

**LEARNER CREATIVITY - A POTENTIAL  
FACILITATOR FOR ORAL TASK PERFORMANCE?**

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# **Dedication**

I dedicate this dissertation to my family, especially...  
to my devoted Dad and Mom for opening my eyes to the world  
and for instilling in me the significance of hard work  
in higher education.

## Abstract

The study investigated the relationships between learner creativity and oral task performance of the learners of English as a second language at a state university in Sri Lanka. The sample consisted of 20 intermediate level second year undergraduates who were following the Core English Language (CEL) as part of their Degree Programme. Their creativity was measured by employing a standardized creativity test and oral task performance was examined on two oral tasks: narrative and expository.

The findings of the study showed that there were no statistically significant positive correlations between learner creativity and oral task performance whereas statistically extensive negative relationships exist among all the aspects of creativity: originality, fluency, flexibility and certain oral task performance measures. The results of the present investigation deviate from the findings of the previous studies (Albert, 2008; Albert & Kormos, 2004; Otto, 1998) which assert the existence of moderate and statistically substantial correlations between learner creativity and oral task performance. Hence, the current research findings contradict the view of the proponents (Ehrman, 1996; Grigorenko, Sternberg & Ehrman, 2000) who declare that the ability to cope with novelty is a remarkable feature that affects the success of language learning. However, findings affirm Skehan's (1998a) framework of task difficulty as opposed to the claims of the Cognition Hypothesis (Robinson, 2003, 2005). The existence of strong negative relationships between learner creativity and oral task performance on the cognitively more complex tasks further supports the supposition of Skehan that greater cognitive intricacy, involuntarily results in reducing accuracy, fluency and complexity.

It is significant to note that in comparison with the results of the previous research, certain relationships detected by this study are different. Therefore, further investigations are necessary to determine the fixed correlations of variables prior to arriving at far-reaching conclusions.

## **Declaration**

“I certify that this dissertation does not incorporate without acknowledgement, any material previously submitted for a Degree or Diploma in any University: and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.”

Signature: .....

Registration number of the candidate: 30589526

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# **Chapter 1: Introduction**

Creativity has received a high degree of attention from scholars, professionals and policymakers alike in the 21<sup>st</sup> century since creativity and innovation are important keys to success in today's rapidly changing world. Every major twentieth-century psychologist (e.g. Freud, Piaget, Rogers & Skinner) has identified the significance of creativity and explored what it means to be creative. At present there is an upsurge in enthusiasm for creative thinking and the need for creative people in every sphere is strongly felt. There is an increasing professional interest in the area which can be seen in the growth of journals and books specifically devoted to creativity. Hence, creativity is attracting attention in the media and popular press as well.

## **1.1 Role of creativity in education**

The need to develop graduates who demonstrate creativity as opposed to purely knowledge-based skills is seen as crucial to the developments of society (Freeman, 2006). Therefore, it is widely contended that developing creativity should be an explicit part of the higher education process (Jackson et al., 2006). Indeed, the need to nurture creativity within higher education has gathered much momentum in recent years and this is reflected in the number of university mission statements. In the UK the Department for Education and Employment established a special committee in 1998, the National Advisory Committee on Creative and Cultural Education, and in 2000 this committee produced a detailed report on 'Creativity, Culture and Education' (NACCCE, 2000). According to this report, 'Britain's economic prosperity and social cohesion depend on developing a national strategy for creative and cultural education' (p.5).

The decision of the European Union to make 2009 'European Year of Creativity and Innovation' further indicates the significance of creativity. The major objective of the year was 'to promote creativity for all as a driver for innovation and as a key factor for the development of personal, occupational,

educational, entrepreneurial and social competences through lifelong learning' (European Commission, 2008a, p. 5). According to the European Commission (2008b), during the year it was expected (a) to raise public awareness and promote public debate on creativity, (b) to stimulate research in order to examine how to develop creativity and innovative attitudes, (c) to draw in different policy fields such as education and training, enterprise, media cohesion, rural development and research, and to improve the impact of the year. The European Commission received much praise for putting innovation and creativity at the centre of attention in 2009, but concrete results could not be seen at a time when Europe was engulfed in a global economic recession.

Hence, the main purpose of education is to facilitate students to develop their potential as fully as possible and then enable them to be creative since it is an explicit part of their education experience.

## **1.2 Significance of creativity in higher education in Sri Lanka**

According to the National Education Commission Report (2009) on National Policy Framework on Higher Education and Technical and Vocational Education in Sri Lanka, the ability to create a demand driven higher education system that focuses on creativity and innovation will determine the country's capacity to hold the benefits of economy. Furthermore, the report states that higher education must allow independent thinking that leads to new knowledge and creativity. 'However, the dearth of employment opportunities in Sri Lanka has led to the creation of courses that cater to the needs of particular employment avenues.' This situation no doubt has affected constructively towards improving graduate employability. 'However, over-emphasis of this aspect could have negative impact on open-ended free thinking and innovation which are the hallmark of higher education' (p. 36).

According to Senadeera (2001), in particular the academic teaching/learning process of the Faculties of Arts in Sri Lankan Universities has been limited only to three aspects: (a) listening to lectures, (b) taking down notes, and (c) writing at the examinations. This traditional approach has weakened the

creative and innovative abilities, problem solving skills and the ability to engage in research and project work of undergraduates (Senadeera, 2001).

Therefore, the government of Sri Lanka has given higher education reforms a priority and long-term strategies are being developed to respond to the national concern that the higher education system of the country has no potential to provide the undergraduates with the modern skills required for country's development. Hence, a new attempt was made in 2010 by introducing a novel project in consultation with the World Bank. The proposed project, Higher Education for the Twenty-first Century (HETC) aims (a) to enhance the capacity of higher education system and (b) to deliver quality higher education services in line with equitable, social and economic development needs of the country. In particular, it expects to provide undergraduates with a complete and balanced tertiary education while enhancing the soft skills to mould them into creative, educated citizens of the country.

### **1.3 Rationale and aim of the study**

Foreign language instructors generally agree that the notion of proficiency includes the four language skills, as well as structural, semantic, discoursal and other communicative aspects. Creativity is thus a less addressed component in the foreign and second language teaching field. Vaguely associated with imagination, invention or wit, creativity is not often evaluated in the current classroom context. Perhaps this may be one reason why creativity tends to be ignored as a language learning skill (Dinapoli, 2001). 'Within learning and teaching, creativity can often be seen as an elusive concept that is rarely prioritized, and when it is, it is often related to the concept of problem solving' (Davis, 2006a, p. 37).

The SLA research of individual learner variables has failed to investigate the effects of creativity although the influence of other cognitive variables such as intelligence, language aptitude and different learning and thinking styles have been researched widely (Gardner & MacIntyre, 1993; Oxford & Ehrman, 1993; Skehan, 1989, 1991). Many of the individual differences that exist between

learners have been studied in an attempt to identify the appropriate methods in second language teaching and learning. Though the relevance of several cognitive, motivational, personality and social factors has been researched, the significance of one complex phenomenon, learner creativity has not been thoroughly explored yet (Albert & Kormos, 2004). Even though the learning and teaching of second languages has been done for years, inconsiderable number of research has been conducted on the possible effects of learning a second language on the creative functioning of individuals. Dörnyei (2005) states that it is necessary to conduct more research and ‘theoretical clarification’ on which aspects of creativity: fluency, flexibility and originality affect which aspects of language learning and use (p. 207). Furthermore, Dörnyei states ‘creativity is certainly an Individual Difference (ID) variable to be aware of in future L2 studies for at least three reasons.’ First, theoretical importance of creativity is unquestionable; second, it is significant to investigate how communicative, child-centered methodologies have ‘increased the relevance of creativity in instructed SLA’. Third, the limited literature that is available on the impact of creativity on language learning asserts that ‘creativity does play a role in shaping L2 outcomes’ (p. 207). According to Dörnyei (2005) ‘although the assumption that creativity and language learning achievement are related is reasonable,’ so far only two L2 studies have been conducted to test this hypothesis, by Albert and Kormos (2004) and Otto (1998). Both found significant positive relationships between creativity and L2 learner performance (p. 205). However, Albert (2008) further investigated correlations between learner creativity and oral task performance and detected only moderate relationships.

According to the researcher’s knowledge, no study has particularly focused on learner creativity in Sri Lankan L2 classrooms. Furthermore, the researcher’s experience and the anecdotal evidence show that most of the Sri Lankan undergraduate students’ performance at oral tests is unsatisfactory. Therefore, the main objective of this present study is to investigate the effects of a so far neglected individual variable, creativity, on several output variables of oral task performance. Thus, the current research findings would contribute to the enrichment of the second language teaching/learning research base in Sri Lanka.

## **1.4 Overview of the dissertation**

The dissertation consists of five chapters. Chapter 1 describes the background of the study, the rationale and the aim of the study. Chapter 2 reviews the literature related to the study. First, the concepts related to creativity and oral tasks, and the theoretical framework for the study are discussed. Then, empirical research studies conducted so far to investigate the relationships between learner creativity and oral task performance are examined. This is followed by the presentation of the research questions examined in the study.

Chapter 3 provides the methods employed in conducting the research. First, the research design and the background of the research sample are presented. Then the instruments utilized; the standardized test of creativity and oral narrative and expository tasks are discussed comprehensively. Finally, measures calculated on the basis of the two tests are explained broadly, followed by an explanation of the statistical procedure applied.

Chapter 4 of the dissertation presents the findings of the study. Descriptive statistics of the four sub-tests of standardized creativity test and the two sub-tasks of oral test employed for the population are discussed in the first section. This is followed by a comparison of the descriptive statistics of the second-year undergraduate research sample and the descriptive statistics of the standardized creativity test conducted in Hungary for a representative sample of high school graduates by Barkóczi and Zétényi (1981). The second section aims to demonstrate the relationship between learner creativity and oral narrative tasks performance measures. This is followed by a comparative analysis between the results of the present study and the findings of the previous investigations that have addressed the issue of creativity.

In the final chapter, conclusions, recommendations and pedagogical implications are examined. A brief summary of the most significant findings is followed by the limitations of the study and a discussion on the requirement of conducting further investigations in relation to creativity and oral tasks performance.

## **Chapter 2: Review of the Literature Related to the Present Study**

### **2.1 Introduction**

This chapter focuses on establishing the theoretical background related to this study. Hence, the major purpose of the following review of literature is to provide a comprehensive account of the concepts and constructs which constitute the main focus of the investigation and furthermore, to explore why creativity is believed to be relevant for the development of L2 learning based on information available in the literature. In order to bring out these constructs into perspective the previous studies that have addressed the issue of creativity, its facilitative role and related phenomena are briefly evaluated.

### **2.2 Creativity**

#### **2.2.1 Unresolved issue on defining creativity**

It is significant to note that the concept of creativity has gained significance in recent years. However, different recognized institutions and linguists in the world have followed a variety of approaches in defining the concept. According to a survey by Beghetto, Dow and Plucker (2004), only 34% of recent journal articles provide an explicit definition of creativity.

Creativity covers a wide range of distinct but related phenomena: the creative performance or product, the creative person, the creative situation, the creative process and the creative potential (Brown, 1989; Lubart, 1994). Sternberg (2006) states that there are five commonalities in creativity research around the world. First, creativity ‘involves in producing ideas or products that are relatively novel and that are, in some respect, compelling’ (p. 2). Second, creativity has some domain-specific and domain-general elements. That is, it needs some specific knowledge, but there are certain elements of creativity that cut across different domains. Third, creativity is measurable, at least to some extent. Fourth, it can be developed and promoted, and fifth, ‘creativity is not highly rewarded in practice, as it is supposed to be in theory’ (Sternberg, 2006, p. 2).

The Longman Dictionary of Contemporary English defines creativity as ‘the ability to produce new and original ideas and things; imagination and inventiveness.’ A predominantly comprehensive definition offered by Feldhausen and Westby (2003) encompasses these aspects.

Creativity is the production of ideas, problem solutions, plans, work of art, musical composition, sculptures, dance routines, poems, novels, essays, designs, theories, or devices that at the lowest level are new and of value to the creator and at the highest level are recognized, embraced, honored, or valued by all or large segments of society. Between the lowest and highest levels is a continuum of more or less recognized and useful creative productions, but always the production is new, novel, or unique relative to some definable context (p. 95).

As Mayer (1999) states in his review of Sternberg’s handbook (Sternberg 1999): ‘in spite of agreement on basic definition of creativity, there are several clarifying questions for which Handbook authors-reflecting the diversity of the field-have different answers’ (p. 450). Furthermore, according to Mayer, studies on creativity can be ‘personal’ or ‘social’. Personal creativity means creating something new in respect to the person that creates the product while creativity that is social refers to something new and useful in respect to the social or cultural environment where it is produced. Mayer’s view is equivalent with the continuum of creativity presented by Feldhausen and Westby (2003); personal creativity represents the lowest level of the continuum while the social creativity the highest level. According to the report of NACCCE (2000), creativity involves originality in three possible ways: individual, relative or historic. Individual creativity coincides with Mayer’s definition of personal creativity. Relative refers to originality in relation to peer group. Finally, historic refers to original in terms of anyone’s previous output in a particular field.

According to Clarke (2000), creativity is thus the ability to re-define, re-create and/or re-produce things by firstly questioning them, then by looking at them from a fresher, different angle or perspective, and finally by formulating and/or producing a renewed, different alternative of the very thing that is being glanced at.

Furthermore, NACCCE provides a more elaborated, but similar definition of creativity. According to the report, creativity processes four characteristics:

1. It always involves imagination, since it is the process of generating something original.
2. It is purposeful; imagination carries an action towards an end.
3. It produces something original in relation to one's own previous work, to their peer group or to anyone's previous output in a particular field.
4. It has value in respect to the objective it is applied for; creativity involves the generation of ideas, the evaluation of them, and selecting the most adequate one.

(Villalba, 2008, p. 10).

As King and Pope (1999) point out, creativity has long been associated with a number of psychological traits, 'the most prominent of which include autonomy, introversion, and openness to experience' (P. 201). According to Simonton (2000), creativity is that characteristic of human behavior that seems the most mysterious, and yet most critical to human advancement. The capacity to solve problems in new ways and to produce work that is novel, appropriate, and socially valued is an ability that has fascinated people for centuries

It is almost certain that an understanding of creativity will necessarily require reflection of the issues presented above. However, according to Albert (2006), when attempting to define this concept, one of the first tasks should be restricting the scope of investigation and specifying the area or aspect of creativity that is to be examined.

Hence, based on the above definitions of creativity, a working definition was formed for the purpose of this study, that is (a) creativity is innate, (b) it involves in producing comparatively novel ideas honored by large segments of society and (c) it can be promoted and measured.

### **2.2.2 Creativity and intelligence**

There has been a prolonged argument in the psychological literature regarding the issue whether intelligence and creativity are part of the same process (the conjoint hypothesis) or represent distinct mental processes (the disjoint hypothesis). Evidence from attempts to investigate correlations between intelligence and creativity from the 1950s onwards, by authors such as Barron, Guilford, Kogan and Wallach regularly suggested that correlations between these concepts were low enough to justify treating them as distinct concepts.

The initial position adopted in the 1950s and 1960s by psychologists was that creativity and intelligence are separate, more or less competing or even mutually exclusive dimensions of intellect. However, later theory has emphasized that the two work together. Some writers have referred to this as involving 'ture' intellectual giftedness (Cropley, 1994), with neither intelligence nor creativity alone leading to effective gifted behaviour. Both early and later studies of achievement at school or university level have shown that by and large the highest achievers display both creativity and intelligence (Sierwald, 1989).

A very popular model related to creativity and intelligence has come to be known as 'the threshold hypothesis', proposed by Torrance (1967), which holds that a high degree of intelligence appears to be necessary whereas not sufficient condition for high creativity. Therefore, in a general sample, there will be a positive correlation between creativity and intelligence (Guilford, 1967). According to Guilford, the dominant view of the relationship between intelligence and creativity is characterized by the threshold effect, in which a minimum of intelligence is required for an individual to exhibit creative problem-solving behaviours such as problems finding, divergent thinking, remote associations, and convergent thinking.

Sternberg (2001) argues that creativity should not be considered in isolation from other constructs of human abilities; rather, it is best understood in a societal context. He suggests that the common thread in the prolific research

literature is the interrelations or dialectic among intelligence, wisdom, and creativity, where intelligence advances existing societal agendas. Some researchers believe that creativity is only judged as creativity in terms of its consequences, i.e. when the outcome of cognitive processes happens to produce something novel, a view which Perkins has termed the ‘nothing special hypothesis’ (O’ Hara & Sternberg, 1999).

### **2.2.3 Creativity and its impact on learning**

According to Davis (2000b) the provision of standardization and rigid control of the curriculum is having an adverse effect on students’ creativity. Davis on the basis of his investigation further exposes the climate of high anxiety among pupils, who are aware that the measurement of their success depends on reaching the prescribed standards of the national curriculum. This means that pupils are reluctant to indulge in creativity, and prefer to comply with the expectations specified by the framework.

Educationalists have recognized that the lack of creativity in schooling is damaging to pupils’ development. One of these scholars is Nash (1997), who claims creativity is an essential part of the development of early Key Stage of pupils. Nash substantiates ‘the potential for greatness may be encoded in the genes, but whether that potential is realized as a gift depends on the patterns etched by experience in those critical early years’ (Nash, 1997, p. 58). Nash specifically refers to the early childhood phase of development since it is the early education Key Stages that are the most impressionable and influential developmental years for pupils. If pupils are permitted to flourish artistically and creatively during their early years, then a foundation for creative thinking will be laid for the development of creative intellect (Stables, 1998). Hence, creativity and innovation have to be a part of pupils’ development from as early as possible. ‘Within 18 months of birth, a child enters into a stage of mirroring behaviors based on human interactions; maturation occurs based on these continued interactions and through images and language’ (Efland et al., 1996, p. 26).

If creativity is interpreted as a rare occurrence, ‘observable only in the exceptionally talented’ its relevance for the millions of average people learning foreign languages is apparently negligible. ‘If, however, creativity is hypothesized to be a special arrangement of those cognitive, motivational, personality or social characteristics that are present in everyone, its effects on second language acquisition cannot be disregarded’ (Albert, 2006, p. 77). A number of researchers (Barkóczy & Zétényi, 1981; Copley, 1972; Guilford, 1950b; Harrington, Block & Block, 1983) believe that the fundamental components of creativity are normally distributed in the population. Therefore, creativity, which implicitly involves imagination, unconventionality, risk-taking, flexibility, and creating new classifications and systematizations of knowledge (Sternberg, 1985a), might be the factors affecting second language acquisition.

According to Sternberg (2002), a good index of the creative intelligence is how well individuals could cope with relative novelty. Thus, an inherent feature of learning a new language is coping with relative novelty both in terms of the language code and the sociocultural and pragmatic conventions governing intercultural communication. Sternberg believed that creative intelligence was an important determiner of SLA. According to Dinapoli (2001) the difficulty in defining creativity in second or foreign language acquisition makes it an unappealing research topic. As a result, those foreign language teachers who recognize the importance of creativity in the learning process have relatively little to draw on from textbook authors.

Currently, the higher education institutions in the world are encouraging higher education teachers and subject communities to consider the role of creativity in students’ learning since creativity is seen as crucial to the development of students in education. Creativity is largely implicit in discussions about teaching and learning. However, teachers do value creativity, originality, flair and imagination in their students’ learning (Dörnyei, 2005).

#### **2.2.4 Measuring creativity appropriately**

In assessing creativity, most people, including teachers, are unable to distinguish between what is creative and what they personally like. If something is produced that is disliked, it will not be seen as creative. But producing exactly what the teacher likes is not necessarily creative. Most assessments or tests in schools or universities do not assess creativity; those that do appear to ask for creativity want it within severely restricted limits which they, unhelpfully, often fail to describe or even be aware of. As there are very subjective judgments related to creativity, it can be very difficult for a student to know where they stand, and how to do well.

Assessing creativity is in fact difficult. Different creativity tests measure different constructs within the complex intellectual and effective concept of creativity; problems arise when one measure is inappropriately compared against another. The first test of creativity produced by Guilford (1959) attempted to compile a tool that measured aspects of intellect not covered by traditional intelligence tests. The relationship between intelligence and creativity has been an issue ever since. According to Guilford, divergent production is made up of twenty-four elementary abilities in his structure of intellect model. However, since Guilford was not interested in measuring each of these elementary abilities independently, in his test of creativity, he measured four higher levels of abilities: fluency, flexibility, originality and elaboration, each with the help of a separate task. More interestingly, this method was not followed by other constructors of creativity tests. According to Oláh (1987), Torrance's tests of creativity which have been used most extensively, measure all of the above abilities on the same task. In his tests all the tasks are scored for fluency, flexibility, originality and elaboration, as well. The test-retest reliability of the Torrance and Guilford tests is between 0.3 and 0.93 which is probably due to the fact that performance on creativity tests is greatly influenced by motivational factors (Albert & Kormos, 2004).

Parkhurst (1999) states that Torrance's early attempts at operationalizing creativity for research purposes centered on problem-solving.

I have tried to describe creative thinking as taking place in the process of sensing difficulties, problems, gaps in information, missing elements; making guesses or formulating hypotheses about these deficiencies; testing and retesting them; and finally in communicating the results (Torrance, 1965, p. 8).

Torrance was an international leader in creativity research and was best known for developing the Torrance Tests of Creative Thinking (TTCT), which are used in the business world and in education to assess individuals' capacity for creativity. The TTCT was developed in 1966. It has been renormed 4 times: in 1974, 1984, 1990, and 1998. There are 2 forms (A and B) of the TTCT-Verbal and 2 forms (A and B) of the TTCT-Figural. The Torrance Tests are the most widely used tests to measure creativity (Khatena, 1989), and their use is supported by more evidence of validity than any other creativity tests.

Torrance (1966) recommended the creation of a game-like, thinking, or problem-solving atmosphere, avoiding the threatening situation associated with testing. His main focus was on realizing and nurturing qualities that assist people to express their creativity. The tests were not designed to simply measure creativity, but instead to serve as tools for its enhancement (Hébert et al., 2002).

Torrance (1966, 1974) suggested the following uses for the tests:

1. To understand the human mind and its functioning and development.
2. To discover effective bases for individualizing instruction.
3. To provide clues for remedial and psychotherapeutic programs.
4. To evaluate the effects of educational programs, materials, curricula, and teaching procedures.
5. To be aware of concealed potentialities.

(Kyung, 2006, p. 4).

In other words, although the tests have been used mostly for assessment in the identification of gifted children, Torrance originally planned to use them as a basis for individualizing instruction for different students based on the test scores (Torrance, 1966, 1974). The test may yield a composite score (the

Creativity Index [CI]), but Torrance discouraged interpretation of scores as a static measure of a person's ability and, instead, argued for using the profile of strengths as a means to understand and nurture a person's creativity (Hébert et al., 2002; Torrance, 1966, 1974). Thus, the purposes of the TTCT are for research and experimentation, for general use, for instructional planning, and for determining possible strengths of students.

For the first time Barkóczy and Klein in 1968 developed the standardized creativity test in order for it to be used in Hungary. It contains four parts: two figural and two verbal tasks. The two figural tests, Circles and Picture Completion, are almost similar to Torrance's Test of Creative Thinking (TTCT). One of the verbal tests: Unusual Uses is an adaptation of a part of Guilford's test. The other verbal test: Remote Associations originates from Mednick, whereas it was further developed by Albert and Kormos, 2004; Barkóczy and Zétényi, 1981 (Oláh, 1987). Torrance's procedure has been followed by Barkóczy in scoring of the different tasks, that is, each task is scored for fluency, flexibility and originality but elaboration, however, is not measured.

## **2.3 The function of oral tasks**

### **2.3.1 Significance of tasks in language teaching**

Until the late 1960s it was assumed that knowing a language could be equated with having internalized the rules underlying the language. The focus was primarily on teaching structures and learners were assessed on how well they could demonstrate their knowledge of the structures and how well they could manipulate them. The 1970s, however, indicated a major shift in focus away from 'form' to 'meaning'. Gradually it became accepted that the major reason for learning any language, which is, to convey meaning, should be reflected in what happens in the classroom. This realization had a significant effect on how language was analyzed and the way language could be broken down in terms of functions rather than form for teaching purposes. The 'communicative activity' which, as Skehan (2003) points out, became replaced by the term 'task' in the 1980s, this became a teaching unit, impacting on teaching, syllabus design and textbook writing.

When real-life tasks are transformed from the real world to the classroom, they become pedagogical in nature. A pedagogical task, hence, is a classroom undertaking where the target language is used by the learner for a communicative purpose (goal) in order to achieve an outcome. In other words, it is 'a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form' (Nunan, 1989, p. 10). Tasks usually refer to communicative language activities in which purposeful communication, authentic situations and active learner engagement are major concerns. In language teaching, tasks are considered as important vehicles providing learners with the means to develop communicative competence by experiencing language as it is used outside the class. Tasks appear to be the ideal construct to link the fields of SLA and language pedagogy (Ellis, 2003; Pica, 1997).

Recent years have seen an enormous growth of interest in utilizing tasks in language learning and teaching (Ellis, 2000). This interest has been motivated to a considerable extent by the fact that 'task' is seen as a construct of equal importance to second language acquisition (SLA) researchers and to language teachers (Pica, 1997). Researchers use tasks to attempt to influence interactional outcomes to test whether language acquisition happens according to their proposed theories.

Tasks have played a central role in SLA research and have brought SLA and language pedagogy together. From the 1980s to date, particularly SLA researchers strongly recommend them to classroom practitioners due to their pedagogical validity. However, Bygate, Skehan and Swain (2000) define task differently depending on whether the perspective is that of research or pedagogy. Researchers, for example, may view a task in terms of a set of variables that impact on performance and language acquisition whereas teachers identify it as a unit of work in an overall scheme of work.

Widdowson (1998) argues that ‘exercise’ and ‘task’ differ with regard to the kind of meaning, goal, and outcome they are directed towards. Thus, an exercise is premised on the need to develop linguistic skills as a prerequisite for the learning of communicative abilities, while a task is based on the assumption that linguistic abilities are developed through communicative activity.

Theoretical distinction between ‘exercise’ and ‘task’ is outlined in Table 1.

Table 1: Distinguishing ‘exercise’ and ‘task’ (based on Skehan, 1998a, b)

	<b>Exercise</b>	<b>Task</b>
<b>Orientation</b>	Linguistic skills viewed as pre-requisite for learning communicative abilities.	Linguistic skills developed through engaging in communicative activity.
<b>Focus</b>	Linguistic form and semantic meaning (‘focus on form’).	Propositional content and pragmatic communicative meaning (‘focus on meaning’).
<b>Goal</b>	Manifestation of code knowledge.	Achievement of a communicative goal.
<b>Outcome</b>	Performance evaluated in terms of conformity to the code.	Performance evaluated in terms of whether the communicative goal has been achieved.
<b>Real-world relationship</b>	Internalization of linguistic skills serves as an investment for future use.	There is a direct and obvious relationship between the activity that arises from the task and natural communicative activity.

(Ellis, 2000, p. 197)

According to the review of Dörnyei and Kormos (2000), the role of individual and social variables in oral task performance in the past decade has brought an increased interest in language learning tasks as basic conceptual units to analyze learning behaviors that lead to second language (L2) acquisition.

### 2.3.2 The effects of task variables on task performance

Language users vary in the extent to which they emphasize fluency, accuracy or complexity, with some tasks predisposing them to focus on fluency, others on accuracy and yet others on complexity. These different aspects of production draw on different systems of language (Skehan, 1998a).

According to Ellis (2000), fluency requires learners to draw on their memory-based system, accessing and arranging ‘ready-made chunks’ of language, and, when problems arise, using communication strategies to get by. In contrast, accuracy and, especially, complexity are reached by learners drawing on their ‘rule-based system’ and thus necessitate syntactic processing (p.202). Skehan points out that it is possible to influence different aspects of language acquisition (i. e. fluency, accuracy and complexity) by providing opportunities for learners to engage in different types of production. Skehan further suggests that paying attention to each of these three areas is needed for balanced language development, an objective that can be reached through the careful selection and designing of tasks.

According to Skehan (1998a), various task variables stated in Table 2 given below have the potential to interact in complex ways to influence learner production. On the basis of these findings, oral tasks were selected for the current study.

Table 2: Effects of task variables on the fluency, accuracy and complexity of learner (based on Skehan, 1998a)

<b>Task variable</b>	<b>Main findings</b>
<b>A. Task features</b>	
<b>1. Extent to which task involves well-structured information</b>	Promotes fluency.
<b>2. Number of elements to be manipulated</b>	More elements result in greater complexity.

<b>Task variable</b>	<b>Main findings</b>
<b>3. Decision-making tasks requiring differentiated responses</b>	Greater differentiation results in greater complexity.
<b>B. Task variables</b>	
<b>1. Planning time</b>	Planning time results in greater complexity and, sometimes, greater accuracy; different types and amounts of planning time differentially affect complexity and accuracy.
<b>2. Task repetition</b>	Asking learners to repeat a task results in more complex language production.
<b>3. Simultaneous vs. subsequent task performance</b>	Accuracy and complexity greater in subsequent task performance.
<b>4. Knowledge of subsequent public task performance</b>	In some tasks, this results in greater accuracy.

(Ellis, 2000, p. 203)

Skehan's investigation assumes that learners possess a limited processing capacity that floats between fluency, accuracy and complexity (Skehan, 1998a).

#### **2.3.4 Oral tasks and creativity**

Since creativity is naturally noticeable in production, its impact would perhaps be more simply detectable in output as opposed to comprehension. There are a number of reasons that open-ended tasks like oral narrative for which a large number of solutions are possible could be better suited than, for instance, drills for creative foreign language learners (Albert & Kormos, 2004).

The language output generated on oral tasks is usually scrutinized in terms of its, fluency, flexibility and originality. Creative learners are characterized by greater fluency, that is, the ability of providing a larger number of solutions in a given amount of time (Baer, 1993), and such learners might be able to produce more comprehensible output during the tasks (Albert & Kormos, 2004). Flexibility, usually measured by divergent thinking tests, reflects the ability to produce a wide variety of ideas (Baer, 1993). 'It might be manifested directly

in the way language is used by the learners', that is, a wider range of vocabulary items are employed by competent users to communicate their wide range of ideas (Albert & Kormos, 2004, p.10). Originality, the ability to construct rare ideas (Baer, 1993), might also persuade learners to utilize 'a wide range of vocabulary in an attempt to give an account of the interesting ideas they have in mind' (Albert & Kormos, 2004, p.11). Learners who lack the creativity required for such tasks may have difficulty in performing them, which might negatively influence the developments of their L2 proficiency (Otto, 1998).

Hence, based on the above phenomenon, a working definition was formed on oral tasks for this study, that is, oral tasks often require students to retrieve or construct their own ideas, and the outcomes depend to a great extent on students' creative abilities.

### **2.3.5 Oral narrative tasks in literature**

According to Albert (2008), researchers 'working within the task-based framework' have identified three basic types of tasks that are used for the elicitation of oral narratives. The method most often used is to provide cartoons for the respondents and get them to narrate the story portrayed by the pictures (Skehan & Foster, 1997). In some cases the cartoons are supplemented with prompts, that is, the first two or three sentences of the story to be narrated are given (Robinson, 1995). Occasionally instead of a cartoon, a short film is given as the stimulus and the respondents are assigned to narrate the story of the film (Skehan & Foster, 1999).

Another prominent type of oral task is that the subjects are given loosely but apparently connected pictures and assigned them to invent the story themselves (Foster & Skehan, 1996). According to Albert (2008) this task type is 'less specific and less structured' than the previous one since the respondents 'have to come up with a logical arrangement for the pictures' and produce the narratives themselves (p. 68).

The third type of task employed for the elicitation of oral narratives involves giving the participants one picture which can either be the beginning, the middle or the last phrase of the story, but the subjects are completely free to invent the rest of the story by their own (Csölle & Károly, 1998). This task type is the 'least structured and the least specific of the three' (Albert, 2008, p.68).

The first task type is employed profusely in second language research as an elicitation device than the other two due to two reasons: (a) the specificity and structured nature of the task seem to guarantee the desirable output, narratives; (b) it does not apparently encourage the participants' imaginations. Regardless of the fact that, oral narrative tasks are frequently employed for research purposes (Foster & Skehan, 1996; Iwashita, et al., 2001; Robinson, 1995, 2007; Skehan & Foster, 1997, 1999).

## **2.4 Theoretical framework for the study**

According to Albert and Kormos (2004), 'theories of creativity, similarly to the wide range of issues covered by it, are numerous' (p. 282). Authors working within the psychodynamic (Freud, 1908-1959; Kris, 1952), the humanistic (Csikszentmihalyi, 1988; Maslow, 1968, Rogers, 1954) as well as the socio-psychological (Amabile, 1983, 1996) approaches have presented theories in an attempt to account for this phenomenon. As proponents of recent models of creativity (Amabile, 1983, 1996; Sternberg & Lubart, 1991, 1996) clearly state, creativity is probably best hypothesized as a complex interplay of several cognitive, personality, motivational, and social factors (Albert & Kormos 2004). They also state that intellectual abilities are arguably among the most important components of creativity (Lubart, 1994).

### **2.4.1 Cognitive components of creativity**

Many researchers concentrated purely on the cognitive factors underlying creativity in their investigations. Guilford (1950a) was the first linguist who presented a list of cognitive processes involved in creativity. According to Guilford, these processes include: sensitivity to problems, creative fluency of

production, ability to come up with novel ideas, flexibility of mind, synthesizing ability, analyzing ability, reorganization or redefinition of organized wholes, a high degree of complexity of the conceptual structure, and evaluation. Daubman, Nowicki, and Isen, (1987) mention that creativity has three primary and positive effects on cognitive activity:

1. Make additional cognitive material available for processing, increasing the number of cognitive elements available for association;
2. Lead to defocus attention in a more complex cognitive context, increasing the breadth of those elements that are treated as relevant to the problem;
3. Increase cognitive flexibility, increasing the probability that diverse cognitive elements will in fact become associated.

However, ‘the factor of creativity-relevant intellectual abilities tend to load on one common higher-order factor called idea production, which provides empirical evidence of the autonomous existence of this ability’ (Albert 2006, p. 82). According to Carroll (1993), idea production is usually measured by tasks which prompt examinees to quickly think of a series of responses. Carroll, after reviewing and reanalyzing 121 datasets, identified nine basic factors which are relevant for idea production: ideational fluency, naming facility, associational fluency, expressional fluency, word fluency, sensitivity to problems, originality, figural fluency, and figural flexibility. Out of the nine factors, eight are primarily concerned with the speed of idea production and are differentiated on the basis of the type of the idea produced, whereas the aspect of creativity, originality seems to determine the quality or level of idea production (Carroll, 1993).

According to Albert (2006), two different approaches are used in assessing a person's creative potentials. One is measuring several non-cognitive aspects of creativity, such as personality and motivation, in addition to intellectual processes and intellectual style. This was practiced by Sternberg and Lubart (1991), who made efforts to establish individual creativity this way. Although this approach is more in line with the current constructs of creativity which

state that creativity should be considered as a complex interplay of several cognitive, personality, motivational and social factors (Amabile, 1983, 1996; Sternberg & Lubart, 1991, 1996), it is not feasible in correlational research designs where creativity is only one variable to be measured. The other option, therefore, is assessing divergent thinking, the intellectual ability that is considered to be the most important characteristic of the creative process (Guilford, 1967; Torrance, 1962).

Creativity-relevant intellectual abilities have a number of common factors, which draw attention to the fact that in almost fifty years one thing certainly did not change; researchers believe that creativity rests on the same cognitive foundation as other intellectual abilities, such as intelligence. As a result, the cognitive abilities that form the basis of creativity are usually integrated into comprehensive theories of intellect (Carroll, 1993; Guilford, 1967; Sternberg, 1985b). Although theories of intellect bear relevance for theories of creativity and provide a general frame of interpretation of the phenomenon, the drawback of this approach is that creativity becomes difficult to distinguish from other intellectual abilities in terms of purely cognitive factors (Albert & Kormos, 2004).

## **2.5 Research studies done in the field of language learning**

The previous studies that have investigated the correlations between the different aspects of creativity and measures of oral task performance are useful to make the reader aware of the phenomenon related to the study.

‘Although the assumption that creativity and language learning achievement are related is reasonable, so far only two L 2 studies have been conducted to test this hypothesis’ by Albert and Kormos (2004) and Otto (1998). Both found a significant positive relationship between creativity and L2 learner performance (Dörnyei, 2005, p. 205).

Otto (1998) in a small-scale study involving Hungarian secondary school learners instructed by communicative methods, found significant positive

correlations between different measures of learner creativity and students' end-of year English grades. Otto's investigation was the observation that communicative language teaching emphasizes functional and situational language use and involves communicative tasks such as role-play activities and simulations. Such tasks, according to the author, often require students to use their imagination, that is, to retrieve or construct their own ideas. Therefore, it is reasonable to suggest that the outcomes may depend to a great extent on the students' creative abilities.

In order to measure the learners' creativity, Otto adapted five sub-tasks from the Torrance Tests of Creative Thinking (TTCT):

1. Consequences-presenting students with improbable situations and asking them to provide as many consequences as they could think of.
2. Unusual Uses-asking students to list possible unusual uses for common objects such as a book or a pencil.
3. Common Problems-asking students to list a number of problems that might occur in one of the following two everyday situations: going to school in the morning or making a sandwich.
4. Categories-asking students to list as many things as they could think of that belonged to a given category such as things that are red or more often red than not.
5. Associations-presenting participants with two words, for example, 'mirror' and 'rain', and asking them to supply a third one that could be semantically associated with these.

(Dörnyei, 2008, pp. 204-205).

Otto (1998) in his research encouraged his respondents to present as many responses as they could think of for each task in their L1. The study revealed that the scores of the five sub-tests were correlated separately and also as a composite with the students' English grades. 'All the correlations were significant, with the correlation with the total test score being the highest ( $r=0.63$ ), explaining roughly 40% of the variance in the students' grades' (p. 206).

Albert and Kormos's study (2004) utilized a task-based approach. Their subjects carried out an oral narrative task and then completed standardized creativity test developed for use in Hungary, examining how the three standard

aspects of creativity-originality, flexibility, and fluency-influenced a variety of measures of task performance. Thus, according to Dörnyei (2005), the study of Albert and Kormos differ from Otto's in the criterion measures: Otto used a holistic outcome measure, course grades, whereas Albert and Kormos looked at the impact of creativity on actual task-specific learner behaviors.

The investigation of Albert and Kormos (2004) indicates that the two components of creativity, originality and creative fluency, were related to some measures of task performance, whereas no statistically significant correlations were found between task-related variables and flexibility or the total creativity score. Although even the significant correlations were moderate at best (with the highest being 0.39), explaining approximately 10%-16% of the variance in linguistic measures, and of the several correlations computed, only six reached statistical significance. Albert and Kormos emphasized that except for complexity and accuracy, all the characteristics of task performance investigated in their study were influenced by certain components of creativity. Thus, according to Dörnyei (2005) 'on the basis of the results of the study the ability to produce original, novel ideas in general does moderately affect how students perform in a particular language learning task' (p. 206).

In addition to that, Albert (2008) further investigated the correlations of the different variables of creativity and measures of oral narrative task performance. Findings of the study seem to indicate moderate relationships between oral task performance and some aspects of creativity, especially the fluency-free components such as average originality and relative flexibility (Albert, 2008).

Even though the learning and teaching of second languages has continued for years, little research has been conducted on the possible effect of learning a second language on the creative functioning of individuals. Apparently based on the researcher's knowledge, no study has particularly focused on learner creativity in Sri Lankan L2 classrooms.

Thus, the current research findings would contribute to the enrichment of second language teaching/learning research base in Sri Lanka.

## **2.6 Research question instruments**

Based on the above literature, a set of research questions and hypotheses were formed. This study intends to measure the participants' creativity, employing a standardized creativity test and to measure their oral task performance utilizing two timed oral tasks.

Hence, it was expected to find answers to the following research questions (RQ).

Does learner creativity facilitate oral task performance at the intermediate level?

1. Is there a relationship between different measures of oral task performance (*accuracy, fluency, syntactic complexity, quantity of talk, number of narrative clauses and ratio of narrative clauses*) and the aspects of creativity (*fluency, flexibility and originality*)?
  - a. Is there a relationship between different measures of oral task performance and originality?
  - b. Is there a relationship between different measures of oral task performance and fluency?
  - c. Is there a relationship between different measures of oral task performance and flexibility?

Furthermore, a diagrammatic representation of the research instruments and methods employed in the study is shown in Figure 1 given in Section 3.5.4.

## **2.7 Research hypotheses**

**H<sub>0</sub>**- All the components of creativity-*fluency, flexibility and originality*-do not have an effect on oral task performance.

**H<sub>1</sub>**- All the components of creativity-*fluency, flexibility and originality*- have an effect on oral task performance.

## **2.8 Summary**

The above section elaborated the theoretical background of the study. It provided a detailed analysis of the concepts and constructs related to learner creativity and task performance which constituted the main focus of the investigation. The previous studies which investigated the correlations between learner creativity and oral task performance and related phenomena were also briefly explained. This was followed by the presentation of the research question instruments.

## **Chapter 3: Research Methodology**

### **3.1 Introduction**

This chapter presents the methods used when conducting the empirical study. First, the research design is provided which is followed by the presentation of the background of the research sample, and the instruments used. The subsequent sections contain the steps of data analysis, a detailed description of the measures and statistical procedures employed.

### **3.2 Type of research**

The study used quantitative methods for data collection and analysis and it is correlational in design. In a correlational research design, existing relationships between variables are examined. This study investigated the correlations between three aspects of creativity: originality, flexibility and fluency, and the different measures of task performance in the case of intermediate learners as explained in Sections 3.5.3 and 3.5.4.

### **3.3 Background of the research sample**

The subjects of the research were twenty second-year students in one of the state universities in Sri Lanka following the course unit, Core English Language Level-IV as a second language for their Degree programmes. They have undergone their primary and secondary levels of education in Sinhala. According to the scores at the placement test, the selected subjects were intermediate learners of English. Their age ranged from 20-24 and 12 of them followed Economics as a major subject while the rest specialized in Sociology as a major.

### **3.4 Selection of the research sample**

One of the reasons for choosing this purposive sample is that a relatively high level of proficiency is not required to complete the verbal and the figural tasks of the creativity test and the two oral tasks: *narrative and expository* designed

to measure task performance of the oral test. Hence, it was assumed that the participants who were at the intermediate level of proficiency were appropriate for the study.

According to Albert (2008), gender and age do not influence the phenomenon under investigation. Hence, no constraints were set with regard to these variables. Make use of a bigger sample was not feasible due to the time-consuming and labor-intensive analysis of the verbal and figural tasks in the creativity Test and the two sub-tasks in the oral test. Therefore, the size of the sample was limited to twenty. Most of the previous studies related to creativity have also used twenty to twenty five participants (Foster & Skehan, 1996; Robinson, 1995; Skehan & Foster, 1997, 1999). Albert (2008) states that a correlational analysis can be performed on a sample of this size and the results are, to some extent, generalizable.

### **3.5 Instruments used**

The instruments used in this present study are:

- a) The standardized test of creativity (Barkóczi & Zétényi, 1981) used by Albert (2008), Albert and Kormos (2004) to measure the aspects of creativity in their exploratory study.
- b) The standardized oral test utilized by Albert (2008), Albert and Kormos (2004) to measure oral task performance in their exploratory study.

A detailed description of those instruments is provided in Sections 3.5.3 and 3.5.4 since the same instruments were utilized for this empirical study.

#### **3.5.1 Creativity test**

The standardized creativity test (see Appendix 1) designed by Barkóczi and Zétényi (1981) for Hungarian adults consisted of five parts. The first task was only meant to serve as a warm-up task because the previous studies have stressed the participants' undisturbed mentality in creativity and only the remaining four tasks were scored. In accordance with the level of complexity

of the sub-tasks, a time limit was set for each task. The subjects were not allowed to go back to previous tasks due to two reasons: (a) the sub-tasks of the creativity test measured four different aspects of creativity (b) the respondents' use of additional time for each task would create a misleading picture of the aspects of creativity.

The warm-up task was a sentence completion exercise, in which respondents were asked to finish sentences within three minutes. For this task sentences were selected from a standardized English proficiency test: Test of English as a Foreign Language (TOEFL). The first two evaluated tasks expected verbal responses from the participants. In the task called '*Unusual Uses*', the respondents had to suggest unusual uses of everyday objects such as pencil, book etc.. In the '*Distant Associations*' task (in a similar fashion to Mednick's Remote Associates Test, 1962), the students had to create associations on the basis of the common characteristics of two unrelated words (e.g., given the words 'cannon' and 'sky', think of a word related to both of them but in different ways: thunder). The last two tasks were drawing tasks (based on the Torrance Tests of Creative Thinking: Torrance, 1966). In the first figural task, '*Picture Construction*' the respondents were made to think of a picture in which the given shape was an integral part and add lines to make any novel pictures, and then to finish abstract shapes in a creative manner (Albert 2008; Albert & Kormos, 2004). However, Barkóczi and Zétényi (1981) used a similar task '*Circles*' instead of '*Picture Construction*' in their study in which respondents were asked to draw as many pictures as they could, starting out with the shape of a circle. In the second task, '*Incomplete Figures*', the subjects were expected to sketch some novel objects or design by adding as many lines as they could to the six figures given. The four tasks were to be completed in five, six, eight and ten minutes respectively.

### **3.5.2 Oral test**

The first oral task (see Appendix 2) utilized in this study (Albert, 2008; Albert & Kormos, 2004) involved creating a story on the basis of a picture. The participants were only given six simple drawings of some story ingredients:

one object, one means of transport, one natural phenomenon, and three scenes, either natural or built. The task did not contain the picture of a protagonist in order to allow subjects to use their imagination freely. The narrative tasks which apparently depend on learners' imagination might intensify the effect of creativity on language performance (Albert & Kormos, 2004). According to the previous studies, the picture sequence and the cartoon strip tasks were valid oral narrative tasks; they resulted in a balanced performance and a relatively higher ratio of narrative.

The second oral task (see Appendix 2) used for the purpose involved producing a brief oral presentation of two minutes on the basis of a given expository topic. The L2 studies (Albert 2008; Albert & Kormos, 2004; Otto, 1998) conducted so far to investigate the correlations between creativity and language learning achievement have used only language proficiency tests and oral narrative tasks to measure language competency of the subjects. The oral expository task employed in this study further enabled the correlations between different aspects of creativity and different measures of oral expository task performance.

While performing the two oral tasks, individual respondents played the role of the speaker and the researcher and the research assistant cooperated as the audience. Each subject was taken in to the language laboratory individually and given three minutes to think before starting the presentation of two minutes and those who completed the two tasks were kept inside to maintain the reliability of the test.

### **3.5.3 Measures of creativity**

The scoring of the standardized creativity test was carried out in accordance with the process specified by Barkóczy and Zétényi (1981). According to them, the resulting raw scores should be converted to a standardized T-profile, whereas due to 'the conversion of scores using the figures of the test booklet was judged to be rather imprecise' (p. 95), Albert (2008) in her study used standardised scores, Z-scores, for further calculations. No doubt Z-scores

indicate the distance from the mean in terms of standard deviations; therefore, they are directly comparable to one another considering their relative location in their respective distributions (Salkind, 2004). This study also used standardized scores, Z-scores for calculations.

Each item of the test was scored for three out of the four measures of creativity (fluency, flexibility and originality) as defined by Baer (1993) and the standardized Hungarian test of creativity also had not measured elaboration. The sub-scores were added up for the four tasks of the creativity test. Therefore, each of the four sub-sections of the test receive three scores independently, a fluency score, a flexibility score, and an originality score. (see Appendix 3).

The fluency score in this survey is called ‘creative fluency’ in order to differentiate it from the temporal variable, ‘fluency’ generally used in SLA research. The fluency score equals the number of responses given by the respondents and each response is worth 1 point. However, when scoring the two figural tasks, exact repetitions, scribbles, abstract designs, incomplete or unrecognizable responses were not counted. The flexibility score reflects the number of categories the subjects select their answers from (that is, the responses are from a single domain or multiple domains) and each response is worth 1 point (see Appendix 3). The categories were set up in the course of the standardization procedure by Barkóczi & Zétényi (1981).

Originality score (that is, the statistical frequency of responses) was calculated in a different way as specified by Cropley, J. A. (2001) in his book ‘Creativity in Education and Learning: a Guide to Teacher and Education’ by ‘assigning different values to the responses according to their relative frequency/infrequency’ (zero for answers occurring on more than 15 percent of test, one point for answers from 7 percent to 14 percent of test, two points for 3-6 percent, three points for 1-2 percent and four points for less than 1 percent) (p. 104).

These values correspond approximately to the proportions lying beyond half standard deviation intervals along the X-axis of a normally distributed trait—approximately 15 percent of scores lie beyond one standard deviation (SD) away from the mean, approximately 7 percent beyond one and a half SDs, approximately 3 percent beyond two SDs and so on. In this way originality is defined in the specific context of a particular group via a statistical procedure (Cropley, p.104).

The measures of creativity shown in Table 3 given below, were calculated using the creativity test scores presented in Appendix 3. First, different sub-scores were calculated: total creative fluency, the sum of the four creative fluency sub-scores; total flexibility, the sum of the four flexibility sub-scores; and total originality, the sum of the four originality sub-scores. Apart from this sub scores, the total creativity score was calculated by adding up all the creative fluency, flexibility and originality scores of the various sub-tasks. Since the four tasks differ in their modality, it is also possible to calculate verbal creativity and figural creativity scores. Verbal creativity scores were calculated by adding up the creative fluency, flexibility and originality scores of the verbal tasks: *Unusual Uses and Distant Association*, while figural creativity scores were calculated in a similar fashion for the two drawing tasks: *Picture Constructions* and *Incomplete Figures Task*.

It is apparent that in this scoring system, the creative fluency scores (more precisely the number of responses the subjects produce) influence both the originality and the flexibility total scores significantly and this usually results in high inter-correlations between the three sub-scores of the test. For instance, if a subject produces two highly original ideas, worth the maximum test score 4 point each, his originality score will be 8 points for the given task. If however, another subject creates five statistically more common responses, worth 2 points each, his originality score will be higher (10 points) than his less fluent peer (Albert 2008; Albert & Kormos, 2004). Hence, the establishment of creative fluency free scores is very important as these could provide information about other facets of the subjects' creativity, regardless of the number of responses they produce.

In order to achieve this relative flexibility (the ratio of total flexibility and total creative fluency) and average originality (the ratio of total originality and total creative fluency) were also measured, following the procedure specified in the test (Barkociz & Zétényi, 1981). Hence, the total creative fluency score can be used to measure creative fluency, the relative flexibility score to measure flexibility and the average originality score to measure originality as defined above. The measures of creativity used in this study are presented in Table 3.

Table 3: Measures of creativity

<b>Measures of creativity</b>	<b>Description</b>
<b>Total creative fluency</b>	the sum of responses given by the respondents on the four sub-tasks.
<b>Total flexibility</b>	the sum of flexibility scores, reflecting the number of categories the answers originated from.
<b>Relative flexibility</b>	the ratio of total flexibility and total fluency scores.
<b>Total originality</b>	the sum of originality scores, reflecting the statistical rarity of answers.
<b>Average originality</b>	the ratio of total originality and total fluency scores.
<b>Total creativity score</b>	the sum of total originality, total flexibility and total fluency scores.
<b>Verbal creativity</b>	the sum of total originality, total flexibility and total fluency scores on the two verbal tasks (Unusual Uses and Distant Associations).
<b>Figural creativity</b>	the sum of total originality, total flexibility and total fluency scores on the two drawing tasks: Picture Construction and Incomplete Figures.

(Albert & Kormos, 2004, p. 14).

### 3.5.4 Measures of oral task performance

The respondents' audio recorded performance on oral tasks was transcribed since five different aspects of the performance of the participants (accuracy, fluency, syntactic complexity, quantity of talk and number of narrative clauses) had to be measured. According to some researchers (Foster and Skehan, 1996; Iwashita et al., 2001; Robinson, 2007; Skehan, 2001; Skehan and Foster, 1997,

1999), accuracy, fluency and syntactic complexity are utilized extensively for measuring oral task performance.

Accuracy was measured by the proportion of error-free clauses relative to the total number of clauses while syntactic complexity was measured by the ratio of the total number of clauses to the total number of Analysis of Speech Units: AS-units (see Appendix 4). These aspects of measurement have been greatly used in task-based research in order to indicate the accuracy and grammatical complexity in a reliable way (Bygate, 1999; Foster & Skehan, 1996; Skehan & Foster, 1997).

According to Foster et al., (2000), AS-unit is 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). Foster et al., present three levels of application for the use of AS-unit in analyzing task performance. Level one analysis which excludes only untranscribable fragments of speech is applied for the complete analysis of data. Level two analysis is employed for highly interactional data and at this level, one-word and minor utterances are excluded from the transcript. Level three analysis is used when only non-fragmented (i. e., complete As-units) are analyzed. This study employed level one (Albert 2008; Albert & Kormos, 2004) and therefore, utterances, like *yes*, *no*, *okay*, *uhuh*, *right* and *echo* responses were not excluded from the analysis.

The research articles propose several different ways of measuring fluency: the number of pauses, the amount of silence, the number of repetitions, false starts, reformulations and replacement and speech rate (Foster & Skehan, 1999; Robinson, 2007). The present study utilized speech rate to assess fluency as it has been utilized as a reliable measure of fluency in a number of investigations (Albert & Kormos, 2004; Ejzenberg, 2000; Freed, 2000; Kormos & Dénes, 2004; Lennon, 1990; Riggenbach, 1991). Fluency was calculated dividing the total number of syllables produced by the total amount of time required to complete the oral task, including pause time, expressed in seconds. In order to find the number of syllables of the words produced by the subjects accurately, separate software was used.

The quantity of talk the subjects produced was measured by the total number of words (Dewaele & Pavlenko, 2003; Dörnyei & Kormos, 2000). The last measure applied is a non-linguistic one and was used only for the narrative task. The narrative structure (see Appendix 4) of the respondents was based on Labov's (1972) classification of the elements of a narrative. According to him, the skeleton of any narrative consists of narrative clauses, which are temporally ordered independent clauses connected by temporal junctures. Thus, the texts elicited by the subjects were evaluated by examining the number of narrative clauses per AS-unit. Since the narrative clauses indicate the events and incidents of the story, a high percentage of such clauses demonstrate complex structure as far as the event structure is concerned (Albert & Kormos, 2004). The measures of task performance used in this study are presented in Table 4.

Table 4: Measures of task performance

<b>Measures of task performance</b>	<b>Description</b>
<b><u>Accuracy</u></b> <b>Correct clauses per clauses</b>	The number of grammatically correct clauses divided by the total number of clauses.
<b><u>Fluency</u></b> <b>Speech rate</b>	The total number of syllables produced divided by the total amount of time required to produce them, including pause time, expressed in seconds.
<b><u>Syntactic complexity</u></b> <b>Number of clauses per AS-unit</b>	The total number of clauses divided by the total number of AS-units.
<b><u>Quantity of talk</u></b> <b>Number of words</b>	Total number of words produced in English.
<b><u>Narrative structure</u></b> <b>Number of narrative clauses</b>	The total number of temporally ordered independent clauses connected by temporal junctures (Labov, 1972).
<b>Ratio of narrative clauses per AS-unit</b>	The total number of temporally ordered independent clauses connected by temporal junctures (Labov, 1972) divided by the total number of AS-units.

(Albert & Kormos, 2004, p. 29).

It is apparent that oral tasks seem to play a significant role in language teaching and testing, so their features and the effects on language performance should also be researched.

Furthermore, since such tasks offer an opportunity for the use of imagination and intelligence, it seems suitable for indicating the effects of learner creativity. More specifically, open-ended tasks like oral narrative and expository, could be appropriate for creative foreign language learners as there is no one correct solution but a large number of solutions are possible for such tasks.

The measures of oral task performance (number of error free clauses, AS-units, and narrative clauses) were coded by two researchers separately in order to maintain the inter-rater reliability.

The diagrammatic representation of the research instruments and measures employed in the present study is shown in Figure 1 given below.

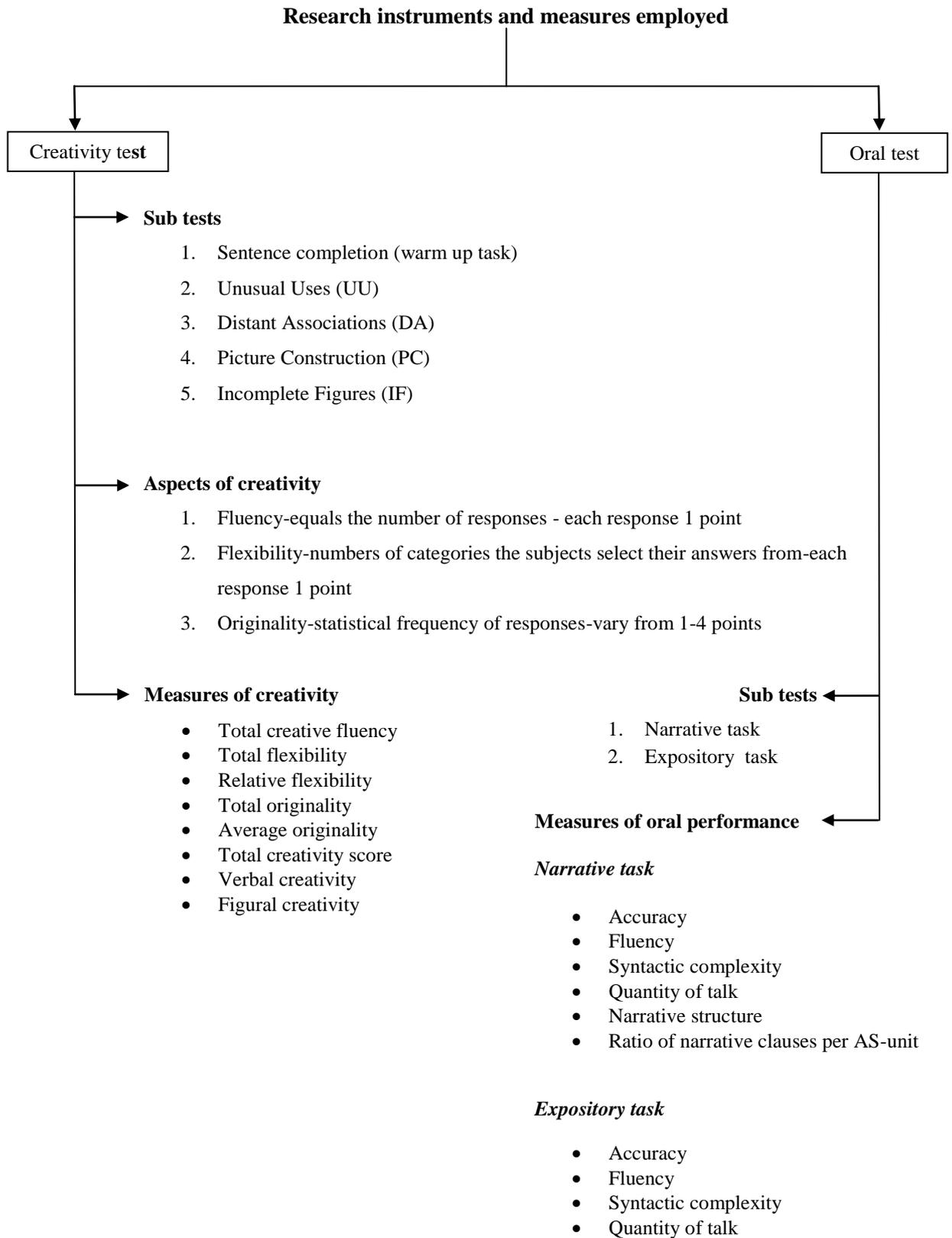


Figure 1: Diagrammatic representation of research instruments and measures employed

Prior to conducting the tests 'Informed Consent Forms' were obtained from the participants in writing since the performance of the oral tasks should be audio recorded and then transcribed for the analysis (see Appendix 5).

### **3.5.5 Statistical analysis**

Data derived from the analytical procedures were analyzed using the software SPSS 11.0 for Windows. The mean, the standard deviation and the Coefficient of Variation (CV) were calculated to elaborate on the characteristics of the target population. In order to identify the relationships between variables, correlations were calculated between ID variable, learner creativity and different measures of oral task performance. The level of significance for the study was set at  $p < 0.05$ . The statistical analysis performed was Pearson correlations, in which the measures of task performance and the aspects of creativity were correlated as there was considerable variation in the language performance of the population in relation to the different sub-tests of the creativity test. Since  $P$  value is involuntarily adjusted in accordance with the sample size  $P$  values of the current study were compared with the  $p$  values of the other investigations (Albert 2008; Albert & Kormos, 2004; Otto, 1998) which employed the same correlation, Pearson.

### **3.6 Summary**

The aim of this chapter 3 was to provide a comprehensive analysis of the methods used when conducting the present investigation. The background of the research sample, research design, instruments and measures utilized were discussed first and then the statistical procedures were presented.

## Chapter 4: Analysis and Interpretation of Data

### 4.1 Introduction

This section of the study presents the statistical analysis of the data derived from the creativity and oral tests. Descriptive statistics of the four sub-tests of the standardized creativity test and the two sub-tasks of the oral test administered for the second year undergraduates are presented in the first section of the chapter. This is followed by a comparison of the descriptive statistics of the creativity test of the present study and the descriptive statistics of the standardized creativity test conducted in Hungary for a representative sample of high school graduates by Barkóczi and Zétényi (1981).

The second section of the chapter examines the correlations between the participants' performance on four sub-tasks of the creativity test: *unusual uses*, *distant associations*, *picture construction* and *incomplete figures* and different task performance measures of the two oral tasks: *narrative* and *expository* which is followed by the comprehensive presentation of answers for the research questions.

### 4.2 Results

#### 4.2.1 Descriptive figures of the creativity test and oral test

As stated in Section 3.5.3, creative fluency free scores, that is, relative flexibility and average originality are very significant since they could provide information about other facets of the subjects' of creativity regardless of the number of responses they produce. Hence, the descriptive figures of the fluency free scores shown in Table 5 are examined.

It is significant to note that the mean values and standard deviation figures for the variable creative fluency on all the four sub-tasks of the creativity test are recorded as the highest while the mean values and standard deviation figures for the variable relative flexibility on the corresponding sub-tasks are recorded

as the lowest. It is almost certain that the subjects were able to produce a higher number of responses on all the sub-tasks of the creativity test. However, low mean values for the variable relative flexibility indicate that they could not select the answers from multiple domains. Furthermore, the figures illustrate that the respondents were competent to create a significant number of novel solutions because the mean values for the variable average originality on all the sub-tasks of the test are higher than the corresponding mean values of the test for the variable relative flexibility. It is noteworthy to state that the task distant associations indicates the lowest mean value  $M=0.57$  and standard deviation  $SD=0.10$  for relative flexibility. This further suggests that the subjects found it difficult to create associations on the basis of the common characteristics of two unrelated words.

Table 5: Descriptive statistics of the four sub-tests of the standardized creativity test for the second-year undergraduates

<b>Title of Sub-test</b>	<b>Unusual Uses</b>			<b>Distant Associations</b>			<b>Picture Construction</b>			<b>Incomplete Figures</b>		
	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
<b>Originality</b>	28.67	12.06	42	48.37	15.06	31	17.90	11.07	62	24.48	10.09	41
<b>Creative fluency</b>	12.90	4.77	37	18.52	4.62	25	5.24	3.21	61	7.81	2.82	36
<b>Flexibility</b>	9.48	3.14	33	10.33	2.53	24	3.10	1.79	58	6.00	2.26	38
<b>Average originality</b>	2.22	0.37	17	2.59	0.38	15	3.48	0.44	13	3.11	0.48	15
<b>Relative flexibility</b>	0.76	0.11	14	0.57	0.10	18	0.69	0.26	38	0.77	0.13	17
<b>Total creativity</b>	17.02	10.24	6	25.75	20.03	78	8.75	8.00	91	12.76	10.2	8

As stated in Section 3.5.2, the L2 studies (Albert 2008; Albert & Kormos, 2004; Otto, 1998) conducted so far to find out the correlations between creativity and language learning achievement, have not employed oral expository tasks to measure language competency of the target population. Hence, the expository task used in this study further investigated the correlations between the task performance measures of oral expository task and various variables of creativity. However, two measures of oral task performance (that is, number of narrative clauses and ratio of narrative clauses) could not be utilized to evaluate the expository task as such aspects are not included in expository tasks.

The mean and standard deviation figures of the oral test in Table 6, illustrate that for the variable accuracy, the mean value on narrative and expository is  $M=0.6$ . However, it becomes obvious that the mean value for the second-year research sample on fluency in the case of expository task  $M=154.4$  is considerably higher than the corresponding mean on the narrative,  $M=130.8$ . Furthermore, the descriptive statistics illustrate that for the research sample, the mean values on syntactic complexity and quantity of talk on the narrative task,  $M=10.1$  and  $M=205.9$  respectively, are significantly higher than the means on the expository task  $M=5.8$  and  $M=181.4$  respectively.

These figures suggest that though the respondents could be able to produce a higher number of syllables per minute in the case of expository task they were incompetent to produce a higher number of AS-units and a higher number of words on the same task. The low mean value for the variable syntactic complexity on the expository task demonstrates that the ‘discourse complexity’ of their performance is comparatively low (Albert & Kormos, 2004, p.18).

Table 6: Descriptive statistics of the two sub-tests of the oral test for the second year undergraduates

<b>Title of sub-test</b>	<b>Narrative</b>		<b>Expository</b>	
<b>Variable</b>	Mean	SD	Mean	SD
<b>Accuracy</b>	0.6	0.1	0.6	0.1
<b>Fluency</b>	130.8	32.5	154.4	44.3
<b>Syntactic complexity</b>	10.1	5.0	5.8	3.5
<b>Quantity of talk</b>	205.9	63.6	181.4	44.7
<b>Number of narrative clauses</b>	9.4	3.5	---	---
<b>Ratio of narrative clauses</b>	4.6	3.7	---	---

Descriptive statistics of the four sub-tests of the standardized creativity test and the two sub-tests of the oral test administered for the second-year undergraduates were analyzed in the above section to provide a comprehensive picture of the research sample. In addition to that, the means and the coefficient of variation (CV) of the research sample and the descriptive statistics of the four sub-tests of the standardized creativity test conducted in Hungary for a representative sample of high school graduates by Barkóczi and Zétényi (1981) are compared in the following section to illustrate the statistical variation of the results of two populations.

Since the CV is a dimensionless number when comparing between data sets with different units or widely different means, it is advisable to use the coefficient of variation for comparison instead of the standard deviation. The CV is an estimated standard error expressed as a percent of the estimated total or proportion and it is useful because the standard deviation of data must always be understood in the context of the mean of the data (Selvanathan et al., 2004). Hence, the CV was calculated in this study in order to compare the descriptive figures.

According to the descriptive statistics presented in Table 5 given above and Table 7 given below, the means of the second-year undergraduate sample tend to be considerably higher than the corresponding means of a representative sample of high school graduates in Hungary: Hungarian national standard (Barkóczy & Zétényi, 1981). However, there is one remarkable exception. For the variable creative fluency, the mean value on the picture construction task is  $M=5.24$  for the research sample whereas the Hungarian national standard is  $M=12.84$ .

These figures indicate that in general the subjects of the second-year undergraduate sample employed in this study could be able to generate more number of novel, wide range of ideas on all the sub-tasks of the creativity test than the representative sample of high school graduates produced in Hungary. Nevertheless, in the case of one drawing task, picture construction the high school graduates in Hungary were able to perform competently by inventing a higher number of ideas unlike the respondents of the second-year undergraduate sample.

Furthermore, the mean value scores for the variable originality on all four sub-tests for the research sample are remarkably higher than the Hungarian national standard. The reason for this phenomenon may be because of the different approach utilized in measuring the originality as specified by Cropley, 2001, which was described in Section 3.5.3 whereas Barkóczy & Zétényi (1981) assigned the originality score on the basis of a list containing an index calculated from the statistical frequency of the responses given.

It further seems that on the two verbal tasks, unusual uses and distant associations, the CV of the research sample for all the variables is substantially lower than the corresponding CV of the Hungarian national standard. Even in the case of picture construction and incomplete figures, the CV of the second-year undergraduates for the variables, average originality and relative flexibility is significantly lower than the corresponding CV of the national standard.

This reveals that generally the variation of the number of responses produced by the research sample is lower than the variation of the number of answers invented by the high school graduates in Hungary on all the sub-tasks of the creativity test. This shows that the solutions given by the undergraduates of the research sample are more consistent than the responses provided by the high school graduates in Hungary.

The comprehensive analysis of the first part of Section 4.2.1 exposed the substantial variation of the performance across the four sub-tests of the creativity test administered for the target population. Evidently, reasons for the statistical variation may be personal or may be affected by the motivation level of the students that is, the subjects might have liked or disliked certain tasks or they might have got bored of them.

Table7: Descriptive statistics of the four sub-tests of the standardized creativity test conducted for a representative sample of high school graduates (N=1, 098) in Hungary

<b>Title of Sub-test</b>	<b>Unusual Uses</b>			<b>Distant Associations</b>			<b>Picture Construction</b>			<b>Incomplete Figures</b>		
<b>Variable</b>	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV	Mean	SD	CV
<b>Originality</b>	3.58	2.18	61	3.37	2.08	62	5.69	3.25	57	3.68	1.44	39
<b>Creative fluency</b>	8.63	4.27	49	7.73	4.61	60	12.84	6.6	51	7.59	2.04	27
<b>Flexibility</b>	7.09	3.67	52	5.91	3.53	60	7.55	3.83	51	6.63	1.77	27
<b>Average originality</b>	0.39	0.15	38	0.42	0.13	31	0.43	0.14	33	0.49	0.16	33
<b>Relative flexibility</b>	0.78	0.24	31	0.73	0.27	37	0.61	0.24	39	0.87	0.16	18

(Barkóczy & Zétényi, 1981, p. 32)

#### 4.2.2 Correlations of creativity and oral task performance

This part of the study focuses on finding relationships between three different aspects of creativity, that is, average originality, creative fluency, relative flexibility and the measures of oral task performance, that is, accuracy, fluency, syntactic complexity, quantity of talk, number of narrative clauses and ratio of narrative clauses, in relation to the creativity and oral tests as stated in Sections 3.5.3 and 3.5.4. Creativity scores drawn from the four tasks of the creativity test and the measures of oral task performance are scrutinized separately first. This is followed by the correlations of composite scores of creativity and task performance measures.

Table 8 illustrates correlations of one of the verbal tasks of creativity test (i.e. unusual uses) and task performance measures on the two tasks; *narrative* and *expository*. As can be seen in the table in the case of Task 1, narrative, three statistically weak but positive relationships were found between average originality and accuracy ( $r_s=0.44$ ), average originality and syntactic complexity ( $r_s=0.36$ ), and relative flexibility and quantity of talk ( $r_s=0.33$ ). However, relative flexibility has a significant positive relationship with syntactic complexity ( $r_s=0.51$ ) whereas only two positive correlations were exposed between different aspects of creativity and the task performance measures of Task 2, expository: where relative flexibility correlates with syntactic complexity ( $r_s=0.46$ ) and creative fluency with quantity of talk ( $r_s=0.38$ ).

It is apparent that for Task 2, aspects of creativity, average originality and relative flexibility are negatively related to quantity of talk ( $r_s=-0.35$ ) and fluency ( $r_s=-0.48$ ) respectively, while in the case of task 1, creative fluency negatively correlates with quantity of talk ( $r_s=-0.37$ ) and has a statistically significant relationship with fluency ( $r_s=-0.65$ ).

This strong negative correlation reveals that the respondents who created a higher number of unusual uses for the given objects-tin cans, books, pencils-would be able to invent relatively less number of syllables per minute while

performing the oral tasks. They probably might have allocated ‘a long period of thinking time’ which resulted in a low number of solutions in general (Albert & kormos, 2004, p. 14).

Table 8: Correlations between the creativity test task Unusual Uses and task performance measures on Tasks 1 and 2

	<b>Average originality</b>	<b>Creative fluency</b>	<b>Relative flexibility</b>
<b>Accuracy Task 1</b>	0.44	-0.17	-0.21
<b>Accuracy Task 2</b>	0.14	0.23	-0.22
<b>Fluency Task 1</b>	0.12	-0.65*	0.12
<b>Fluency Task 2</b>	-0.12	0.06	-0.48
<b>Syntactic complexity Task 1</b>	0.36	-0.23	0.51
<b>Syntactic complexity Task 2</b>	-0.21	-0.24	0.46
<b>Quantity of talk Task 1</b>	-0.04	-0.37	0.33
<b>Quantity of talk Task 2</b>	-0.35	0.38	0.06
<b>Number of narrative clauses Task 1</b>	-0.25	0.02	-0.13
<b>Number of narrative clauses Task 2</b>	---	---	---
<b>Ratio of narrative clauses Task 1</b>	0.26	0.08	0.15
<b>Ratio of narrative clauses Task 2</b>	---	---	---

\*  $p < 0.05$  \*\*  $p < 0.01$

Table 9 presents correlations between measures of the second verbal task (i.e. distant associations) and task performance measures on the two oral tasks. As shown in the Table, it is important to note that there are two remarkable correlations between the aspects of creativity and task performance measures

for Task 2, expository. Average originality positively correlates with accuracy ( $r_s=0.46$ ) and fluency ( $r_s=0.42$ ) and for Task 1, a significant relationship was found between average originality and number of narrative clauses ( $r_s=0.51$ ). However, average originality negatively correlates with accuracy ( $r_s=-0.36$ ) as far as Task 1 is concerned.

For Task 2, expository, relative flexibility moderately correlates with syntactic complexity ( $r_s=0.50$ ) and negatively correlates with quantity of talk ( $r_s=-0.55$ ) while for Task 1 with fluency ( $r_s = 0.34$ ). Furthermore, in the case of Task 1, creative fluency has a significantly strong negative relation with fluency ( $r_s=-0.80$ ) and moderate negative relationships with quantity of talk ( $r_s=-0.55$ ) and number of narrative clauses ( $r_s=-0.47$ ).

This statistically negative relationship ( $r_s=-0.80$ ) indicates that creating associations on the basis of the common characteristics of two unrelated words has made the respondents produce less number of words in general.

Table 9: Correlations between the creativity test task Distant Associations and task performance measures on Tasks 1 and 2

	<b>Average originality</b>	<b>Creative fluency</b>	<b>Relative flexibility</b>
<b>Accuracy Task 1</b>	-0.36	-0.03	-0.15
<b>Accuracy Task 2</b>	0.46	-0.10	-0.16
<b>Fluency Task 1</b>	0.07	-0.80**	0.34
<b>Fluency Task 2</b>	0.42	-0.14	-0.28
<b>Syntactic complexity Task 1</b>	-0.06	-0.41	0.09
<b>Syntactic complexity Task 2</b>	-0.20	0.20	0.50
<b>Quantity of talk Task 1</b>	-0.01	-0.55	0.26

	<b>Average originality</b>	<b>Creative fluency</b>	<b>Relative flexibility</b>
<b>Quantity of talk Task 2</b>	0.20	0.20	-0.55
<b>Number of narrative clauses Task 1</b>	0.51	-0.47	-0.21
<b>Number of narrative clauses Task 2</b>	---	---	---
<b>Ratio of narrative clauses Task 1</b>	0.25	-0.17	-0.15
<b>Ratio of narrative clauses Task 2</b>	---	---	---

\*  $p < 0.05$  \*\*  $p < 0.01$

Table 10 illustrates correlations between one of the drawing tasks (i.e. picture construction) and task performance measures on the two oral tasks. It is significant to note that neither statistically positive nor negative relations were detected in the case of picture construction.

The results of the two oral tasks show that the number of significant correlations is lower in the case of Task 1, narrative. On that task, only relative flexibility considerably correlates with quantity of talk ( $r_s=0.45$ ) while for Task 2, two major correlations were found between relative flexibility and syntactic complexity ( $r_s=0.52$ ) and relative flexibility and quantity of talk ( $r_s=0.32$ ). At the same time, relative flexibility negatively correlates with accuracy ( $r_s=-0.45$ ) and fluency ( $r_s=-0.47$ ) on the narrative and expository tasks respectively.

It is further evident that, average originality possesses negative relationships with accuracy ( $r_s=-0.32$ ), fluency ( $r_s=-0.51$ ), quantity of talk ( $r_s=-0.32$ ) and has outstanding correlation with syntactic complexity ( $r_s=-0.55$ ) on Task 1 whereas the same aspect of creativity has only one significant relation with quantity of talk ( $r_s=0.40$ ) in the case of Task 2. The results given in the figure below further demonstrate that creative fluency has only one negative correlation with syntactic complexity ( $r_s=0.43$ ) as far as Task 2 is concerned.

Though the negative relationship between average originality and syntactic complexity is not statistically significant, it demonstrates that the subjects who produced a higher number of rare solutions on the picture construction task would only be able to invent relatively less number of subordinate clauses in general. This is ‘probably related to the fact that coming up with unusual solutions requires a long period of thinking time’, and results in a low number of AS-units in general (Albert & Kormos, 2004, p. 14).

Table 10: Correlations between the creativity test task Picture Construction and task performance measures on Tasks 1 and 2

	<b>Average originality</b>	<b>Creative fluency</b>	<b>Relative flexibility</b>
<b>Accuracy Task 1</b>	-0.32	0.30	-0.45
<b>Accuracy Task 2</b>	0.10	-0.11	-0.25
<b>Fluency Task 1</b>	-0.51	-0.24	0.14
<b>Fluency Task 2</b>	0.24	0.11	-0.47
<b>Syntactic complexity Task 1</b>	-0.55	0.01	0.27
<b>Syntactic complexity Task 2</b>	0.01	-0.43	0.52
<b>Quantity of talk Task 1</b>	-0.32	-0.12	0.45
<b>Quantity of talk Task 2</b>	0.40	0.25	0.32
<b>Number of narrative clauses Task 1</b>	-0.01	-0.01	0.07
<b>Number of narrative clauses Task 2</b>	---	---	---
<b>Ratio of narrative clauses Task 1</b>	-0.26	-0.06	-0.05
<b>Ratio of narrative clauses Task 2</b>	---	---	---

\*  $p < 0.05$  \*\*  $p < 0.01$

Table 11 demonstrates the correlations between measures of the other drawing task (i. e. incomplete figures) and task performance measures on the two oral tasks. It is evident that, there are no distinguished significant correlations between any aspects of creativity and task performance measures on Task 1, narrative. However, it seems that creative fluency possesses almost similar positive and negative correlations with fluency and with the ratio of narrative clauses ( $r_s=0.30$ ), ( $r_s=-0.31$ ) respectively as far as Task 1 is concerned. It can be further noted that relative flexibility positively correlates with accuracy ( $r_s=0.33$ ) and with syntactic complexity ( $r_s=0.42$ ) on Task 1; nevertheless, negatively with number of narrative clauses ( $r_s=-0.41$ ). Furthermore, average originality is negatively related to fluency in the case of both Tasks 1 and 2 ( $r_s=-0.33$ ), ( $r_s=-0.58$ ) respectively.

It is noted that only the negative relationship between average originality and fluency ( $r_s=-0.58$ ) in the case of Task 2 is numerically significant. This correlation shows that the respondents who invented rare ideas would only be able to create a less number of syllables per minute. It is noteworthy to state that this was not detected in relation to the cognitively more complex task (i.e. narrative) as stated by Skehan (1998a) but in relation to the cognitively less complex task, expository.

However, no aspect of oral task performance positively correlates with average originality and no measures of the oral task performance on expository task considerably correlate with any aspects of creativity. This further indicates that aspects of creativity do not have any effect on oral task performance in the case of expository task.

Table 11: Correlations between the creativity test task Incomplete Figures and task performance measures on Tasks 1 and 2

	<b>Average originality</b>	<b>Creative fluency</b>	<b>Relative flexibility</b>
<b>Accuracy Task 1</b>	-0.12	-0.02	0.33
<b>Accuracy Task 2</b>	-0.11	0.14	-0.09
<b>Fluency Task 1</b>	-0.33	0.30	-0.31
<b>Fluency Task 2</b>	-0.58	-0.04	-0.21
<b>Syntactic complexity Task 1</b>	0.20	-0.15	0.42
<b>Syntactic complexity Task 2</b>	0.26	-0.19	-0.02
<b>Quantity of talk Task 1</b>	-0.01	0.29	-0.23
<b>Quantity of talk Task 2</b>	0.06	-0.22	-0.02
<b>Number of narrative clauses Task 1</b>	-0.27	0.12	-0.41
<b>Number of narrative clauses Task 2</b>	---	---	---
<b>Ratio of narrative clauses Task 1</b>	0.11	-0.31	0.28
<b>Ratio of narrative clauses Task 2</b>	---	---	---

\*  $p < 0.05$  \*\*  $p < 0.01$

According to the analysis of the different measures of creativity test stated in Section 3.5.3, the use of composite scores may not be justifiable as respondents' performance varies considerably across the four sub-tests of the creativity test. However, in order to ensure comparability with previous studies (Albert 2008; Albert & Kormos, 2004; Otto, 1998) correlations were calculated with composite scores as well.

As shown in Table 12 given below, the composite measures of creativity have more negative but notable correlations with the task performance measures. On the level of composite measures, average originality has substantial correlation with accuracy in the case of Task 2 ( $r_s=0.38$ ) whereas on Task 1 accuracy, fluency and quantity of talk negatively correlate with average originality ( $r_s=-0.38$ ), ( $r_s=-0.60$ ) and ( $r_s=-0.33$ ) respectively. Furthermore, as far as the expository task is concerned average originality is negatively related to quantity of talk ( $r_s=-0.33$ ). It is apparent that, composite scores of relative flexibility has considerably moderate correlation with syntactic complexity ( $r_s=0.51$ ) and weak negative relationship with quantity of talk ( $r_s=-0.33$ ) in the case of Task 1, while on Task 2 with syntactic complexity ( $r_s=0.46$ ). In addition to that, fluency is negatively related to relative flexibility ( $r_s=-0.48$ ). It is visible that, composite measures of creative fluency scores are negatively related to quantity of talk ( $r_s=-0.32$ ) and fluency ( $r_s=-0.56$ ) as far as Task 1, narrative is concerned. Furthermore, on Task 02, figural creativity score has considerable but negative correlation with syntactic complexity ( $r_s=-0.31$ ) while in the case of Task 1, total creativity score and fluency ( $r_s=-0.53$ ), and total creativity score and quantity of talk ( $r_s=-0.30$ ) are negatively related. At the same time, composite measures of verbal creativity score possesses statistically distinguished but negative relationship with fluency ( $r_s=-0.76$ ), weak negative relationship with syntactic complexity ( $r_s=-0.32$ ) and moderate negative correlation with quantity of talk ( $r_s=-0.53$ ) in the case of Task 1.

It is noticeable that all three statistically significant negative relationships identified, that is, between the average originality and fluency, creative fluency and fluency, and verbal creativity score and fluency are in the case of Task 1, narrative. Probably the respondents might have been concentrating too much on inventing massive number of unusual, wide range of ideas; nevertheless it was unrealistic with a readymade narrative and ultimately ended up with participants uttering a fewer number of syllables per minute.

Table 12: Correlations with composite scores of creativity and task performance measures on Task 1 and 2

	Average originality	Creative fluency	Relative flexibility	Total creativity score	Verbal creativity score	Figural creativity score
<b>Accuracy Task 1</b>	-0.38	0.01	-0.21	-0.03	-0.17	0.12
<b>Accuracy Task 2</b>	0.38	0.05	-0.22	0.16	0.23	0.01
<b>Fluency Task 1</b>	-0.60	-0.56	0.12	-0.53	-0.76*	-0.04
<b>Fluency Task 2</b>	-0.01	-0.01	-0.48	0.02	0.05	-0.02
<b>Syntactic complexity Task 1</b>	-0.12	-0.29	0.51	-0.26	-0.32	-0.07
<b>Syntactic complexity Task 2</b>	-0.08	-0.21	0.46	-0.26	-0.09	-0.31
<b>Quantity of talk Task 1</b>	-0.33	-0.32	0.33	-0.30	-0.53	0.09
<b>Quantity of talk Task 2</b>	-0.33	0.25	0.06	0.23	0.27	0.07
<b>Number of narrative Clauses Task 1</b>	0.06	0.15	-0.13	-0.09	-0.15	0.02
<b>Number of narrative Clauses Task 2</b>	---	---	---	---	---	---
<b>Ratio of narrative Clauses Task 1</b>	0.24	0.13	-0.15	-0.08	0.07	-0.21
<b>Ratio of narrative Clauses Task 2</b>	---	---	---	---	---	---

\*  $p < 0.05$  \*\*  $p < 0.01$

### **4.3 Discussion**

The first part of this section provides answers to the research questions; this is followed by a detailed analysis based on the findings of the study and results of the other studies conducted to date to investigate the correlations between oral task performance and the aspects of creativity.

### **4.4 Relationship between oral task performance and learner creativity**

The first research question attempted to investigate the correlations between different measures of oral task performance and the aspect of originality

- a. Is there a relationship between different measures of oral task performance and originality?

The results support theories of creativity which argue that creativity is not a unitary trait but that it contains several independent components. Among these aspects, average originality (the statistical infrequency of the responses produced on the different sub-tasks of the creativity test) which measured respondents' capacity to create a large number of novel solutions, has no statistically significant positive correlations but weak positive and negative relationships with some aspects of the task performance measures. However, it is noted that average originality negatively correlates with syntactic complexity ( $r_s=-0.55$ ), on Task 1 and with fluency ( $r_s=-0.58$ ) on Task 2. This indicates that the aspect of creativity, average originality has no relationship with these variables. Further investigations would be needed to determine whether these relationships exist in other populations.

However, the existing negative phenomenon between average originality and the above variables can be justified. Usually, when presenting a story, a higher number of subordinate clauses (i.e. syntactic complexity-the ratio of subordinate clauses) are effectively employed for providing comprehensive information about characters, incidents, events and especially for maintaining the basic story structure in a 'linguistically sophisticated way' ( Albert, 2008, p. 175).

The respondents who possessed a higher average originality may have concentrated too much on inventing novel ideas, which is not simple or possible at all with a readymade story like a picture sequence narrative. Therefore, 'they might not have no available resources for either adding many details or expressing them in a linguistically sophisticated manner that is using subordination' (Albert, 2008, p.175).

The subjects who created a higher number of novel solutions would only be able to produce relatively fewer number of syllables per minute while performing the oral tasks; this is 'probably related to the fact that coming up with unusual solutions requires a long period of thinking time, and results in a low number of solutions in general' (Albert & Kormos, 2004, p. 14).

The second research question concerned the relationship between various measures of oral task performance and the aspect of fluency.

- b. Is there a relationship between different measures of oral task performance and fluency?

The second aspect of creativity measured by the test, creative fluency that is, the ability to invent a higher number of solutions in a task, has no substantial positive correlations with the different measures of oral task performance; however, weak positive and negative relationships with the certain aspects of the task performance measures. Evidently, this measure is strongly negatively related to oral task performance measure, fluency, in relation to creativity tasks: unusual uses and distant associations ( $r_s=-0.65$ ;  $p <0.05$ ) and ( $r_s=-0.80$ ;  $p <0.01$ ) respectively and further negatively correlates with quantity of talk ( $r_s=-0.55$ ) in the case of the narrative.

Although it is generally believed that the respondents characterized by a higher level of creative fluency would talk more or create a higher ratio of narrative clauses, this component of creativity has no relationship with these variables. The above phenomenon demonstrates that those who produced a higher number of responses in the creativity test found it difficult to utter a higher number of syllables per minute employing more words when presenting their narrations and expositions.

The third research question was formulated to identify the relationship between different measures of oral task performance and the aspect of flexibility.

c. Is there a relationship between different measures of oral task performance and flexibility?

Relative flexibility that is, the responses provided by the population on four different sub-tests of creativity are from a single domain or multiple domains is negatively related only to the variable quantity of talk as far as Task 2, expository is concerned. It is significant to note that this moderate negative relationship ( $r_s=-0.55$ ) exists only with the creativity task distant associations. It can be hypothesized that creating associations on the basis of the common characteristics of two unrelated words has made the respondents produce less number of words.

It is almost certain that relative flexibility has no statistically positive correlations with any measures of oral task performance except weak positive and negative relationships. In addition, it is noteworthy to state that the two aspects of creativity, creative fluency and relative flexibility possess neither strongly positive correlations nor statistically negative relationships with task performance measures as far as the two figural tasks, picture construction and incomplete figures are concerned. Hence, it can be concluded that only two aspects of figural creativity (i. e. creative fluency and relative flexibility) have no relationship with task performance measures.

When examining correlations with composite scores the research findings seem to be more straightforward in the sense that certain unexpected negative correlations observed between creativity and oral task performance measures such as accuracy, syntactic complexity, and quantity of talk cannot be visible at this level. However, three statistically significant negative relationships were found between the following: average originality and fluency, creative fluency and fluency, and verbal creativity score and fluency ( $r_s=-0.76$ ;  $p < 0.05$ ); that is, all of them in the case of Task 1, narrative and with the task performance measure, fluency.

It further illustrates that composite measures of verbal creativity score (that is, the sum of the statistical frequency of responses produced, the total number of answers given and the total number of wide range of ideas created by the population in relation to the narrative) possess an outstanding negative correlation with fluency, speech rate in the case of two verbal tasks, unusual uses and distant associations. The possible reason for the occurrence of this sort of phenomenon is that the respondents might have been concentrating too much on inventing massive number of unusual, wide range of ideas; nevertheless it was unrealistic with a readymade narrative and ultimately ended up with participants uttering a fewer number of syllables per minute.

Findings of the present study given in Section 4.2.2 i.e. correlational analysis between the three aspects of creativity and the various measures of oral task performance contradict the corresponding results of the previous studies (Albert, 2008; Albert & Kormos, 2004; Otto, 1998). However, it is worth mentioning that as stated in Section 3.5.3, a different approach was utilized in this study only in measuring the originality as specified by Cropley, 2001.

Investigation of Albert and Kormos (2004) demonstrates a modest effect of originality as far as the measure of oral task performance, quantity of talk is concerned, that is, the number of words is negatively related to average originality ( $r_s=-0.34$ ;  $p < 0.03$ ). In addition to that, ‘the discourse complexity of the narrative produced was also found to be affected by originality’ (Albert & Kormos, 2004, p.18) as the number of narrative clauses per AS-unit correlates positively with average originality score ( $r_s=0.34$ ;  $p < 0.04$ ). However, it is significant to note that Albert’s (2008) study indicates statistically positive correlation between average originality and quantity of talk ( $r_s=0.31$ ;  $p < 0.05$ ) in the case of Task 2 ‘cognitively more complex oral narrative task’ (p. 158). Another positive correlation detected in Albert’s study in the case of cognitively less complex task is between average originality and fluency, speech rate ( $r_s=0.31$ ;  $p < 0.05$ ). Furthermore, Albert’s findings revealed that average originality possesses strong negative relationship with syntactic complexity ( $r_s=-0.37$ ;  $p < 0.05$ ).

However, as stated in Section 4.4, this study investigated only statistically negative correlations between average originality and two measures of oral task performance, syntactic complexity and fluency.

According to the research findings of Albert and Kormos (2004), a weak but significant positive correlation was observed between creative fluency and the number of words ( $r_s=0.33$ ;  $p < 0.03$ ). Nevertheless, Albert (2008) investigated three numerically significant positive correlations between creative fluency and oral task performance measures, that is, syntactic complexity, ( $r_s=0.37$ ;  $p < 0.05$ ) and ratio of narrative ( $r_s=0.41$ ;  $p < 0.01$ ) in the case of cognitively more complex task and fluency ( $r_s=0.32$ ;  $p < 0.05$ ) on cognitively less complex task. On the contrary, as stated in Section 4.4, the current study identified only one moderate negative relationship between creative fluency and quantity of talk as far as the task, narrative which is cognitively similar to Albert's task 2, is concerned.

There is also an unanticipated negative relationship between relative flexibility and accuracy ( $r_s=0.-40$ ;  $p < 0.01$ ) in the case of Task 2 (Albert, 2008). It is significant to note that Albert and Kormos found no numerically significant relationships between task related variables and flexibility or task related variables and total creative fluency score. In accordance with the findings of the present study, there is a moderate negative correlation between quantity of talk and relative flexibility in the case of expository.

However, based on Albert and Kormos study (2004), it can be concluded that the correlations between measures of creativity and narrative task performance are not very high; 'approximately 10-16 of variance in linguistic measures is related to creative fluency and originality' (p. 19). In contrast, Albert's (2008) investigation identified moderate relationships between oral task performance and certain aspects of creativity, especially with the fluency free components such as average originality and relative flexibility.

Though Otto's study (1998) differs from the studies of Albert (2008) and Albert and Kormos (2004) in the criterion measures as stated in Section 2.5, it exposed that the scores of the five sub-tests were correlated separately and also a composite with the students' English grades. Furthermore, 'all the relationships were significant, with the correlation with the total test score being the highest ( $r=0.63$ ), explaining roughly 40% of the variance in the students' grades' (p. 205).

The composite scores of Albert's study (2008) indicates only one numerically outstanding positive relationship between verbal creativity score and ratio of narrative clauses ( $r_s=0.33$ ;  $p < 0.05$ ) on the segment of oral Task 2, a cognitively more complex task. However, on the level of composite measures, the current study discovered three negative statistically significant relations, average originality and fluency, creative fluency and fluency, and verbal creativity score and fluency in the case of Task 1, narrative, a cognitively more complex task.

#### **4.5 Summary**

This section of the study analyzed descriptive statistics of the four sub-tests of the standardized creativity test and the two sub-tasks of the oral test employed for the target population. Furthermore, answers for the research questions of the study (i. e. the relationships of potentially important individual variable, creativity and task performance measures) were discussed at length. According to the findings of the investigation, it is almost certain that no aspects of creativity (i.e. originality, fluency, flexibility) possesses a numerically positive relationship with any measures of oral task performance, whereas strong negative and weak positive correlations were observed between different task variables and the aspects of creativity.

## **Chapter 5: Conclusions and Recommendations**

### **5.1 Introduction**

The major conclusions of the study are presented in this chapter. The first part based on the comprehensive analysis in the previous chapter, discusses the answers in brief for the research questions posed in Section 2. 6 and presents the recommendations. Then the limitations of the study which enforce difficulty in generalizing the research findings are brought out in brief. This chapter is concluded by indicating the pedagogical implications of the findings and presenting future research directions.

### **5.2 Summary of findings**

According to the findings of the research, it becomes obvious that there were no statistically significant relationships between learner creativity and oral task performance whereas numerically negative correlations were detected. It is significant to note that these extensive negative relationships exist among all three aspects of creativity, that is, originality, fluency, flexibility and certain task performance measures. Furthermore, the findings illustrate that creativity possesses weak positive relationships with oral task performance. It is certain that two aspects of creativity (i. e. creative fluency and relative flexibility) have neither strong positive nor strong negative relationships with the measures of task performance in the case of two figural tasks. Thus, the findings showed that the null hypothesis “all the components of creativity-fluency, flexibility and originality-do not have an effect on oral task performance” was true.

An ‘oral expository’ task was employed in this research to investigate the existence of correlations between learner creativity and oral task performance since such tasks have not been used so far by researchers. Even though the task provided a greater opportunity for the participants to use their imaginations in this kind of research, to a greater extent in comparison to the narrative task (since it was not a readymade story like picture sequence narrative) no strong positive correlation between the measures of oral task performance and the aspects of creativity was found in relation to the expository task.

Hence, based on the findings of this study, it can be concluded that learner creativity may not be a potential facilitator for oral task performance in the present context and there may be more influential factors that contribute to L2 learners' oral task performance rather than creativity. It is noticeable that the results of this exploration deviate from the findings of the studies conducted by some researchers (Ehrman, 1996; Grigorenko, Sternberg & Ehrman, 2000) who assert that the ability to cope with novelty is a noteworthy feature that affects the success of language learning.

### **5.3 Recommendations**

According to the descriptive figures presented in Section 4.2.1, the respondents were competent enough to create a higher number of responses and a considerable number of novel solutions on all the sub-tasks of the creativity test. Comparatively this resulted in higher mean values for the variables, creative fluency and average originality. However, low mean values for the variable relative flexibility on all the sub-tasks of the creativity test demonstrate that the subjects could not select their answers from multiple domains. However, several recommendations can be made as to how to improve creativity on oral task performance in these learners.

Apparently to promote creativity in these learners both 'teaching with creativity' and 'teaching for creativity' should be improved (Higgins, 2000). In particular, teachers should be taught how to differentiate these two approaches which contain all the characteristics of admirable teaching-high motivation, high expectations, the ability to communicate and listen and the ability to interest, engage and inspire. It is the responsibility of teachers to distinguish when encouragement is needed and confidence threatened. They must balance structured learning with opportunities for self direction. Teaching for creativity on the other hand involves more time and planning to generate and develop ideas and to evaluate whether they have worked. Hence, it creates a classroom climate where students feel mistakes are acceptable and risk taking is encouraged.

For a prosperous future, a country requires creative and innovative persons. However, yet our education system seems to be working against this. At a national level government has a responsibility to promote higher levels of teacher autonomy and creativity in both teaching and learning.

## **5.4 Limitations**

When reaching conclusions on the basis of the findings and especially in interpreting results, certain limitations must be taken in to consideration.

The first concern is that, the sample used in this study restricts the generalizability of the findings. It was assumed that a relatively high level of proficiency is not required to complete the verbal and the figural tasks of the creativity test and the two oral tasks in the oral test. Accordingly, the sample only consisted of a segment of undergraduates who were at the intermediate level of proficiency. Hence, it is not a representative sample of those who learn English as a second language in Sri Lanka. However, if the research sample had contained advanced or upper intermediate learners of English more significant relationships would have been detected.

The second concern that is connected to the sample is its size. It was not feasible to work with a larger sample due to the time constraints and due to the labor-intensive nature of the analysis of the tests and tasks employed in the study. However, statistically more significant findings could have been obtained if the sample had contained more participants.

The reason for the weak correlations between learner creativity and oral task performance may be due to the smaller number of respondents or to the intermediate proficiency level of the subjects of the research sample or to the more significant effect of other situational, social and individual factors (Albert & Kormos, 2004).

This study used timed tests to measure the creativity and oral task performance of the research sample. However, Wallach and Kogan (1965) supported game-like, untimed administration of oral tasks, which they believed allow creativity to be measured distinctly from intelligence due to the creation of ‘a frame of reference which is relatively free from the coercion of time limits and relatively free from the stress of knowing that one's behavior is under close evaluation’ (p. 24). According to Runco (2004), student creativity is inhibited by certain common classroom conditions and tasks (test-like activities), whereas activities that are presented in a ‘permissive and game-like fashion appear to release creativity’ (p. 671).

At the same time, it can be assumed that most of the inconsistencies in task performance among the target population are caused by motivation (Dörnyei, 2002), personality variable such as extroversion (Dewaele & Furnham, 2000), and anxiety (MacIntyre & Gardner, 1994); thus ‘among these many factors creativity contributes to the quality of task performance only to a limited extent’ (Albert & Kormos, 2004, p.19).

Though there are certain limitations as stated above, especially in relation to the research sample and instrument employed in this study, yet the validity of research findings is not negligible and cannot be overlooked entirely.

### **5.5 Pedagogical implications and directions for future research**

It is noteworthy to state that the findings of the research can be considered significant since they consolidate Skehan’s (1998a) framework of task difficulty as opposed to the claims of the Cognition Hypothesis (Robinson, 2003, 2005). The existence of strong negative relationships between learner creativity and oral task performance on the cognitively more complex tasks performance further supports the assumption of Skehan that greater cognitive intricacy involuntarily results in reducing accuracy, fluency and complexity. However, Robinson’s view that rising ‘cognitive complexity along resource directing dimensions brings about greater accuracy and complexity’ (Albert, 2008, p. 186) has not been affirmed by this study.

Furthermore, collecting data at this level would be no doubt constructive. As this information is related to individual differences and diverse aspects of task performance, pedagogical decisions regarding the task implementation and selection can be taken on the basis of the findings. However, findings suggest that the level of creativity has no marked impact on the performance of less structured tasks (expository) and cognitively complex tasks (picture sequence narrative).

It is significant to note that the results of this investigation are not similar to the findings of the research studies that have addressed learner creativity and oral task performance (Albert, 2008; Albert & Kormos, 2004; Otto, 1998). Therefore, further research is necessary with larger samples and in different contexts to determine the relationship of variables prior to arriving at far reaching conclusions. Furthermore, according to Dörnyei (2005), it is necessary to conduct more research relating to ‘theoretical clarification on which aspects of creativity affects which aspects of language learning and use’ (p. 209). Hence, the future investigations may be based on researching how the aspects of creativity (i.e. fluency, flexibility, originality) affect the learner performance on different task types in writing, reading etc.

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# Appendices

## Appendix 1: Creativity test

### Part one

Warm up task-Time: Three minutes

Underline the correct answers which can be used to fill in the blanks in the following sentences.

- I. A home computer\_\_\_\_\_ an opportunity for convenient and efficient work at home.
- a) provides
  - b) to be providing
  - c) which provides
  - d) providing it
- II. Eli Whitney's milling machine remained unchanged for a century and a half because \_\_\_\_\_was so efficient.
- a) it
  - b) he
  - c) of
  - d) its
- III. Some of the rainwater from clouds evaporates before \_\_\_\_\_ .
- a) reaching the ground
  - b) to reach the ground
  - c) reach the ground
  - d) the ground reaches
- IV. Sometimes \_\_\_\_\_ wears people out and is worse than the lack of sleep itself.
- a) to sleep the desire
  - b) the desire to sleep
  - c) to desire sleep is
  - d) the desire to sleep who

V. Although dissimilar in almost every other respect, birds and insects have both evolved efficient \_\_\_\_\_ capabilities.

- a) fly
- b) flying
- c) to fly
- d) is flying

VI. The wheel \_\_\_\_\_ has remained important for 4, 000 years, is one of mankind's first inventions.

- a) the
- b) once
- c) that
- d) even

VII. Studies indicate \_\_\_\_\_ collecting art today than ever before.

- a) there are that more people
- b) more people that are
- c) that there are more people
- d) people there are more

**Part two**

Unusual Uses-Time: Five minutes

I. Suggest as many unusual uses as you can think of for tin cans.

- a) .....
- b) .....
- c) .....
- d) .....
- e) .....
- f) .....
- g) .....
- h) .....
- i) .....
- j) .....

II. Suggest as many unusual uses as you can think of for books.

- a) .....
- b) .....
- c) .....
- d) .....
- e) .....
- f) .....
- g) .....
- h) .....
- i) .....
- j) .....

III. Suggest as many unusual uses as you can think of for pencil.

- a) .....
- b) .....
- c) .....
- d) .....
- e) .....
- f) .....
- g) .....
- h) .....
- i) .....
- j) .....



II. Tree

Man

- h) .....
- i) .....
- j) .....

III. Beach

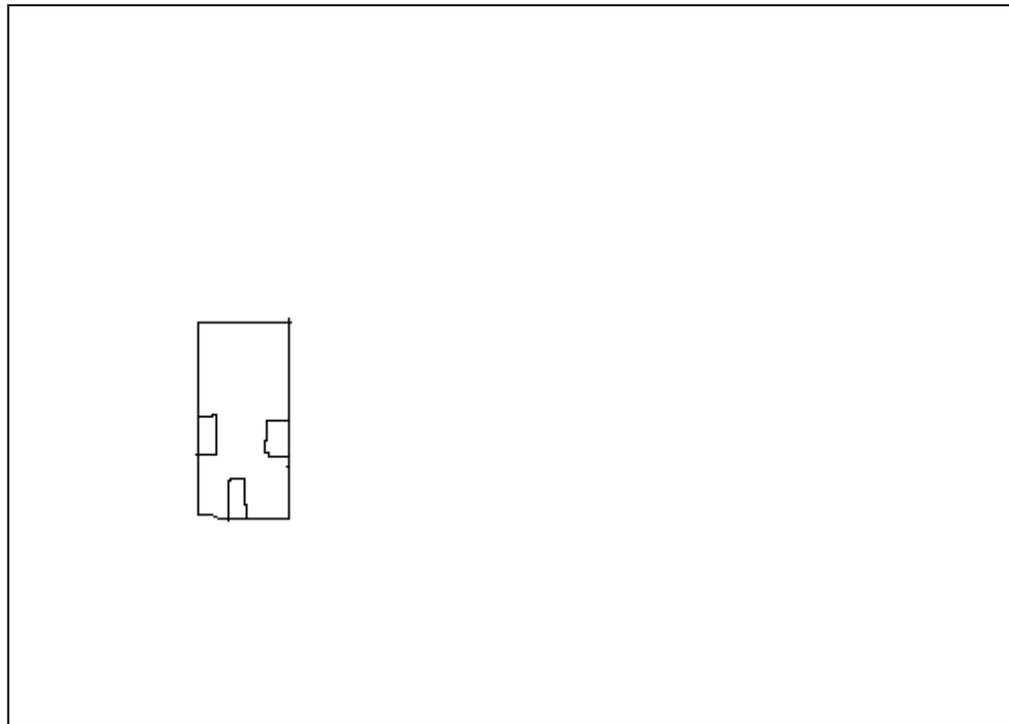
Novel

- a) .....
- b) .....
- c) .....
- d) .....
- e) .....
- f) .....
- g) .....
- h) .....
- i) .....
- j) .....

### Part four

Picture Construction- Time: Eight minutes

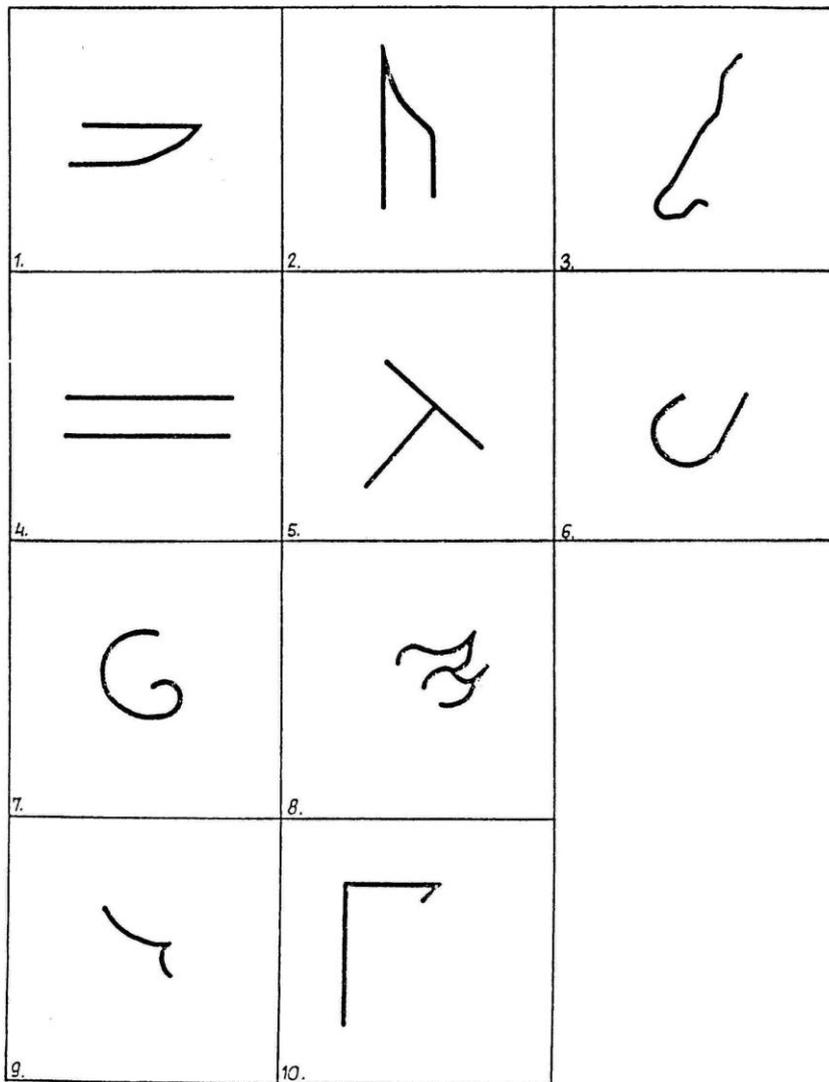
Think of pictures in which the given shape is an integrate part and add lines with pencil to make any novel pictures.



### Part five

Incomplete Figures-Time: Ten minutes.

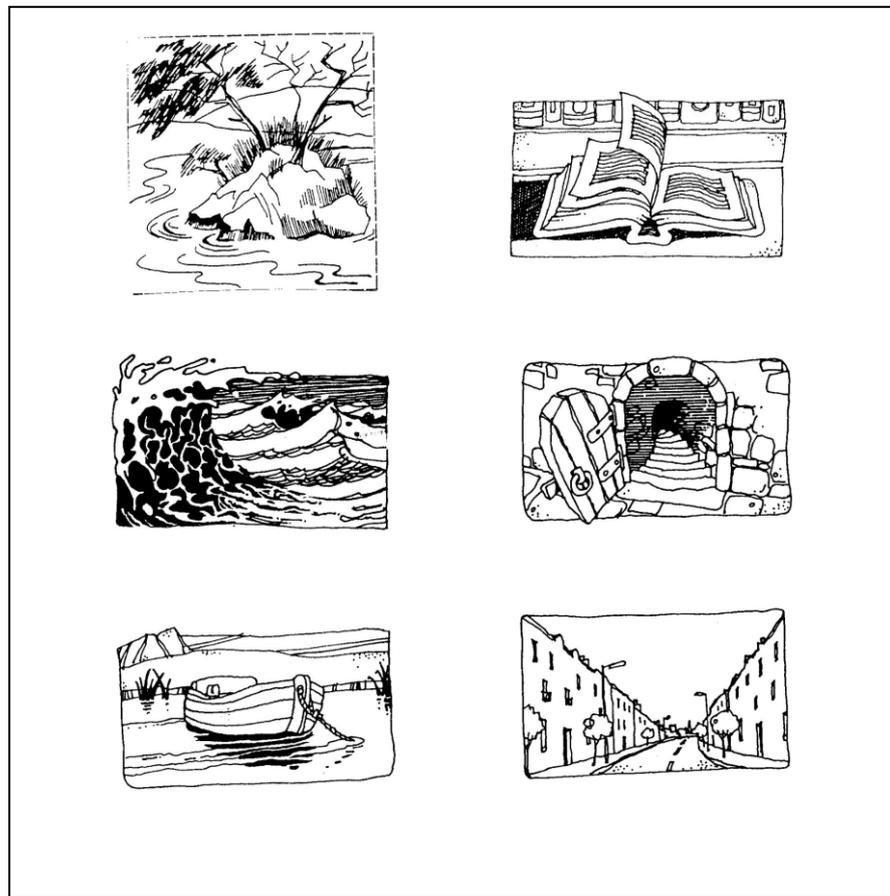
Sketch some novel objects or designs by adding as many lines as you can to the ten figures drawn below. Try to think of pictures no one else will think of. Add details to tell complete stories with your pictures.



## Appendix 2: Oral test

### Task 1-Narrative (Picture Sequence)

You will find six pictures in the given box. Your task is to narrate a story incorporating all the elements depicted by the pictures. You must use all the pictures in the box, but you may also add extra information if you wish. You have three minutes to think before you start and two minutes for the presentation.



## **Task 2-Expository**

Explain the qualities that make up a good teacher. You have three minutes to think before you start and two minutes for the presentation.

### Appendix 3: Creativity test scored in accordance with the procedure defined by Baer, 1993

#### Creative fluency

Tasks	Respondents																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Unusual Uses(UU)	10	13	15	17	24	22	18	15	13	15	07	05	08	10	14	12	10	12	14	10
Distant Associations (DA)	12	21	21	24	28	22	21	23	21	18	10	17	15	23	18	18	20	12	18	15
Picture Construction (PC)	04	07	04	11	07	13	07	01	07	06	03	04	04	06	01	05	03	07	08	01
Incomplete Figures(IF)	06	06	08	08	02	13	06	04	06	07	09	09	12	06	11	10	13	08	07	06

#### Flexibility

Tasks	Respondents																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Unusual Uses (UU)	08	09	10	10	18	13	15	09	10	12	06	05	07	07	11	11	08	08	09	07
Distant Associations (DA)	07	14	13	11	10	12	10	11	10	11	07	11	10	16	10	10	12	07	07	10
Picture Construction (PC)	03	05	02	07	04	04	03	01	01	02	03	03	04	03	01	03	02	06	06	01
Incomplete Figures( IF)	05	06	07	08	02	11	04	02	04	06	07	06	09	04	07	07	09	07	05	04

#### Originality

Tasks	Respondents																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Unusual Uses (UU)	26	34	39	39	59	49	40	23	31	38	13	13	22	25	24	23	23	23	29	16
Distant Associations (DA)	31	36	54	52	74	56	58	73	50	51	21	53	31	70	49	52	58	26	53	38
Picture Construction (PC)	10	20	12	37	25	46	27	04	24	18	11	15	16	22	04	17	12	21	28	04
Incomplete Figures (IF)	19	23	27	26	08	44	17	11	15	21	26	30	42	11	36	30	41	30	20	17

## Appendix 4: Examples for AS-units, narrative clauses and sample answers elicited from the tests

### Examples for Analysis of Speech (AS) units and narrative clauses

AS-unit boundary is indicated with/

Student 25

A woman who lived in Europe decided to go to Africa to to to uhm observe how the monkeys live there / uhm as as she arrived er there she had to to travel through the jungle / and she had a possibility to to observe the other animals how they live in in the jungle and how what they they make there/ uhm and er she arrived to the farm where er she found a a lot of animal animals / and she saw the monkeys erm who live together in a in a small house uhm / -er the people who lived around this jungle er told that the monkeys er had had a had an illness .../

Narrative clauses are underlined and numbered.

In the picture we can see two old men and they are really best friends and they had a dream for 20 30 years. They they wanted to go to the Alps but had no money. (1) But one day er one of them had a chance on gambling (2) and he won a travel to the Alps for two person. (3) So they decided to to go there (4) and they arrived they were happy + but eer they were very very old and and by climbing a mountain (5) one of them fall fall down and (6) then he died + and so the other was so sad that he liked to + so na the they dreaming their dreams for ever and the Alps.

(Albert & Kormos, 2004, p. 16)

Sample answer elicited from the creativity test

## Creativity test

### Part one

Warm up task-Time: Three minutes

Underline the correct answers which can be used to fill in the blanks in the following sentences.

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- II. Eli Whitney's milling machine remained unchanged for a century and a half because \_\_\_\_\_ was so efficient.
- a) it
  - b) he
  - c) of
  - d) its
- III. Some of the rainwater from clouds evaporates before \_\_\_\_\_.
- a) reaching the ground
  - b) to reach the ground
  - c) reach the ground
  - d) the ground reaches
- IV. Sometimes \_\_\_\_\_ wears people out and is worse than the lack of sleep itself.
- a) to sleep the desire
  - b) the desire to sleep
  - c) to desire sleep is
  - d) the desire to sleep who

V. Although dissimilar in almost every other respect, birds and insects have both evolved efficient \_\_\_\_\_ capabilities.

- a) fly
- b) flying
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- d) is flying

VI. The wheel \_\_\_\_\_ has remained important for 4, 000 years, is one of mankind's first inventions.

- a) the
- b) once
- c) that
- d) even

VII. Studies indicate \_\_\_\_\_ collecting art today than ever before.

- a) there are that more people
- b) more people that are
- c) that there are more people
- d) people there are more

## Part two

Unusual Uses-Time: Five minutes

I. Suggest as many unusual uses as you can think of for tin cans.

- a) as a saucepan
- b) as a kettle
- c) as flower pots
- d) to close something
- e) as a weapon to hit someone
- f) as a glass to drink water
- g) to cover tractor silencer
- h) to make toys
- i) to plant trees
- j) to put pencils, pens etc.

II. Suggest as many unusual uses as you can think of for books.

- a) as a paperweight
- b) as a doorstop
- c) as a mock coffin
- d) as an umbrella
- e) to keep some important certificates
- f) to cover legs when wearing a short skirt
- g) to hit someone
- h) as a photo album
- i) as a fan
- j) to exchange love letters

III. Suggest as many unusual uses as you can think of for pencil.

- a) to make holes in papers or files
- b) as a weapon
- c) to scratch one's back
- d) as chopsticks
- e) as drumsticks
- f) to dig a hole in the ground
- g) to clean ears
- h) to point out someone
- i) as a ruler
- j) as a tooth pick

### Part three

Distant Associations-Time: Six minutes

Create associations on the basis of the common characteristics of the two unrelated words given below.

Example:

Cannon

thunder

Sky

I. Home

University

- a) affection
- b) place of meeting
- c) education
- d) different views and attitudes
- e) responsibilities
- f) cooperation and unity
- g) happiness and enjoyment
- h) counseling and advices
- i) protection
- j) improvement

II. Tree

Man

- a) useful
- b) endure difficulties
- c) suffer due to bad weather conditions
- d) helpful
- e) decaying
- f) sensitive
- g) reproduction
- h) need water and sun light

II. Tree

Man

- i) life
- j) .....

II. Beach

Novel

- a) entertainment
- b) experience
- c) relaxation
- d) save from loneliness
- e) excitement and happiness
- f) passing time
- g) refreshment
- h) imagination
- i) companion
- j) sharing
- k) amusement

### Part four

Picture Construction- Time: Eight minutes

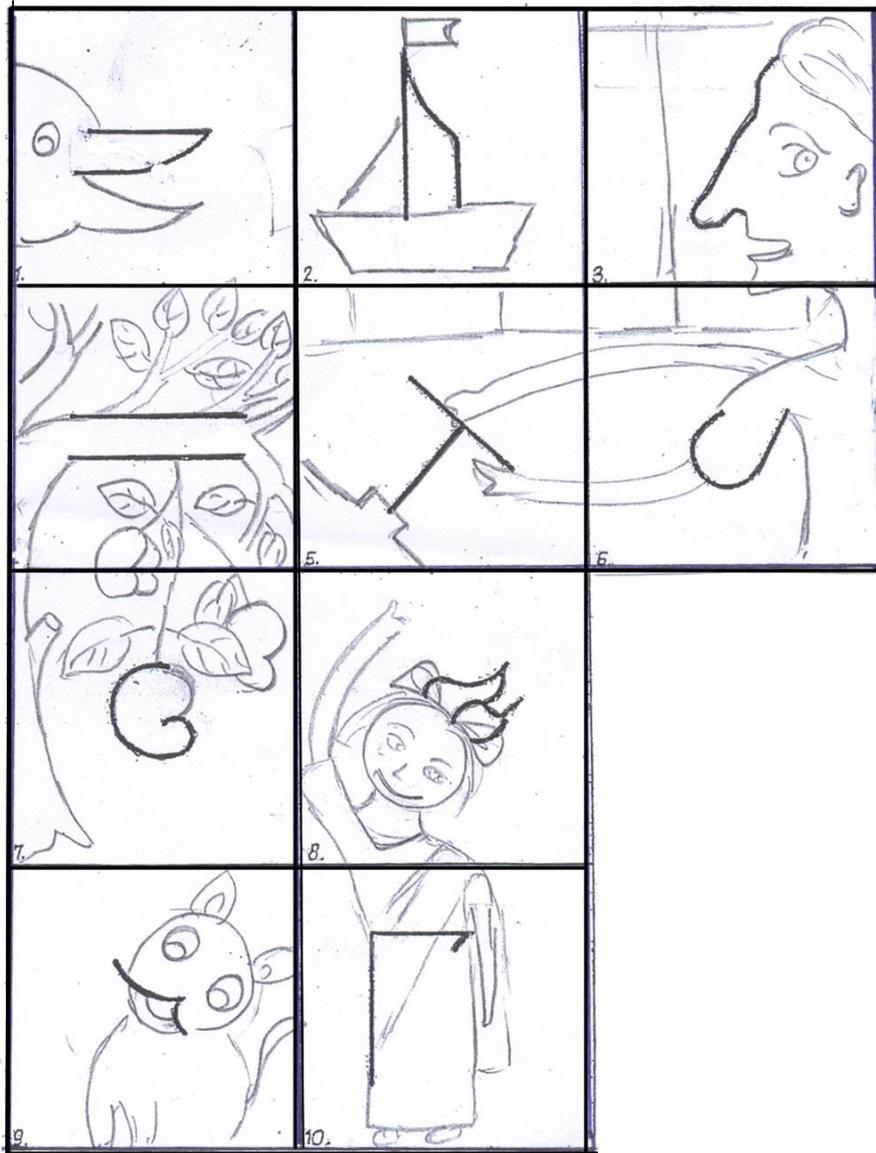
Think of pictures in which the given shape is an integrate part and add lines with pencil to make any novel pictures.



### Part five

Incomplete Figures-Time: Ten minutes.

Sketch some novel objects or designs by adding as many lines as you can to the ten figures drawn below. Try to think of pictures no one else will think of. Add details to tell complete stories with your pictures.



Sample answers elicited from the oral test

### **Task 1- Narrative**

((**iu**)) Child and er he was er going and er wandering to the meadows and once when he was er er going he was going here and there he suddenly came across and there was a river by the side of a land and he just saw a boat and then he got into the boat and then the child ((**pause**)) wanted to have a little bit of entertainment so he rowed and rowed and then suddenly er he just he lost oar the balance and fell down on the water lost ((**pause**)) so he he he had no way to row the boat or to control the boat so he just the boat just er went by itself and with the time he however he came came came to the sea and then the sea was very rough but he but he see no danger he safely because he was lucky he safely lands on the Island in the Island he had no one so he thought of finding some food or anything else or a person so he wandered here and there and then suddenly he saw a building and in the building he went and searched and then there was a box he thought of there must be some treasure or something in it and he opened it there was only a book he open the book and turned the pages while turning the pages he came across a map and he thought that by following the map he may be able to er find some information about this land and so he started according to the map first of all he thought of er searching the building and then he took the book ((**pause**)) and when in order to search in building he came across a door which door locked door and he it was not locked then he opened it he saw of staircase it was er it leads to a narrow passage so he got down the staircase and he suddenly found a ((**iu**)) home

Respondent: 01- Time: 2 minutes

## Task 2 - Expository

Well what I have to talk today is about the qualities that make up a good teacher well er the er the word teacher if we consider the word teacher it means a person teaches some knowledge a ((iu)) it may be book knowledge or some spiritual a teaching and the other thing is ((iu)) er teacher and the other thing is teacher is someone er that does not have a good knowledge er of any anything well therefore mmm... er if we consider this context teacher should be knowledgeable he or she should be educated he or she should be educated in the subject teaching he or she teaches ((iu)) and the other thing is ((iu)) other thing is he or she should be able to teach teach the students properly in order to make them understand because there are teachers who are very educated knowledgeable but they don't know how to teach children so therefore er as a good quality teacher should be knowledgeable educated and also er they should have ability to teach/ the other thing is the teacher should should understand the students understand the group that er he is teaching there are students that need good er er thing there are students

Respondent: 01- Time: 2 minutes

### Key

A pause too short to measure ((pause))

Indecipherable utterance ((indecipherable utterance, IU))

## **Appendix 5: Letter of consent for participating as the respondents in the research study**

To whom it may concern:

We, the undersigned second year students of the academic year 2009/2010, offering Core English Language (CEL) Level IV as a second language for our Degree programme in the Faculty of Social Sciences & Languages, Sabaragmuwa University of Sri Lanka do hereby give our consent for utilizing our audio recorded performance on the two oral tasks conducted on 10<sup>th</sup> and 11<sup>th</sup> of February 2010 at the language laboratory by the researcher, Mr.Rohan Abeywickrama, Department of English Language Teaching, Sabaragamuwa University of Sri Lanka for his correlational study on ‘Learner creativity-a Potential Facilitator for Oral Task Performance?’ as the research component of the Masters Degree in Teaching English as a Second Language (TESL) offered by the Postgraduate Institute of English, the Open University of Sri Lanka.

This letter of consent was signed on 1<sup>st</sup> of February 2010 at the Department of English Language Teaching.