to 'make a guess, draw on their general knowledge and personal experience, use their imagination and test their powers of logical reasoning'.

7. Discussions and decisions: These require the learner to collect and share information to reach a decision.

The classification by Richards (2001) below is based on the type of interaction that occurs in the task's accomplishment based on communicative language use:

1. Jigsaw tasks: These involve learners combining different pieces of
information to form a whole.

2. Information-gap tasks: One student or group of students has one set of information and another student or group has a complementary set of information. They must negotiate and find out what the other party's information is in order to complete an activity.

3. Problem-solving tasks: Students are given a problem and a set of information. They must arrive at a solution to the problem. There is generally a single resolution of the outcome.

4. Decision-making tasks: Students are given a problem for which there are a number of possible outcomes and they must choose one through negotiation and discussion.

5. Opinion exchange tasks: Learners engage in discussion and exchange of ideas. They do not need to reach agreement.

Other activity and task classifications have been proposed by TBLT researchers, but the important point is that the forms of learner responses that a task requires vary (one-way or two-way, convergent or divergent, required or optional, speaking or reading, etc.) and there is a wide range of cognitive demands of tasks (e.g., the contextual support, the reasoning required, the degree of task structure, and the available knowledge). The cognitive processing involved in task completion depends upon the task demands.

Moreover, even though most communicative tasks have been classified and listed, there are other ways to classify task types. Here, we reclassify task types into two categories. One category is based on (A) whether the form of answer for the task is closed or open-ended, and the other is based on (B)
whether the task's answer is completely embedded in the information given to the learner (as opposed to being provided by the learner's own ideas based on the given information).

Classifying tasks into closed types and open-ended types is relatively straightforward. Among the 12 task types in the lists above, most are open-ended; the exceptions are the jigsaw task type and the matching task. The jigsaw task is one in which the answer is set in advance and the learner suspects the answer based on the context of the information given, and in a matching task, the learner responds to the question with the answer set in advance. In contrast, the other tasks (e.g., opinion exchanging and role play) are tasks for which various answers exist and the learners' answers vary according to their skills, ideas, and originality.

In the (B) type category, discussion and decision, opinion exchanging, role play and picture tasks are defined as tasks in which the answer is not embedded in the given information. For example, in a discussion-and-decision task, learners may discuss and explore solutions, which do not necessarily converge upon one solution. The ways in which they seek their solution are sometimes affected by their personalities (such as "Which do you like better?"). Another example of the type (B) task is role play, in which learners speak based on their own ideas of what to say in a conversation (the answer is not provided by anyone or by embedded information).

Following our classification of task types, we selected the task types that are suitable for our own research interests; that is, the tasks that require or test creativity. Since open-ended tasks in particular allow learners to present outcomes which are not confined to one particular response, it is reasonable to
assume that language learners will use their divergent thinking in responding to open-ended tasks. Secondly, unlike the tasks that only require learners to transmit information embedded in a given context, in the tasks in which learners are required to respond to their interlocutors based on their own ideas, the learners' creativity is assumed to play an important role and to influence their task performance, since an important aspect of creativity is the ability to generate responses or solutions in a novel context.

Based on these two assumptions (i.e. open-ended tasks use creativity based on ideas rather than information use tasks), we chose the tasks most suitable for our research purposes. The list below shows the appropriateness of the tasks according to the two assumptions. The classification of task types below was created by synthesizing the classification defined by Pattison (1987) and that defined by Richards (2001). For example, puzzles and problems are included in ‘problem solving’; information gap is included in ‘Q&A’; decision–making is included in ‘discussions and decisions’).

Table 1.

Classification of Communicative Task Types.

<table>
<thead>
<tr>
<th>Task Types</th>
<th>open-ended</th>
<th>idea based answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jigsaw</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Discussion and decision</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Opinion exchanging</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Q and A</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Dialogue and role play</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Matching</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Communication strategy</td>
<td>***</td>
<td>***</td>
</tr>
<tr>
<td>Picture and picture stories</td>
<td>***</td>
<td>***</td>
</tr>
</tbody>
</table>
(The number of asterisks in Table 1 indicates the degree of the open-endedness or the idea-use of the task, although the assessment of the task characteristics is relatively subjective. Three asterisks means the strongest nature of each type and one means the weakest nature.)

We selected two types of tasks as most suitable for our study—dialogue and role play, and picture/picture stories—in part because the learners' performance on these tasks could be quantified for our research purposes. These tasks also have distinctive features; a picture story task is monologic in nature, and role play requires learners to show interactive and dialogic performance. Following Albert and Kormos (2011), we will refer a picture story task as ‘a narrative task’ hereafter. These tasks will be described in more detail in the following sections.

2.3. Narrative Tasks

In a narrative task, learners create their own stories based on a stimulus (in most cases, a picture, photo or movie is shown to the learner). The learner is given a planning period to prepare the story telling (narrative). Learners may first produce several ideas to increase the length and depth of the story, and they may broaden the story line to give the story flexibility.

A narrative task requires the learner to create an original story and to elaborate with details. Narrative tasks are thus quite useful for testing creativity, and we suspected that learners' performance in narrative tasks would be correlated with their creativity.
2.4. Role play Tasks

A role play is a dialogic task used frequently in EFL classrooms. It requires learners to act as a particular character in a given situation (e.g., shopping or traveling) and interact with their interlocutors. Before they begin a role play, instructions about the situation are given to the learners, such as where the conversation is taking place and the purpose of the task. Although a group of learners may be given the same purpose of the task, the ways in which they achieve the goal vary, especially when they need to solve a problem and to interact with their interlocutors. This is a point at which we assume that learners' creativity influences their task performance. They need to be able to respond to the interlocutors in ways that are not predetermined and to create a solution by interacting with their interlocutors. Thus, we assumed that the learners' performance in role play would be correlated with their creativity.

In the following chapters, we describe the two studies we conducted using different tasks (a narrative task and a role play tasks). In Study I, we investigated the relationship between the learners' scores on a creativity test and their performance on a narrative task which required the learners to make a story in monologic ways. In Study II, we examined the relationship between creativity test scores and the learners' performance in a role play task. Unlike the narrative task, the role play required the learners to interact with the examiner. We therefore expected that different results would be obtained in the two studies.
Chapter 3: Study I

3.1. Participants

Thirteen Japanese university students participated in this study. They were the third- or fourth-year students enrolled at the same university (10 females and 3 males). They were not randomly selected; they agreed with the study's purposes and consented to participate as volunteers. Before the study was conducted, three tests were administered to ensure the homogeneity of the participants' English proficiency. These tests included two C-tests and one cloze test in English (see Appendix A). The maximum possible total score of the tests was 70 (25 for each C-test and 20 for the cloze test).

A preliminary calculation of the test scores showed that one of the participants obtained a score (18) too far below the average score, and she was thus excluded from the statistical analysis. The group of 12 remaining participants was regarded as a relatively homogeneous group. Their scores ranged from 23 to 42 (mean ± SD, 31.08 ± 5.35).

3.2. The Creativity Test (SA Test)

3.2.1. The test

To measure the participants' creativity, we administered the Science Ability (SA) Creativity Test (Tokyo Shinri. 1972). The test is a standardized creativity test and is written in Japanese. This test was developed by Onda, who improved the test created based on Guilford's Alternative Uses Task Test (1967) and the Torrance Tests of creative Thinking (TTCT)(1962). In the SA Creativity Test, the procedure is standardized; three tasks are given to the test takers, and each
of the tasks consists of two questions. Before the test takers begin each task, a sample question is presented to familiarize them with the format and the content of the task. Each task is to be completed within 5 minutes. The following is a sample of the questions presented in the SA test.

Question: List as many uses of bricks as possible.

To answer the question, the test takers fill out their test form with responses such as 'building a house,' 'building a wall,' 'using it as a dumbbell,' etc.

3.2.2. The scoring method

The 12 participants' answers were scored using the four criteria of creativity (fluency, flexibility, originality, and elaboration). Fluency was scored by counting the number of ideas generated. Flexibility was scored by counting the number of different categories of ideas generated. For the originality score, we used the definition by Albert and Kormos (2011), in which originality is "assigned on the basis of an index calculated from the statistical frequency of the given response" (p. 85). In other words, the more participant's response deviated from frequently provided idea(s), the higher the score given to that response. Elaboration was scored by counting the number of specifically stated and detailed ideas. The four measuring criteria are summarized below:

- Fluency: the number of ideas produced
- Flexibility: the number of ideas produced from unique view points
- Originality: the number of ideas whose frequencies are relatively low (if
the frequency of an idea was under 5%, 1 point was given; for under 1% ideas, 2 points were given)

- Elaboration: the number of answers that were extended/gave more details

As mentioned above, the scores for the latter three criteria were subject to the fluency score; i.e., the higher the fluency score that a participant obtained, the higher the scores s/he tended to obtain on the other three criteria. To avoid this problem, we did not use the raw scores for flexibility, originality and elaboration. Instead, following Albert and Kormos (2011) we used the respective ratios of the total numbers of flexibility, originality and elaboration to the total fluency numbers. In the following sections, mentions of "flexibility," "originality" and "elaboration" will always refer to the ratios of those scores to the total number of ideas generated.

3.3. Narrative Task

3.3.1. The test

To test the participants' task performance, two tasks were given in an oral interview. They were a narrative task and a role play (the latter task will be explained in Study II). In the narrative task, the participants were required to make a story based on a picture card given by the tester with an instruction that said "This is a photo you took last weekend at the beach. Please think about what happened on the beach and make a story about it, and tell me the story."

The participant was given one minute to prepare for the task, and he or she then began to tell the story and was not interrupted until the story ended. As a result, the length of the participants' stories ranged from two to three minutes.
3.3.2. Task performance criteria

We analyzed the participants' task performance using seven criteria: accuracy, quantity of talk, fluency, lexical variety, complexity, narrative structure, and original use of words. These criteria were defined as follows.

1. Accuracy: The ratio of error-free clauses to the total number of clauses produced.
2. Quantity of talk: The number of words that were produced after we deleted the false starts, repetitions and fillers.
3. Narrative fluency: The quantity of talk that was produced per minute.
4. Lexical variety: The participants' skill at using a variety of words in their utterances. We used a type-token ratio; that is, the ratio of the total number of different words (types) to the total number of words (tokens) produced.
5. Complexity: How the participants' planned and produced syntactically complex sentences. In this study, we measured complexity as the ratio of the total number of clauses to the total number of AS-units. Foster, Tonkyn, and Wigglesworth (2000) defined the AS-unit as a "single speaker's utterance consisting of an independent clause, or sub-clausal unit, together with any subordinate clause(s) associated with either" (p. 365). For example, the utterance "He is my friend who can play soccer" is syntactically more complex (the complexity score is 2) than the utterance "He is my friend. He can play soccer" (the complexity score is 1).
6. Narrative structure: To measure the richness of the narrativity of the talk produced, we used Labov's (1972) narrative structure. Generally, narrative
structures are measured by the ratio of the total number of narrative clauses to the total number of clauses. Narrative clauses refer to the temporally ordered clauses which have narrative connections to adjacent sentences. However, since most of our participants were not fluent enough to produce a relatively large number of narrative clauses, and since they did not have sufficient skill to use connective junctures, we counted the number of clauses which had a narrative connection to other clauses even without appropriate connective junctures. In the following example, the sentences numbered 1, 2, and 3 form a narrative structure.

Last weekend, I went to the sea with my friends. He is Taro. He played in the sea. She is Hanako. She is very good at playing beach volley. (1) At first we ate lunch. (2) Then we played beach volley. I brought my pet named Tama. And we played in the sea. (3) And we go back to home with by my car.

7. Original use of words: We used the number of words whose frequencies were relatively lower than the rest of the lexical items to determine the original use of the lexical items. Specifically, this was measured by the ratio of the total number of original words to the quantity of talk. We constructed a frequency list of participants' word uses, and words that only one participant used were considered original words.

Table 2 summarizes the seven criteria used for our analysis of the participants'
language performance in the narrative task.

Table 2.

*The Seven Task Performance Criteria*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>ratio of error free clauses divided by the total number of clauses</td>
</tr>
<tr>
<td>Quantity of talk</td>
<td>number of words (without disfluency) produced</td>
</tr>
<tr>
<td>Narrative fluency</td>
<td>number of words (without disfluency) produced per minute</td>
</tr>
<tr>
<td>Lexical variety</td>
<td>type-token ratio</td>
</tr>
<tr>
<td>Complexity</td>
<td>The ratio of total number of clauses to total number of AS-units</td>
</tr>
<tr>
<td>Narrative structure</td>
<td>The total number of narrative clauses</td>
</tr>
<tr>
<td>Original use of words</td>
<td>The ratio of original words to the total number of words</td>
</tr>
</tbody>
</table>

3.4. Procedure

The participants were given an English test to measure their proficiency in English (20 min), followed by the creativity test (15 min). The tests were sent to and scored by Tokyo Shinri, the company that publishes the tests. The narrative task was administered individually, and it was audio- and video-recorded for later analyses. We used the software Pss Concordancer to determine the frequency of lexical items, and we used the software program Praat to score the length of speaking. The number of clauses, error-free clauses and AS units were rated by two researchers (including the author) and compared for scoring. The inter-rater reliability for these three scores which were measured by the Pearson Correlation, were 0.98 for the number of clauses,
0.97 for the number of AS-units, and 0.98 for the number of error-free clauses.

3.5. Hypotheses

As we noted earlier, only a few studies have investigated the relationship between L2 learners' creativity and their oral performance. Albert and Kormos (2011), studying Hungarian high school students, found that the students' creative fluency and originality were correlated with their L2 task performance, such as quantity of talk. The students with high idea fluency tended to talk more in the communicative task ($r = 0.33$). The results also suggested that, although the students' originality was negatively correlated with the quantity of talk ($r = -0.34$), a positive correlation was shown between the students' originality scores and the quality of narrative structure ($r = 0.34$). It seems reasonable to conclude that the subjects with high originality scores focused on the content of the story in the narrative task, and this might have contributed to the higher narrativity of their talk. They in turn took more time to produce their talk, which might have resulted in the smaller quantity of talk.

Based on the 2011 results reported by Albert and Kormos, we suspected that we would observe similar correlations in our study of Japanese students' creativity and narrative performance, and thus we pursued the following research hypotheses:

1. Creative fluency in the SA Test correlates positively with the quantity of talk (i.e., participants who generate more ideas would tend to speak more in the narrative task).

2. The participants' originality scores on the SA test negatively correlate with
their quantity of talk (i.e., participants who used more unique ideas in the creativity test would tend to speak less in the narrative task).

3. The participants' originality scores on the SA test correlate positively with the quality of narrative structure (i.e., participants whose originality was high would tend to produce a story with a better chronological sequence).

There is room for argument about the relevance of the participants' creativity to the use of unique words. Participants who produce more original ideas in the creativity test may also tend to generate more original ideas in the process of completing the narrative task. This may result in a more frequent use of atypical words in the narrative task. We therefore pursued the following hypothesis:

4. Participants with high originality scores tend to use more unique words in the narrative task.

We tested Hypotheses 1 and 2 by determining the correlation of each creativity score and the quantity of talk. We pursued Hypothesis 3 by examining the correlation between the originality score and the number of narrative clauses. For Hypothesis 4, we analyzed the relationship between the originality score and the score ratio of original words used per quantity of talk.

3.6 Statistical Analysis

For the statistical analysis, Microsoft Excel 2010 was used and the statistical analyses performed were Pearson Correlations, in which the measures of task
performance and each of the variables in creativity were performed.

3.7. Results

Table 3 provides the descriptive statistics for the four creativity measures.

Table 3.

*Descriptive Statistics for The Creativity Measures*

<table>
<thead>
<tr>
<th>Measure</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea fluency</td>
<td>18</td>
<td>45</td>
<td>35</td>
<td>7.93</td>
</tr>
<tr>
<td>Flexibility</td>
<td>0.6</td>
<td>0.83</td>
<td>0.69</td>
<td>0.06</td>
</tr>
<tr>
<td>Originality</td>
<td>0.13</td>
<td>0.56</td>
<td>0.23</td>
<td>0.11</td>
</tr>
<tr>
<td>Elaboration</td>
<td>0.67</td>
<td>0.95</td>
<td>0.85</td>
<td>0.08</td>
</tr>
</tbody>
</table>

(N=12)

For each of the creativity factors, fluency, flexibility and originality (which are the same factors as those used in the research by Albert and Kormos), the standard deviation is narrower than that for the corresponding result reported by Albert and Kormos.

The 12 participants' scores on the seven narrative task performance measures are summarized in Table 4.
Descriptive Statistics for Narrative Task Performance Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>0.25</td>
<td>0.8</td>
<td>0.57</td>
<td>0.16</td>
</tr>
<tr>
<td>Quantity of talk</td>
<td>49</td>
<td>102</td>
<td>63.92</td>
<td>17.41</td>
</tr>
<tr>
<td>Fluency of talk</td>
<td>28.57</td>
<td>63.89</td>
<td>47.63</td>
<td>11.06</td>
</tr>
<tr>
<td>Complexity</td>
<td>1</td>
<td>1.5</td>
<td>1.22</td>
<td>0.14</td>
</tr>
<tr>
<td>Lexical variety</td>
<td>0.54</td>
<td>0.68</td>
<td>0.62</td>
<td>0.04</td>
</tr>
<tr>
<td>Number of narrative clauses</td>
<td>0</td>
<td>6</td>
<td>2.25</td>
<td>2.05</td>
</tr>
<tr>
<td>Original words</td>
<td>0.03</td>
<td>0.2</td>
<td>0.07</td>
<td>0.05</td>
</tr>
</tbody>
</table>

The results of the correlation analyses between the participants' creativity and their task performance are summarized in Table 5.

Table 5.

Correlational Analysis of the Relationship between Task Performance and Creativity measures

<table>
<thead>
<tr>
<th></th>
<th>Idea Fluency</th>
<th>Flexibility</th>
<th>Originality</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>0.12</td>
<td>0.07</td>
<td>0.22</td>
<td>-0.13</td>
</tr>
<tr>
<td>Quantity of talk</td>
<td>0.36</td>
<td>-0.15</td>
<td>-0.35</td>
<td>-0.48</td>
</tr>
<tr>
<td>Fluency of talk</td>
<td>0.35</td>
<td>-0.50</td>
<td>-0.20</td>
<td>-0.02</td>
</tr>
<tr>
<td>Complexity</td>
<td>-0.49</td>
<td>0.50</td>
<td>0.58</td>
<td>0.06</td>
</tr>
<tr>
<td>Lexical variety</td>
<td>-0.38</td>
<td>0.03</td>
<td>0.36</td>
<td>0.48</td>
</tr>
<tr>
<td>Number of narrative clauses</td>
<td>-0.53</td>
<td>0.36</td>
<td>0.40</td>
<td>-0.12</td>
</tr>
<tr>
<td>Original words</td>
<td>-0.28</td>
<td>0.39</td>
<td>0.57</td>
<td>0.14</td>
</tr>
</tbody>
</table>

For creative fluency, i.e., the ability to produce many ideas, weak correlations
were observed with the quantity of talk \((r = 0.36)\) and fluency in the task \((r = 0.35)\), whereas fluency was negatively correlated with lexical variety \((r = -0.38)\), complexity \((r = -0.49)\) and the number of narrative clauses \((r = -0.53)\). Flexibility, i.e., the ability to produce ideas from various perspectives, was weakly correlated with the number of narrative clauses \((r = 0.36)\), original word use \((r = 0.39)\) and complexity \((r = 0.50)\), but it was negatively correlated with fluency in the task \((r = -0.50)\). Originality, i.e., the ability to produce atypical ideas, was weakly correlated with lexical variety \((r = 0.36)\) and had mild correlations with complexity \((r = 0.58)\), the number of narrative clauses \((r = 0.40)\), and original word use \((r = 0.57)\). On the other hand, a weak negative correlation was found between originality and the quantity of talk in the narrative task \((r = -0.35)\). Elaboration, i.e., the ability to produce concrete and detailed ideas, showed a mild positive correlation with lexical variety \((r = 0.48)\) and a mild negative correlation with the quantity of talk \((r = -0.48)\).

3.8. Discussion

The hypotheses we proposed in the earlier of the present study were: (1) Creative fluency in the SA Test correlates positively with the quantity of talk; (2) The participants' originality scores on the SA test negatively correlate with their quantity of talk; (3) The participants' originality scores on the SA test correlate positively with the quality of narrative structure and (4) Participants with high originality scores tend to use more unique words in the narrative task.

First, the correlation between idea fluency and QOT indicates that the participants who scored higher in creative fluency tended to speak more in the
narrative task. And the negative correlation between originality and QOT indicates that the participants who obtained higher originality scores tended to take more time trying to say unique aspects of the story, and this slowed down their pace of speech. Thirdly, the result of correlation between originality and narrativity suggests that the participants with higher originality scores may be trying to make the stories as unique as possible, which required them to take longer times to produce their output. The correlation between originarity and original word use indicates that the participants who can come up with original ideas intend to make original stories, and this tendency enabled them to use words that the other participants didn't use in their narratives. As the result, these four correlations show that every hypotheses were followed.

Other than the correlations we hypothesized, statistically highly correlated relations were observed. We need to further explore the relationship between the sets of particular two variables, but this will be beyond the present study. Thus, here, for lack of the space, we look at only those whose correlations are more than 0.5 (i.e., $0.5 \leq r$ or $-0.5 \geq r$).

At first the negative correlation was observed between idea fluency and number of narrative clauses ($r=-0.53$). This could mean the participants who could produce more ideas may not be better at organizing a story; they may not aware of the temporal development of the story although they were fluent in generating ideas.

We'll turn now to the correlation of flexibility with fluency of talk ($r=-0.50$). We suspect that the participants with higher flexibility were able to produce ideas that can be classified into various categories. This tendency might have affected the ways in which they developed the stories and thus
slowed down the pace of talk. Besides, on the correlation between flexibility and complexity, we suspect that the ability to produce flexible ideas resulted in a tendency to create narratives that have various viewpoints and topics, and thus the number of syntactically complex sentences would be increased (r=0.50).

Correlation between originality and complexity seems to have occurred because the participants with high originality scores tended to figure out a story with an atypical storyline and as the result, learners' complexity are raised (r=0.58). Now we would like to turn our eyes on the correlational study between creativity and role play, which requires leaners to demonstrate more interactive language performance.
Chapter 4: Study II

4.1. Creativity and Role Play Performance

In Chapter 3, the correlations between our participants' creativity and their performance in a narrative task were examined, and the findings by Albert and Kormos (2011) were replicated in our research conditions. In the narrative task, the participants, prompted by a picture, generated their stories in a monologue. In Study II, we used a different type of open-ended task, a 'role play' which is presumably more interactive and typically requires participants to respond to their interlocutor (i.e., the interviewer) in impromptu ways. Our focus was how the participants' creativity is correlated with their performance in a role play task, and we anticipated that the influence of creativity on the role play performance would be manifested in different ways. In fact, since (to our knowledge) no similar studies have been conducted, this research is the first attempt to determine the correlation between learners' creativity and their performance in role play.

4.2. The Role Play Task

4.2.1. Task

The participants in Study I also performed the role play, which was administered immediately after the narrative task. First, the participants were given a task card with the following instruction: "You are a customer and the interviewer is a shop clerk. You purchased an item at this shop. However, since there was something wrong with it, you want the shop clerk to refund your money or exchange the product which you purchased with something different."
To make the role play more interactive, the interviewer, instead of immediately accepting the participant's request, rejects it a few times by saying "We're sorry but according to our shop policy, we can't exchange the thing you purchased here with a new one." Thus, the participants were required to convince the shop clerk by providing objective and appropriate reasons for their request. We evaluated how well the participants negotiated with the shop clerk and solved the problem they faced in the situation.

4.2.2. Analysis of the role play task performance

Since a role play is an interactive task, the analysis of the participants' utterances was more difficult than in the narrative task. Since the goal of this role play was to solve the immediate problem by negotiating with the shop clerk, our analysis of their performance focused on two qualitative aspects of their performance: reaction time and problem-solving.

1. Reaction time: We measured how rapidly each participant reacted to the interviewer's rejection of his or her request for a refund or exchange, and we called this length of time 'reaction time'. Since there were some participants who paused a long time after uttering just a few words, the time taken to pause was also added to the count.

2. Problem-solving: Here, the quality of the utterances the participants made during the negotiation with the shop clerk was evaluated based on the following scale.
Table 6.

Assessment Scale for the Role Play Performance

<table>
<thead>
<tr>
<th>Type of Utterance</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly objective and appropriate comment</td>
<td>5</td>
</tr>
<tr>
<td>Objective comment</td>
<td>4</td>
</tr>
<tr>
<td>Subjective comment</td>
<td>3</td>
</tr>
<tr>
<td>Comment made with the interviewer's help</td>
<td>2</td>
</tr>
<tr>
<td>No comment</td>
<td>1</td>
</tr>
</tbody>
</table>

If a participant produced more than two utterances of the same type, one additional point was given to provide a weight for their total scores.

3. Quantity of talk

In addition to the qualitative aspects of the participants' performance, the quantity of their talk was also scored to determine whether the quantity of talk in the narrative task was related to that in the role play.

4.3. Procedure

Pearson Correlations were conducted in the same way as that used for Study I (see Section 3.4).

4.4. Hypotheses

To the best of our knowledge, there are no prior studies that investigated the same issues as those in our present studies, and thus our research questions were very exploratory in nature. However, the results of Study I led us to propose
the following three hypotheses. First, we assumed that responding to the interviewer as quickly as possible requires high creative fluency; that is, the ability to invent a high number of solutions to a task. We therefore hypothesized that the participants whose creative fluency was higher would tend to respond more quickly to the interviewer.

Second, we assumed that the participants whose flexibility was high would be able to have a divergent point of view in the role play task, and thus they would be able to produce qualitatively better utterances in the task compared to the lower-flexibility participants.

Finally, since the importance of evaluating perspectives in a role play performance differs from that in a narrative task (for example, the quantity of talk, which is worth assessing in a narrative task, is not as important in a role play task), we did not examine the correlation of creativity with the quantity of talk in the role play task. Our hypotheses are summarized as follows:

1. The participants' creative fluency and their planning times would be negatively correlated.
2. Their flexibility and their quality of problem-solving would be positively correlated.
3. Both creative fluency and originality would not be correlated with the quantity of talk.

4.5. Results

The participants' role play performance data are summarized in Table 7.
Table 7.

The Participants' Role Play Performance ($n = 12$).

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction time(sec.)</td>
<td>2.49</td>
<td>23.98</td>
<td>10.87</td>
<td>7.23</td>
</tr>
<tr>
<td>Problem solving</td>
<td>1</td>
<td>6</td>
<td>4.08</td>
<td>1.44</td>
</tr>
<tr>
<td>QOT</td>
<td>46</td>
<td>141</td>
<td>73.5</td>
<td>27.57</td>
</tr>
</tbody>
</table>

The correlations between the participants' creativity and their task performance are given in Table 8.

Table 8.

Correlations Between Role Play Performance Factors and Creativity Measures

<table>
<thead>
<tr>
<th></th>
<th>Fluency</th>
<th>Flexibility</th>
<th>Originality</th>
<th>Elaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reaction time</td>
<td>0.44</td>
<td>-0.79</td>
<td>-0.58</td>
<td>-0.18</td>
</tr>
<tr>
<td>Problem-solving</td>
<td>-0.90</td>
<td>0.69</td>
<td>0.39</td>
<td>-0.21</td>
</tr>
<tr>
<td>QOT</td>
<td>-0.02</td>
<td>-0.09</td>
<td>-0.14</td>
<td>-0.69</td>
</tr>
</tbody>
</table>

A positive correlation was observed between creative fluency and reaction time ($r = .44$). Reaction time was negatively correlated with flexibility ($r = -.79$) and originality ($r = -.58$). These findings indicate that the participants with higher creative fluency tended to take longer to respond to the interviewer, whereas those with higher flexibility and originality tended to respond within a shorter time.

The quality of problem-solving in the role play task was negatively
correlated with creative fluency ($r = -0.90$) and positively correlated with flexibility ($r = 0.69$) and originality ($r = 0.39$). There was also a negative correlation between the quantity of talk and elaboration.

### 4.6. Discussion

The hypotheses we proposed in the earlier of the present study were: (1) The participants' creative fluency and their reaction times would be negatively correlated; (2) their flexibility and their quality of problem-solving would be positively correlated; and (3) both creative fluency and originality would not be correlated with the quantity of talk.

Hypothesis 1 asks whether learners with higher creative fluency tend to respond to the interviewer more quickly. However, our finding indicated the opposite and thus Hypothesis 1 was not supported. A plausible interpretation of this result is that, since learners with higher creative fluency were able to generate a variety of ideas to solve the immediate problem in the role play, this might have impeded their choosing a particular solution from many options within a short period of time. This result further indicates that the role play required the participants to utilize their convergent thinking, rather than their divergent thinking skills; they needed to focus on a particular aspect of the task and to produce the most appropriate answer which was demanded by the task.

On the other hand, the negative correlation between flexibility and reaction time and that between originality and reaction time indicate that the participants with higher flexibility tended to plan how to respond more quickly. We had surmised that the participants with high flexibility would tend to produce multiple ideas with different perspectives. This implies that they have more
choices to make to convince the shop clerk and thus they did not need longer reaction times. We do not know the basis of the correlation between the participants' originality and their reaction times, but we suspect that the participants with high originality tended to maintain their original conviction about the idea they produced and thus did not need to spend time selecting adequate reactions.

Hypothesis 2 was that the participants with high flexibility would tend to produce qualitatively better solutions to the problem in the role play task, and the results verified this hypothesis: the participants with higher flexibility were able to produce ideas generated by looking at the situation from different angles and, as a result, their utterances sounded more plausible and persuasive. On the other hand, the negative correlation between creative fluency and the quality of problem-solving indicated that although creative fluency is positively correlated with the quantity of ideas, the fluency alone does not assure a qualitatively better performance of the task. In other words, the participants with higher creative fluency produced many ideas and manifested them directly as utterances. The role play task required the participants to produce more suitable comments to create more desirable communication — in contrast to the narrative task, in which the suitability of the utterances was not restricted by the interviewer's input.

Finally, unlike the narrative task, we hypothesized that none of the measures in the creativity test would correlate with the quantity of talk in the role play task, because the quantity of talk during the role play task does not necessarily guarantee a successful solution of the problem. However, the participants' results showed that only elaboration was negatively correlated with
the quantity of talk. This is because the participants with a low degree of elaboration tended to not provide a concrete image in their utterances, and so they spoke excessively (not concisely).
Conclusion

In Studies I and II, we examined the correlations between EFL learners' creativity and their language performance in a role play task, and we found some correlations between these two variables. One of the important findings is that the study participants' creativity was correlated with aspects of the narrative task and the role play task in different ways.

The participants with higher creativity produced their utterances within a shorter period of time in the narrative task, but they took more time to start talking in the role play performance. The data from the studies also indicated that their creative fluency, which reflected the quantity of ideas, did not reflect the quality of ideas. Or rather, although the participants with high creative fluency tended to generate as many ideas as possible before they spoke, they tended to speak a set of discrete sentences that did not have connectedness of discourse. This negatively affected the participants' quality of talk in the story they produced.

On the other hand, although high flexibility and originality decreased the participants' quantity of talk, their quality of talk was positively affected by them, because their flexibility and originality were related to the quality of their stories, i.e., the narrativity of the stories. In the role play, the participants whose flexibility was high tended to respond to the interviewer's utterances correctly and rapidly, whereas the participants with high creative fluency tended to do so inaccurately and slowly. Our analysis suggests that this took place because the latter group of participants generated multiple ideas, some of which might have been unnecessary for the role play. This idea-selecting process
took more time and resulted in the slower reaction times.

When we first observed the correlation between the participants' creative fluency and their quality of talk in the narrative task performance, we thought that creative fluency helped the participants speak at length, but the point we want to stress is that it seemed that the participants cared about the quantity of their stories and may have cared less about the stories' syntactical complexity and the originality of their sentences. Based on this finding, we recommend that for the development of EFL students' oral performance on both quantitative and qualitative measures, the use of the four factors of creativity in the classroom as a training of oral skills will improve the students' oral performance.

In EFL classrooms, the students who speak more than others on a task tend to be evaluated highly, as they seem to have better attitudes toward the task; the students who speak less are often considered unmotivated participants. However, it is quite unsatisfactory to evaluate students' attitudes and motivation only by the quantity of their talking. As the present studies demonstrated, the participants who uttered relatively less tended to produce syntactically more complex sentences and better narrative quality. We assume that they are far from being unmotivated. Thus, teachers should pay as much attention to the quality of students' talking as to the quantity of talking.

The results of Study I and Study II show that the process of task performance took place in different ways in the monologic-type task (the narrative task) and the dialogic-type task (the role play). One of the most important findings of the present studies is that, in the narrative task, it was relatively easier for a participant to control their talk, while it was necessary for
a participant to react to the interviewer on the basis of the decisions s/he made on the spot. In this sense, the role play was a task, in which divergent thinking is combined with convergent thinking, which is utilized for the decision-making process. The cognitive demands it requires of the participants were thus heavier than the narrative task. The issue of how creativity (divergent thinking) and performance in the role play task, which seems to require convergent thinking, are related remains to be determined.

Although the present results contribute to our knowledge about creativity and task performance, we are aware that the participants' task performance was strongly influenced by their English competence, and we consider this a limitation of the study. The larger lesson of our findings is that teachers of a second language can take advantage of the four factors of creativity (i.e., creative fluency, flexibility, originality, and elaboration). By focusing on creativity, SLA teachers can help their students efficiently use their language skills in communicative tasks.
References


Appendix A: C-tests and Cloze test used in this research

Newscasters

Newscasters report the news on television and radio. But, unlike newspaper reporters, newscasters use the spoken word. We (1) hear their (2) words instead (3) of reading (4) them.

The (5) news (6) you (7) may (8) for a (9) station (10) or (11) or (12) a (13) broadcasting (14) Some (15) do on-the-spot, (16) “live” (17) Others (18) video interviews (19) events (20) over the world. The video and sound tapes are then sent to the studio, where they are cut to fit the time available.

B) 次の英文の空所(1)~(20)を、示された文字で始まる適切な単語にして下さい。

Is a foreign language a must?

Language is what makes us different from our animal cousins. It is our most precious possession, for words reveal the soul within us. If (1) we (2) communicate (3) words, (4) we may (5) only (6) outer (7) of (8) people. (9) Language also (10) as (11) as (12) friendship. (15) can (16) the (17) of (18) world (19) closely. (20) we can communicate
with others who speak a different language from our own, we realize that we are all one in our humanity.

Today learning a foreign language has become a must for everyone everywhere.

C) 次の英文の空所(1)～(25)に適語を1語ずつ記入してください。

Do you see what I see?

It is natural to assume that all people see more or less the same thing when they look at the same object. Last night when I was invited by a Japanese friend of mine to view the moon from her garden, I learned that this is not always true.

"Look how clear the rabbit appears (1)__________ the moon," she said. At first (2)__________ thought she was joking. Then she (3)__________ that Japanese see a rabbit in (4)__________ moon. That surprised me because we Americans (5)__________ to see a person's face.

This (6)__________ me wonder what people of other (7)__________ see in the moon. In a (8)__________ on folk culture I found that (9)__________ in Indonesia see a woman weaving (10)__________ piece of cloth, while in Europe some (11)__________ see a crab with one claw. (12)__________ then I have been asking people (13)__________ various countries what they see in (14)__________ moon. A man from Nepal told (15)__________ that he sees a tree in (16)__________ moon. A woman from the Philippines (17)__________ that she sees a *carabao, which (18)__________ a kind of buffalo. I was (19)__________ surprised to find that there were (20)__________ many different ways of "seeing" the (21)__________ on the moon. These differences suggest (22)__________ culture plays a very important role (23)__________ how we see things, and that (24)__________ same thing may be seen quite (25)__________ by people from different cultures.

*carabao=カラバオ（フィリピン産の水牛）
Appendix B: Picture used in study  I