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ISTANBUL AYDIN UNIVERSITY

INSTITUTE OF GRADUATE STUDIES

THE IMPACT OF COGNITIVE TASK COMPLEXITY ON THE CAF OF L2 LEARNERS' WRITTEN PERFORMANCE IN RELATION TO DWC FEEDBACK

PhD THESIS

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JULY, 2023

ONAY FORMU

DECLARATION

I hereby declare with the respect that the study “The Impact of Cognitive Task Complexity on the CAF of L2 Learners’ Written Performance in Relation to DWC Feedback”, which I submitted as a PhD thesis, is written without any assistance in violation of scientific ethics and traditions in all the processes from the project phase to the conclusion of the thesis and that the works I have benefited are from those shown in the References. (27/07/2023)

Rania FAREA

FOREWORD

In the beginning, I want to thank God for all the blessings and opportunities He has bestowed upon me. His guidance and grace have been instrumental in shaping my journey and giving me the perseverance and inner strength to overcome challenges and finish this thesis.

I am truly grateful for the support and guidance of my family throughout this journey. Their unwavering support and belief in my abilities have been instrumental in my academic journey and have been a constant source of motivation and encouragement to follow my dreams and never give up.

I consider myself extremely fortunate to work under the supervision of Dr. Akbar Ali Şah. His expertise and dedication have been invaluable in shaping my research and helping me overcome challenges along the way. His insights and feedback have greatly enriched my research and pushed me to strive for excellence.

Finally, I want to express my gratitude for the vital role Istanbul Aydin University has played in my life—not just academically but also by introducing me to wonderful individuals who inspire and motivate me to be a more knowledgeable and skilled researcher.

July, 2023

Rania FAREA

THE IMPACT OF COGNITIVE TASK COMPLEXITY ON THE CAF OF L2 LEARNERS' WRITTEN PERFORMANCE IN RELATION TO DWC FEEBACK

ABSTRACT

As a reaction against forms-oriented language models, the Task-based language teaching approach (TBLT) has got a psycholinguistic interest in the way task design interacts with L2 learners' cognitive reactions, creating unique opportunities for L2 learning and use. This approach is appealing to syllabus designers, researchers, and teachers as it presents language tasks as manageable and effective tools for teaching and research. Tasks represent life-like communicative activities that provide a context in which learners are getting input as well as involved in the production of output. It is vital to have a comprehensive grasp of how various task characteristics impact learning development and performance. The most important theories dealing with task characteristics and performance are the Limited Attention Capacity Hypothesis by Skehan (1998) and the Cognition Hypothesis by Robinson (2001a, 2001b). Both models provide a theoretical framework for studying how task characteristics could influence language learners' cognitive response while performing a task. However, the views of Robinson and Skehan are contradictory regarding the impact of task complexity on the CAF constructs of L2 learners' language production and the way learners manage their attention to perform tasks. Motivated by Robinson's theory, this research is conducted with a twofold aim. First, since the Cognitive Hypothesis is intended for spoken mode, this study applies its predictions to investigate the effects of increasing task complexity in terms of resource-directing dimensions (+/- here and now, +/- few elements, +/- reasoning demands) on learners' written production. Second, the study attempts to achieve a balance between the three constructs of CAF by taking into consideration teacher's direct written corrective feedback as an important factor affecting the language learning and production process. To accomplish this, an experiment was carried out on 53 Yemeni EFL

adult learners. After the pre-test, they performed three tasks for each of the resource-directing dimensions (simple task, complex task, complex task after getting teacher's feedback) by looking at picture prompts and writing narrative stories in a specified time. The findings of this research do not support Robinson's Cognitive Hypothesis as no significant impact is noticed in the participants' production. However, this research offers some implications and suggestions concerned with modifying the Hypothesis to be applicable to written mode for its different nature from spoken mode and taking into consideration other factors affecting language learning and production.

Keywords: Accuracy, Cognitive Complexity, Feedback, Fluency, Linguistic Complexity, Resource-Directing Dimensions

BİLİŞSEL GÖREV KARMAŞIKLIĞININ DYD GERİ BİLDİRİMİ İLE İLİŞKİLİ 2. Dil ÖĞRENCİLERİNİN YAZILI PERFORMANSI ÜZERİNDEKİ ETKİSİ

ÖZET

Form odaklı dil modellerine tepki olarak, Görev tabanlı dil öğretim yaklaşımı (GTDÖ), görev tasarımının L2 öğrencilerinin bilişsel tepkileriyle etkileşim biçiminde psikolinguistik bir ilgiye sahiptir, L2 öğrenme ve kullanım için benzersiz fırsatlar yaratmak. Bu yaklaşım, ders çalışmalarını öğretim ve araştırma için yönetilebilir ve etkili araçlar olarak sunduğu için müfredat tasarımcıları, araştırmacıları ve öğretmenleri cezbetmektedir. Görevler, öğrencilerin girdi elde ettikleri ve çıktı üretimine dahil oldukları bir bağlam sağlayan yaşam benzeri iletişim faaliyetlerini temsil eder. Çeşitli görev özelliklerinin öğrenme gelişimini ve performansını nasıl etkilediğini kapsamlı bir şekilde kavramak hayati önem taşımaktadır. Görev özellikleri ve performansı ile ilgili en önemli teoriler Skehan (1998) tarafından Sınırlı Dikkat Kapasitesi Hipotezi ve Robinson (2001a, 2001b) tarafından Biliş Hipotezidir. Her iki model de görev özelliklerinin bir görevi yerine getirirken dil öğrencilerinin bilişsel tepkisini nasıl etkileyebileceğini incelemek için teorik bir çerçeve sağlar. Bununla birlikte, Robinson ve Skehan'ın görüşleri, görev karmaşıklığının L2 öğrencilerinin dil üretiminin KDA yapıları üzerindeki etkisi ve öğrencilerin görevleri yerine getirme konusundaki dikkatlerini yönetme biçimleri konusunda çelişkilidir.Robinson'un teorisi ile motive edilen bu araştırma iki yönlü bir amaç ile yürütülmektedir. Birincisi, Bilişsel Hipotez konuşma moduna yönelik olduğundan, bu çalışma, kaynak yönlendirme boyutları (+ / açısından artan görev karmaşıklığının etkilerini araştırmak için tahminlerini uygulamaktadır/- burada ve şimdi, + / - birkaç unsur, + / - akıl yürütme talepleri öğrencilerin yazılı üretimi için). İkincisi, çalışma, dil öğrenimi ve üretim sürecini etkileyen önemli bir faktör olarak öğretmenin doğrudan yazılı düzeltici geri bildirimini dikkate alarak KDA'ın üç yapısı arasında bir denge kurmaya çalışmaktadır. Bunu başarmak için 53 Yemen EFL yetişkin

öğrenicisi üzerinde bir deney yapıldı. Ön testten sonra, kaynak yönlendirme boyutlarının her biri için (basit görev, karmaşık görev, resim istemlerine bakarak ve belirli bir zamanda anlatı öyküleri yazarak öğretmenin geri bildirimini) aldıktan sonra karmaşık görev. Bu araştırmanın bulguları, katılımcıların üretiminde önemli bir etki fark edilmediğinden Robinson'un Bilişsel Hipotezini desteklememektedir. Ancak, bu araştırma, Hipotezin konuşma modundan farklı doğası için yazılı moda uygulanacak şekilde değiştirilmesi ve dil öğrenimini etkileyen diğer faktörler göz önünde bulundurularak bazı çıkarımlar ve öneriler sunmaktadır üretim.

Anahtar Kelimeler: Doğruluk, Bilişsel Karmaşıklık, Geri Bildirim, Akıcılık, Dilsel Karmaşıklık, Kaynak Yönlendirme Boyutları

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LIST OF ABBREVIATIONS

CAF **:** Complexity, Accuracy, Fluency

CP/T **:** Coordinated Phrases per T-unit

C/T **:** Number of Clauses per T-unit

DWC **:** Direct Written Corrective

EFL **:** English as a Foreign Language

MLC **:** Mean Length of Clause

MLT **:** Mean Length of T-units

TBLT **:** Task-Based Language Teaching

I. INTRODUCTION

A. Introduction

Task-based language teaching approach (TBLT) has gained prominence as a reaction against forms-oriented language models (Ellis, 2003; Robinson, 2011b). This approach is based on the view that language is a tool of communication that can be acquired through practically using it. Yet, it also focuses on form in meaningful contexts rather than isolated linguistic structures for the purpose of processing for learning. It is argued that TBLT promotes natural language acquisition, language development, and interlanguage enhancement (Skehan, 1996). However, how to choose and sequence tasks is a crucial element that this instructional approach lacks. Therefore, a number of studies have been investigating how to resolve this problem and create criteria on which to base task choice and sequence.

Many scholars and linguists argue that teachers and syllabus designers have to be aware of the nature of the tasks they provide to language learners in order to be instructed in an effective way that supports language development (Van den Branden et al., 2009). A task is actually a powerful tool of instruction. Manipulating task characteristics influences learners' cognitive response in particular and L2 development and production in general. According to TBLT, the task is regarded to be the central element of instruction and assessment (Vasylets, 2017). It prompts learners to use language and engage in intellectual processes that assist in acquiring the target language (Ellis, 2000). Tasks represent a life-like communicative activity which provide a context in which learners are getting input as well as involved in the production of output. Therefore, linguists and scholars have been interested in understanding how this tool can be manipulated to reach the best of learners' L2 performance and development.

The most important theories dealing with task characteristics and performance are the Cognition Hypothesis by Robinson (2001a, 2001b) and the Limited Attention

Capacity Hypothesis by Skehan (1998). Both models provide a theoretical framework for studying how task characteristics could influence language learners' cognitive response while performing a task. Robinson and Skehan deal with task as a device that affects the process in which language learners learn and use language. However, the views of Robinson and Skehan are contradictory regarding the impact of task complexity on L2 learners' language production and the way learners manage their attention to perform tasks.

The essential assumption of TBLT is to connect classroom tasks and the target tasks in the actual world through the meaningful use of the target language. As Robinson (2003: 46) puts it, "tasks should be developed and sequenced to increasingly approximate the demands of real-world target tasks, with the goal of enabling second language users to succeed in attaining needed lifetime performance objectives". In his theory, Robinson argues that the manipulation of cognitive task complexity will improve the learner's performance. In other words, manipulating task complexity in a proper way will reduce the strain on learners' attentional resources and direct them to improve the production. For that Robinson has divided the variables into resource-directing (+/- here and now, +/- few elements, +/- reasoning demands) and resource-dispersing (+/- planning time, +/- prior knowledge, +/- single task). The increase in cognitive demands of tasks in terms of these factors will have different effects on learners' production. The resource-directing dimensions direct attentional resources towards fulfilling the linguistic and conceptual needs of the task, while the resource-dispersing dimensions disperse learners' attentional resources. The manipulation of these factors would have an impact on learners' attentional resources and consequently on the quality of their production regarding complexity, accuracy, and fluency.

Both Robinson's and Skehan's theories are meant to study the impact of task complexity on speaking skill. A large number of studies have been investigating the effects of task complexity on oral production rather than written production (Kuiken& Vedder, 2008). Thus, there is a shift in focus to writing production and researchers have started to apply these theories to improving language learners' written production. However, many factors can affect a new language acquisition including task complexity. It is to say that it is not reasonable to judge the impact of task complexity on learners' pro-

duction in isolation. This study investigates how task complexity can improve learner's writing in relation to teacher's feedback.

Writing is a crucial aspect of language that a language learner should master in order to get full command of the target language (Vahdat and Daneshkhah, 2019). Educators and researchers are working to develop more effective and practical methods to improve this complex skill (Hyland, 2013). Realizing the importance of acquiring writing skill, teachers are concerned with using numerous strategies to enhance the writing skill of their learners. Teachers' feedback is one of the instructional strategies that facilitate language learning in general and improve learners' written production in particular (Ferris, 1995; Hyland, 2013). Ferris et al. (1997: 155) claim that "written feedback allows for a level of individualized attention and one to one communication that is rarely possible in the day-to-day operations of a class, and it plays an important role in motivating and encouraging students". Effective teaching entails not only providing learners with information and tasks, but also assessing learners' comprehension and performance.

Feedback does not only assist learners to improve their performance, it also enables teachers to play their role as a guide, identifying the points of strength and weakness in their learners' production. It is to bridge the gap between their actual performance and intended goal. This view of feedback is confirmed by several cognitive theories such as Sociocultural theory (Vygotsky, 1978), Interaction Hypothesis (Long, 1996), Noticing Hypothesis (Schmidt, 1990), and Output Hypothesis (Swain, 1985). These theories have changed the researchers and instructors' view of feedback which has become a means of teaching and learning. However, feedback is ignored in both models of task complexity (Byrnes& Manchón, 2014; Vasylets, 2017).

In addition to task complexity, teacher's feedback is an important topic in L2 acquisition research (Zhai & Gao, 2018). It is, as Hattie and Timperley (2007) state, part of the teaching process that follows the learners' performance of what has been instructed. Both these factors can be utilized to enhance language learners' writing skill. This study investigates the impact of manipulating task complexity in terms of resource-directing variables, namely (+/- here and now, +/- few elements, +/- reasoning demands), on learner's written performance in relation to teacher's direct written corrective feedback as another variable that can affect learner's written production. The effects of

increasing task complexity along with corrective feedback are to be evaluated by measuring the CAF constructs (complexity, accuracy, and fluency) of learners' written production.

B. Problem of the Study

Despite the interest of the TBLT approach in developing language teaching and production, the focus is mainly on speaking skill. Oral production is privileged both in teaching as well as in theoretical development. "Theoretical rationales for the influence of task demands on writing and both reading and listening comprehension currently lag behind rationales for their effects on speech production in articulating linkages between rationales proposed and explanatory psycholinguistic mechanisms" (Robinson, 2011b: 15-16). Though writing is of great importance as a communication tool and as a quality in one's career, it has been neglected both in theoretical and pedagogical domains. To have a full command of language, both speaking and writing modes are important. Speaking and writing are the two essential facets of the language of any literate community.

Complexity, accuracy, and fluency (CAF) are distinct constructs which are used to measure L2 language production and proficiency (Alghizzi, 2017; Larsen-Freeman 2006; Towell, 2012) and also the progress in language learning (Housen& Kuiken, 2009). Skehan's (1998) Limited Attentional Capacity Hypothesis and Robinson's (2001b, 2005) Cognition Hypothesis are the two theories that determine the relation between the CAF constructs. Skehan (1998) argues that learners have a limited information processing capacity that makes them prioritize one of the constructs at the cost of the others in their language production. Therefore, increasing task complexity would make learners unable to pay equal attention to all areas of production, this lack of attention results in the reduction of accuracy and complexity in favour of fluency. On the contrary, Robinson (2001b, 2005) argues that learners have multiple attentional resources. The increase in task complexity affects the relation between these dimensions, where the learners attempt to express more complicated ideas paying attention to complexity and accuracy but not fluency. It is to be noted that the predictions of these two theories have not been approved, nor balance between CAF constructs been realized. This study at-

tempts to find a balance between the three CAF dimensions in learners' written language production.

In current days, Robinson's Cognition Hypothesis is a main concept in task-based language teaching, but it is problematized in its application. It is important to keep in mind that the Cognition Hypothesis is meant for oral production. Because of the scarcity of theoretical frameworks addressing writing production, linguists have adopted and modified this theory to be applied to writing mode. However, there are some gaps in this theory that have to be addressed in order to be appropriate for writing mode. The predictions of Robinson's Cognitive Hypothesis have not been approved in regard to written mode. It is to argue that other factors can affect learners' performance which have not been taken into consideration.

In his theory, Robinson (2003) recommends studying the effects of task complexity in relation to the other factors of task conditions and task difficulty. Yet, there is a scarcity of studies on task complexity with other variables affecting learners' production. To examine the relationship between the CAF constructs many factors should be taken into consideration. In Robinson's Cognition Hypothesis, the role of the teacher is completely neglected. Even in learner-centred classrooms, the teacher is a facilitator who guides learners through the learning process and assesses their performance. Therefore, this study examines the role of teacher's feedback in improving learner's writing and how it affects task complexity.

Using Robinson's Cognition Hypothesis as a basis for their investigation, this study examines the impact of increasing task complexity on learners' written production in relation to teacher's direct written corrective feedback. It is to contribute to the existing literature on this theory as well as modify it. As Byrnes and Manchón (2014) argue, Robinson's Cognition Hypothesis should be expanded and modified to be suitable for writing production.

Moreover, it is to be noted that this study was carried out in Yemen which is one of the countries that still has a poor education system and follows the traditional grammar-translation method in teaching English language and writing. Writing is a skill that should be taught, particularly to those who study English as a foreign language. However, in the Yemeni context, this skill is not given due attention by the teachers and is

avoided by learners. As a result, there should be an innovation in teaching strategies to make writing learning more exciting and demanding.

C. Significance of the Study

This study is empirical and pedagogical in nature. From an empirical perspective, its significance lies in its contribution to the field of task-based teaching approach. It attempts to add something to the dilemma of achieving a balance between CAF of language production. As Almutlaq (2018: 10) posits "SLA research faces numerous limitations resulting from its lack of a progress indication, its focuses on the individual rather than a relational perspective on affective factors and its concerns general rather than domain-specific levels of research". Thus, this study deals with several variables to find a proper way to teach writing in the L2 domain. It is to contribute to the area of task-based language teaching by verifying the Cognition Hypothesis in terms of resource-directing variables. In addition, it will investigate the effect of applying teacher's feedback along with increasing task complexity. Adding the factor of feedback is to enable the teacher to play his role as a facilitator in a learner-centred class. The goal of TBLT is to create a balance between the three variables of CAF in learners' performance. Skehan and Foster (1999: 97) state that "balance needs to be established among the three performance areas (fluency, accuracy, and complexity), in that one would like to see development in each of the areas, and without one area compromising development in the others". Therefore, the current study attempts to establish a balance between the CAF of written production by investigating the impact of increasing task complexity in relation to direct written corrective feedback. In the pedagogical aspect, the study's outcomes will be of vital significance for syllabus designers and writing teachers while designing and implementing writing tasks for language learners.

Moreover, this study sheds some light on the situation in Yemen regarding teaching the English language in general and writing in particular. There are few studies that are interested in investigating how English is taught in Yemen or make its interruption in the Yemeni context. Though teaching English in Yemen has become a must for most Yemenis, teachers are still using traditional methods like the Grammar Translation Me-

thod (GTM). They are not well-qualified nor well-trained to teach the writing skill. The results of this study introduce a new strategy for teaching writing to Yemeni teachers.

D. Question of the Study

- What are the effects of task complexity on the complexity, accuracy, and fluency of the learner's written production in terms of resource-directing variables (+/- few elements, +/- reasoning demands, +/- here and now)? Does task complexity combined with direct feedback create a balance between complexity, accuracy, and fluency variables in the learner's written production?

E. Structure of the Thesis

The first chapter is an introduction to the study that has been carried out. It presents the scope, problem, significance, question, and structure of the study, as well as definitions of the main terms. The second chapter is a literature review that gives a complete picture of the study framework. It provides an idea of what task-based language teaching is, the communication language teaching that it is derived from, its background, and related theories. It also defines the term "task" in different aspects and explains how to assess task-based language teaching. Moreover, it provides a theoretical framework by discussing the theories of the Cognition Hypothesis and the Limited Attention Capacity Hypothesis, task complexity, production CAF, and corrective feedback. The chapter ends with a review of the previous studies that dealt with the impact of task complexity on language learning and the accuracy, fluency, and complexity of learners' production. The third chapter introduces the methodology used in collecting the study data, participants, procedures, and measuring strategies and tools. The fourth analyzes the results of the study and points out the findings. The fifth chapter provides a discussion of the findings, conclusion, and limitations of the study.

F. Definitions of Terms

Accuracy: It is the extent to which learners produce target-like and error-free output based on the rule system of the target language and manage their interlanguage complexity to avoid producing challenging structures that may provoke error.

Cognitive Complexity: From the standpoint of L2 users, cognitive complexity is described as an inconstant attribute that requires language users to employ their mental resources heavily and exhaustingly when processing or acquiring language features. This relative difficulty is determined by the linguistic complexity of the input or learner-dependent factors (e.g., memory span, L1 background, motivation, and aptitude).

Feedback: It refers to the information given by an external agent based on comparing the actual performance to the expected one, allowing learners to bridge the gap between the two to develop the learning and teaching processes.

Fluency: It is the ease with which learners use their L2 linguistic resources to produce or comprehend speech or writing.

Linguistic Complexity: It is the use of a wide variety and diverse range of sophisticated vocabulary (lexical complexity) and structures (syntactic complexity) in the L2.

Resource-directing dimensions: They are the variables by which task cognitive demands are manipulated to engage learners in higher cognitive and information processes to meet the extra demands on language use induced by prospective increases in task complexity. These variables are +/- few elements (few versus many distinguished elements in a task), +/- Here-and-Now (events happening now versus events that happened in the past), and +/- reasoning demands (simple transmission of facts versus making arguments).

II. LITERATURE REVIEW

A. Introduction

Throughout the history of language teaching, there have been several changes and upheavals. There is a constant quest and effort to develop better ways of learning and teaching language, which entails expressing discontent with current techniques and procedures. Our social organization and the need for communication demand the quest for new and more efficient solutions. The uncertainty of the efficacy and methodologies of current approaches increased in the second half of the 20th century (Sanchez, 2004). This is because globalization and travelling have increased the pressure on people to learn languages more quickly due to the necessity for communication. Because of the accelerating needs of the current decade, there is a growing emphasis on the significance and requirement of developing a new system of communication so as not to wait any longer to be involved in real communication. This leads the research for new and more efficient methods to learn the target language. Within a short period of time, there were many methodological changes following one another. Despite the fact that most educational attempts end with failure, they still have positive outcomes (Adams& Chen, 1981). New approaches do not emerge out of nowhere nor are they disconnected from the world in which they are created.

In language teaching methodology, there are two major trends: the 'grammatical' approach and the 'conversational' approach. Both of the two have been in constant tension with one another, and they represent a dichotomy that seems to recur in various ways and formats: written and verbal language; learning a language grammar and how to speak it, and using different degrees of language formality. In the second half of the 20th century, "the dichotomy focus on form vs. focus on content, teaching and learning language for accuracy vs. teaching and learning language for meaning developed as the new paradigm" (Sanchez, 2004, 40). The emphasis on one end of the scale or the other

has a tendency to be recurrent and what has been disfavored at one time is revived at another (Larsen-Freeman and Andreson, 2011). Therefore, if accuracy and form were predominated in the 1960s and 1970s, communicative potential and meaning became more important in the 1980s and afterwards (Sanchez, 2004). TBLT approach is concerned with communicative language teaching that has gained prominence in the late 20th century. However, this is not to privilege one approach over the other. It is Larsen-Freeman and Andreson (2011: 24) that confirm "we do not believe that there is a single best method."

B. What is Task-based Language Teaching (TBLT)?

Task-Based Language Teaching (TBLT) is a theoretical and practical framework for teaching a second language. In recent decades it has gained great prominence as a teaching approach that uses pedagogic tasks to model the activities of the actual world in the L2 curriculum (Ellis, 2003; Long, 2015; Long & Crookes, 1992). Traditional language teaching approaches have focused on grammar to design syllabi, while TBLT uses authentic tasks as a central unit of instruction rather than language (Long, 1985a, 2015). Task is used as an analysis methodology together with other data collecting and analysis tools in language acquisition research. TBLT uses tasks to analyze language learning needs, identify the syllabi goals, plan activities, and assess language proficiencies. It aims at providing language learners with the linguistic skills necessary to interact in real life outside the classroom. It is

> *to facilitate language learning by engaging learners in interactionally authentic language use through performing a series of tasks. It assumes that, as in L1 acquisition, a language is best learned when it is used as a tool for communicating rather than being treated as an object to be studied. (Ellis, 2013, 1)*

The development of the communicative language approach (CLT) in the 1980s and the focus on developing learners' communicative skills make task-based language teaching (TBLT) a significant topic in SLA research "in terms of fostering process-focused syllabi and devising communicative tasks to enhance learners' real language use" (M. Hismanoglu & S. Hismanoglu, 2011: 46). As a result of the expansion of task-based language teaching and research, there has been a broad variety of techniques,

theories, and establishment of frameworks for this approach. TBLT depends on a number of learning theories including Vygotsky's Sociocultural theory (1978), Krashen's (1985) Input Hypothesis, Swain's (1985) Output Hypothesis, and Long's (1985a, 1985b) Interaction Hypothesis among others. TBLT is heavily founded on theory and a growing corpus of research, and it is also a teaching approach. The interaction between research, theory, and teaching demands task-oriented research that considers these three (Adams, 2009).

TBLT is considered an extension of the strong version of communicative language teaching in which task is used as the basic unit of designing a course and communication is regarded to be the principal motivator for language acquisition (Howatt, 1984 and Iveson, 2019). TBLT is theoretically founded on the assumption that language is better acquired by treating it as a tool to attain a communicative goal rather than an object to be divided into parts and studied as a set of 'accumulated entities' (Ellis,2013). Language learning and use are not separated. Learners do not have to learn and then use language, they both occur when learners accomplish a communicative purpose. As in L1 acquisition when children acquire language during their attempts to interact with others, TBLT imitate the same situation by creating contexts in which learners practice their knowledge of language as well as learn. In other words, TBLT does not only support learners to communicate in the target language using their previously gained knowledge, but also provides them with opportunities to have new linguistic knowledge.

TBLT uses tasks as a unit of analysis in communicative language teaching research and practice. In TBLT tasks are used to enable learners to acquire language proficiency rather than knowledge of linguistics features. They allow learners to experience interaction which is similar to that which occurs in the actual world. Therefore, tasks allow learners to practice language in interactional authenticity and this is the crucial feature of TBLT.

Because TBLT represents a fundamental break from established traditional approaches to language teaching, it has received a great deal of criticism. Traditionalists such as Swan (2005) claim that TBLT is a product of SLA scholars who hypothesize that it is more helpful in improving communication skills without providing a proof. Seedhouse (2005) also criticizes it on the rational grounds arguing that the underlying

notion of TBLT (task) is fundamentally inaccurate and on the empirical grounds tasks prompt poor interaction and pidgin-like conversation.

C. Communicative Language Teaching

In the 1970s, the rapidly increasing number of migrants in North America and Europe strongly demanded the use of the English language for communication, prompting the emergence of Communicative Language Teaching (CLT) (Savignon, 2002). In those days, Hymes (1972) developed his notion of communicative competence. Communicative competence is meant not only grammatical knowledge, but also the ability to use this knowledge effectively to communicate. In his theory, Hymes has highlighted "the capacities of persons, the organization of verbal means for socially defined purposes, and the sensitivity of rules to situations" (1972: 292). He attempts to add the sociolinguistic dimension to the use of the target language, believing that it is acquired at the same time of learning the structural knowledge of a language and that the sociolinguistic rules of language use "are not a late grafting". It is as Shona Whyte (2019: 2) puts it:

> *communicative competence thus includes speakers' knowledge of linguistic and sociolinguistic rules as well as their ability to use this knowledge in interaction. It is distinct from actual language use in interaction, which depends not only on speakers but also their interlocutors and unfolding events, and comes under the heading of performance.*

With Hymes' concept of communicative competence and the need for the use of language for communication goals, the initial notion of CLT was presented as a teaching approach isolated from any related SLA theory. Instructors have used CLT broadly in their classrooms. Hymes' communicative competence has inspired many researchers to find ways that elevate learners' use of language as a communication means.

Savignon (1983) proposed a five-part English curriculum model in which communicative competence is understood as a dynamic concept that exists inside the learner rather than the curriculum. He attempts to bring the notion of communicative competence into reality with five components: personal second language usage, theatre arts, language arts, language for a purpose, and outside the classroom. According to this model, learners acquire the target language by studying language arts, which include many aspects of language including vocabulary, phonology, and grammar. Language is

learnt for a purpose by using it for a specific communicative goal and connecting it to personal usage of language, which puts into consideration learners' motivation and attitude towards language learning. The learner is given the means to use the target language while practising communication acts such as negotiation and expressing. "Beyond the Classroom" provides additional chances to practice the target language in actual life. Nevertheless, Savignon's model necessitates a significantly high level of language proficiency, making it difficult for both instructors and learners of language in non-native settings, (Hiep, 2005). A number of researchers have gone into further details on communicative competence and its use in developing L2 syllabi. Yet, with the CLT requirement of a high level of language proficiency, no dominant model has emerged in L2 curriculum design (Kumaravadivelu, 2006).

With his suggestion of the weak vs. strong variants of CLT, Howatt (1984) has improved the CLT curriculum even more by suggesting strong vs. weak models of CLT. The goal of the strong version is to use language to learn, it argues that "language is acquired through communication" (Howatt 1984: 279). On the other hand, the weak version emphasizes learning language for use and this depends on the idea that language can be learnt in the class that reinforces communicative tasks containing lexis and/or grammar. Howatt (1984) confirms that the strong version focuses on learners' first-hand experience of language while the weak version is largely dependent on language analysis. However, this categorization of CLT into strong and weak forms is based on the assumption of how to learn and teach language rather than on L2 acquisition theories. In other words, it is to say that in the weak version, learners learn how to use language as they are exposed to communicative tasks that are part of a larger learning. The communicative tasks are the production stage that follows the presentation and practice of forms in the structural approach (Ellis, 2003).

D. Background to TBLT

Traditional language teaching techniques have been dominated by the PPP model (Presentation, Practice, Production) together with other grammar-based pedagogies. TBLT has emerged as a reaction to the limitations of the traditional PPP approach (Ellis, 2003; Long & Crookes, 1992). It is an approach that advocates language learning as a

developmental process that improves communication rather than a product that is based on practising a certain language form. In a PPP traditional language teaching model, for example, the teacher first introduces a new grammatical form, learners practice the form, and then they are asked to produce it (Byrne, 1986). This model suggests that learning takes place as part of a linear automatization process that follows the teacher's instructions; hence, such an approach is "incompatible with the natural developmental stages known to affect the order of acquisition of forms" (Bryfonski, 2019: 12). The attempt to merge discoveries in SLA research with traditional language teaching approaches has led to the development of TBLT pedagogy (Long, 2016). In other words, when working on task-based activities in natural settings, learners are more likely to master the target language while using the language. This attitude to language learning has flourished in the 1980s, resulting in the development of task-based methodologies (Breen, 1987; Candlin & Murphy, 1987; Prabhu, 1987). In the 1990s, it evolved into a comprehensive framework for communicative instruction where learners are engaged in "task-based activities via cycles of pre-task preparation, task execution, and post-task feedback via language focus" (Hismanoglu & Hismanoglu, 2011: 47).

TBLT can be traced back to the communicative approach to language teaching which gives emphasis to communication as the means and goal of language learning. TBLT has been adopted by educators for a number of reasons. Some educators have utilized tasks to improve learners' ability to express meaning, while others have attempted to make the language used in the classroom more communicative and related to the situations in real life. However, TBLT has been popularized by Prabhu (1987) who views task as a way to tap into learners' innate mechanisms for L2 acquisition rather than as a means to prepare them for meaningful communication. Prabhu has observed that learners can learn the target language easily when they do not concentrate on linguistic issues. Prabhu was the first to use the task-based approach and he promoted this approach when he published the Bangalore research report in 1982 (Wei, 2004). The goal of the Bangalore Project was to develop the 'situational oral approach' with a focus on communication and competence. According to Prabhu, competence is defined as 'grammatical competence' which is the facility to instinctively comply with grammatical rules and 'communicative competence' as the issue of delivering and interpreting mean-

ing. It is to take into consideration that grammatical competence is to be developed by an internal process of self-regulating and this will assist in delivering meaning in proper conditions. The primary role of the teacher was to create conditions that allow learners involved in meaningful communications.

The term 'task' is frequently used in this context to refer to specific activities taking place in the classroom. These activities are distinguished by the focus on meaning and the significance of the process of doing things (how) rather than content (what) which have had a dominant role in the teaching approach of that period. The goal of the Bangalore project is to explore new teaching methods that have emerged as a result of

> *a strongly felt pedagogic intuition, arising from experience generally but made concrete in the course of professional debate in India. This was that the development of competence in second language requires no systematisation of language inputs or maximization of planned practice, but rather the creation of conditions in which learners engage in an effort to cope with communication. (Prabhu, 1987: 1)*

E. Theories Related to TBLT

TBLT has not been developed in isolation, it has rather evolved as a result of intensive research in communicative approach and other theories of SLA. TBLT has been developed on the basis of the communicative approach. As Iveson (2019: 18) argues that "the founding principles of TBLT can be seen in the Communicative Approach or CLT". Educators have become dissatisfied with structure-based approaches as they believe mastering some linguistic structures is not enough to develop language learners' communicative proficiency (Widdowson, 1979; Iveson, 2019). The communicative approach to language teaching focuses on the language aspects which are functional rather than structural.

There are other learning theories in the area of second language acquisition (SLA) that have provided the groundwork for the TBLT approach (Hismanoglu& Hismanoglu, 2011; Krashen 1985; Long 1985a). They include Vygotsky's (1978) Sociocultural theory, Krashen's (1985) Input Hypothesis, Swain's (1985) Output Hypothesis, and Long’s (1985a, 1985b) Interaction Hypothesis.

The Sociocultural theory (SCT), whose core concept is mediation, has been developed by Vygotsky (1978). It maintains that learning develops through mediation be-

tween one's mind and the surrounding environment. Through social interaction and language, new knowledge is formed (Ellis, 2003). Language is considered to be equally a means and object of learning. Researchers have used the Sociocultural theory in designing tasks to facilitate L2 learning. Lantolf (2000) argues that the processes of self-mediation, peer mediation, and object mediation improve L2 learners' language acquisition. Thus, learning is mediated through the use of things such as capable peers, technologies, and learners themselves. Moreover, in his theory, Vygotsky has developed the concept of zone of proximal development (ZPD). By ZPD it meant the distance between what one can learn alone and what he can learn with the help of the more knowledgeable others. It is to confirm the significance of the teacher's role as a facilitator in the learning process besides learners' mediation. Through this metaphor of ZPD, Vygotsky describes how the teacher instructs to enable learners to move from their actual level to the set goal. This notion of ZPD has influenced designing the curriculum in terms of task selection, grading and sequencing (Ellis 2003).

TBLT uses the Input Hypothesis as a theoretical foundation in the classroom (Ellis, 2003; Nunan, 2004). Krashen argues that language is a means which carries meaning and message. Language learning occurs only when the learners comprehend the meaning and message in the target language. According to this theory, to acquire a language, the language learner has to be exposed to comprehensible input to grasp the language and move to the next level (Krashen 1985). By comprehensible input, Krashen (1985) means the information that is beyond the actual level of learners' competence. If the competence level of the learner in the language he is learning is 'i', for example, then the next level is 'i + 1' which the comprehensible input should provide the learner (Krashen 1985). Nunan (2004) argues that Krashen's theory has affected the development of the TBLT approach in two significant ways. First, the Input Hypothesis emphasizes the significance of learners' comprehension of the message, so learners should deal with meaning as soon as they start learning a language. This is in contrast to the traditional structural approach which emphasizes teaching linguistic items at an early stage (Richards & Rodgers, 2016). The second point is that the Input hypothesis implies task sequencing in TBLT. By the concept of comprehensible input, this theory suggests that the curriculum should be designed by grading and sequencing the tasks according to the required level

as suggested by the model of 'i + 1'. This idea of comprehensible input (i + 1) is similar to Vygotsky's concept of ZPD in L2 teaching. Both concepts suggest that "tasks are most effective when they are selected and organized in an appropriate sequence that fosters students' learning and development of communicative skills" (Nam Tran, 2015: 23).

Another theory of L2 acquisition that the development of TBLT is founded on is Swain's (1985) Comprehensible Output Hypothesis. Swain criticized Krashen's (1985) Input Hypothesis after he noticed that her students who were provided with comprehensible input were unable to use the target language appropriately. In her theory, Swain, argues that language acquisition occurs when learners face gaps in their linguistic knowledge of the target language (Swain, 1985; Swain & Lapkin 1995). It is this knowledge gap that makes the learners aware of certain linguistic structures or vocabulary to develop their comprehensible output. By comprehensible output, Swain and Lapkin (1995) refer to "a mechanism that enables learners to become aware of the linguistic gaps in their knowledge through noticing" (Tran, 2015: 24). It is in this way that learning new things in the target language occurs and learners comprehend the language. Output Hypothesis implies that tasks should not be provided to language learners just as input, but they should be given in a way that forces learners to comprehensibly use the target language. This is the idea of TBLT to design tasks to be a means and object of learning at the same time.

Moreover, Long (1985b) maintains that comprehensible input is insufficient to facilitate the acquisition of the target language. In his Interaction Hypothesis, Long (1985a, 1985b) argues that face-to-face interaction improves learners' language proficiency. The main concept of this theory is the "negotiation of meaning" process. It is a process that speakers go through when they engage in a communication activity to reach a clear, mutual understanding. It is when the listener asks the speaker to clarify, rephrase, or confirm the message to be intelligible. Also, in this process, the speaker can identify an interruption in the conversation and adjust his utterances by himself. The use of these strategies is to overcome comprehension problems. Long (1985b) claims that the negotiation of meaning process has significantly resulted in providing various types of tasks in the syllabus. The two-way task (Long, 1989) and closed tasks Nunan (1991), for example, generate more negotiation of meaning than one-way task and open task

respectively. It is to say that Long's Interaction Hypothesis supports TBLT in terms of the types of tasks utilized in designing syllabi, and the types of interaction which encourage negotiation of meaning.

It is to conclude that TBLT has emerged from CLT, but it has been founded on multiple theoretical grounds. These SLA theories, Sociocultural theory, Input Hypothesis, Output Hypothesis, and Interaction Hypothesis have framed the theoretical basis of TBLT and how to design tasks.

F. What is Task?

Task is the building block of SLA and the essential unit of planning and teaching in TBLT. It has been essential in L2 research and pedagogy during the last three decades (e.g., Ellis, 2003, Long, 1985a, 2015; Robinson, 2001a). It is a crucial tool for researchers and educators because they use it to tap into and improve on the linguistic and non-linguistic resources that learners bring to class. It is as maintained by Schmid, Verspoor, and MacWhinney that:

> *the full range of the linguistic repertoire can only truly be investigated on the basis of spoken or written data produced under relatively natural conditions – that is, data where all aspects of the linguistic production process (the selection of the vocabulary, the sentence frame, grammatical aspects such as tense, mood and voice, orthography or phonology and so on) are, as far as possible, fully under the control of the learner.(2011: 39).*

Task has a variety of definitions as it has been defined from different aspects and for different purposes. Thus, teachers have difficulty differentiating tasks from other learning activities used in L2 classrooms. David Ellis (2009) has set four criteria to distinguish between the two. According to him, a task should have:

1. a primary focus on meaning, (learners are primarily concerned with understanding the semantic and pragmatic meaning of discourse)
2. a gap in information that motivates language use, (like expressing an opinion, transferring information, or inferring meaning)
3. participants rely on their own linguistic or non-linguistic resources, and
4. a clearly defined outcome rather than the use of language (language becomes the means not the end as pointed out by Schmid et al. (2011).

Tasks that have these characteristics enhance interactionally authentic use of language and may help learners use language without exerting unnecessary effort while focusing on meaning. Thus, Ellis' criteria entail that the task develops "implicit or at least fully-automatized language knowledge as it relates to interactive competence in using a second language" (Lambert, 2019: 2).

Task is the main component of TBLT. In this approach, it has many definitions to describe the nature of task according to its function and purpose of use under scrutiny. "Description may include their role as part of specific lesson plan aims, as fundamental learning activities in terms of methodology, as well as their function in performance descriptors or assessment criteria for evaluative purposes" (Iveson, 2019: 31). A general definition of task in TBLT is given by Prabhu (1987: 24) who defines it as "an activity which required learners to arrive at an outcome from given information through some process of thought and which allowed teachers to control and regulate that process". However, this definition is ambiguous regarding the nature of classroom tasks and their connection to target tasks. Many researchers and educators have approached task from different aspects.

Most of the definitions of tasks are concerned with the type of language use that tasks should enhance. According to Van de Branden (2006: 4), "a task is an activity in which a person engages in order to attain an objective, and which necessitates the use of language". Other definitions focus on the significance of directing learners' attention to meaning exchange. Willis (1996: 23) defined task as an activity "where the target language is used by the learner for a communicative purpose", and he also confirms that task is "a goal-oriented activity in which learners use language to achieve a real outcome" (ibid: 53). He claims that language use in classroom tasks should be a reflection of the language use outside. In other words, language in learning classrooms is a tool and an end.

Learners' goals can be attained by comprehending language input and by producing language output, which is using language in real-life interactions with others. To identify the goals of learning a language in the curriculum is essentially to specify the tasks that should be performed and the type of language use required to perform such tasks. Interaction facilitates language learning. Moreover, Candlin and Murphy argue

that "the central purpose we are concerned with is language learning, and tasks present this in the form of a problem-solving negotiation between knowledge that the learner holds and new knowledge" (1987: 1). To achieve relevant goals, tasks should encourage interaction and create sufficient opportunities for learners to meaningfully process the input and produce the output. It is argued that this interaction facilitates language acquisition. Task should drive learners to use language rather than to learn it. Because classroom tasks are thought to facilitate language learning, they are expected to stimulate the sorts of communication behaviours that certainly come from implementing real-world tasks.

Other researchers such as Long (1985a) suggest that in addition to being meaning-oriented, tasks should be connected to language use and need in the real world. Long claims that task is

> *a piece of work undertaken for oneself or for others, freely or for some reward. Thus examples of tasks include painting a fence, dressing a child, filling out a form.... In other words, by 'task' is meant the hundred and one things people do in everyday life, at work, at play, and in between. 'Tasks' are the things people will tell you they do if you ask them and they are not applied linguists. (1985a: 89)*

In the same way, Richards and Rodgers (2016: 224) argue that

> *a task is an activity or goal that is carried out using language, such as finding a solution to a puzzle, reading a map and giving directions, making a telephone call, writing a letter, or reading a set of instructions and assembling a toy.*

Long (1985a) and Richards and Rodgers (2016) emphasize that classroom tasks should be closely related to the tasks performed in the real world. In other words, the tasks provided to learners to learn the target language should be drawn from what they are expected to perform with that language outside the classroom (target tasks). It is to suggest that an analysis of preliminary needs is a vital stage in designing the TBLT syllabus to develop the course materials in terms of the authentic target tasks which the learners should be able to perform. It is to say that tasks contribute to the development of a more refined and comprehensive language curriculum, they make learners and teachers concentrate on language meaning and communicative use.

Other definitions confirm that task should be goal-directed. Bachman and Palmer (1996) argue that task is "an activity that involves individuals in using language for the

purpose of achieving a particular goal or objective in a particular situation". Similarly, Bygate et al. (2001) confirm that task is "An activity which requires learners to use language, with emphasis on meaning, to attain an objective". In their definitions, Bachman and Palmer (1996) and Bygate et al. (2001) suggest that even if the goal to be achieved is non-linguistic (painting a fence, for example- change the example) the performance of the task will require to use language. To put it another way, painting a fence "becomes a language task if it cannot be performed without some use of language" like understanding the partner's instructions or reading them from the paint pot" (Van de Branden, 2006: 4).

Other definitions of tasks go further by confirming that using language meaningfully is a complicated skill; therefore, learners have to depend on their non-linguistic and linguistic resources. Candlin (1987) claims that task is "one of a set of differentiated, sequential, problem-posing activities involving learners' cognitive and communicative procedures applied to existing and new knowledge in the collective exploration and pursuance of foreseen or emergent goals within a social milieu". Moreover, Breen (1987: 23) claims that

> *any structured language learning endeavour which has a particular objective, appropriate content, a specified working procedure, and a range of outcomes for those who undertake the task. 'Task' is therefore assumed to refer to a range of work plans which have the over all purpose of facilitating language learning from the simple and brief exercise type, to more complex and lengthy activities such as group problem-solving or simulations and decision-making.*

Since the use of language facilitates the performance of real-world tasks, TBLT naturally elicits a variety of cognitive operations that individuals must accomplish in order to conduct in the actual world. Consequently, one of the criteria influencing task complexity in a task-based approach is the cognitive demands imposed on learners (Robinson, 2001a). In other words, as there is a mapping between meaning and form, learners of the target language in TBLT classes should also pay attention to particular aspects of form during their meaningful use of language.

Through this review of various definitions of task, it seems that the best definition is that presented by Nunan (2004) which identifies most of the task's characteristics. Thus, task is "a piece of classroom work that involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is focused

on mobilizing their grammatical knowledge in order to express meaning" (Nunan, 2004: 4).

G. Conceptual Bases of TBLT

1. Learner-Centered

Learner-centeredness is the prominent feature of TBLT. It is to design tasks and methodology in a way that entails learners to use their linguistic and nonlinguistic resources. In other words, learners have a significant role in developing the course materials and activities based on their needs and interests and selecting linguistic resources during their production of the output (Vasylets, 2017). Before the TBLT approach, researchers and educators advocated the significance of developing the learning potential inside learners. In discussing L1 acquisition as a child's innate learning capacity, Chomsky asserts that

> *acquisition of language is something that happens to you; it's not something that you do. Language learning is something like undergoing puberty; you don't do it because you see other people doing it; you are designed to do it at a certain time. (1988: 173–174)*

It is to suggest that learning should not be imposed on learners, but it should be a response to their interests and needs. Skehan (1998: 95) argues that "as an approach to instruction, TBLT is theoretically defensible and practically feasible. The assumption here, then, is the fact that transacting tasks will engage naturalistic acquisitional mechanisms, cause the underlying interlanguage system to be stretched, and drive development forward". It is to suggest that the teaching approach, in which learners are asked to perform tasks, will enable them to acquire the target language naturally and easily like it occurs while acquiring the first language. Moreover, learners are given the opportunity to interact with others while performing the tasks and co-construct their knowledge, use language in authentic conditions, and discover the gap between what they know and what is expected of them to do. However, direct instruction has been advocated for more than three decades. In the literature on language teaching, learner-centeredness has always been praised as a value, yet it was superficially handled at the pedagogical level (Long, 2015). Teachers are frequently urged to use pedagogical techniques that may

prompt a good learning atmosphere such as paying attention to individual differences, applauding learners' accomplishments, and using games.

Bygate et al. (2001: 11) argue that task in TBLT is "an activity, influenced by learner choice, and susceptible to learner reinterpretation, which requires learners to use language, with emphasis on meaning, to attain an objective". By that, they assert the essential role that learners play in achieving task-based language teaching as they are encouraged to achieve a goal for which they use language. The learning process occurs according to learners' interests and needs to define the instructional materials, tasks, and activities. Moreover, teachers should take learners into account while selecting their teaching methodology. If the teaching methodology is not accepted or unfamiliar to the learners, negotiation is encouraged between teachers and learners about the used teaching strategies to motivate them to learn in such a way (Vasylets, 2017). It is this motivation that makes learners eager to learn and engage in meaningful communications that develop implicit and natural language learning (Ellis, 2003; Skehan, 1998). Moreover, designing the course content according to the learners' communicative requirements is crucial for language acquisition. It increases learners' self-respect by giving them a significant role in their own development (Long, 2015). Hence, teachers consider the learning environment to adjust the used methodology. Therefore, TBLT is contrasted with other approaches in which teachers play the dominant role in the classroom "whether with regard to selecting, sequencing and presenting course content, regulating classroom interaction, evaluating task performance or other aspects of educational activity" (Van de Branden, 2006: 10).

Long (2015) asserts that TBLT is learner-centered in two senses. First, the course content is developed according to an analysis of the learners' communicative needs. Second, the linguistic issues are treated according to learners' "psycholinguistically determined readiness to learn" rather than a pre-identified curriculum. Since teachability is determined by learnability, the response to linguistic issues is reactive in accordance with learners' internal syllabus, processing ability, and developmental stage. Thus, TBLT accommodates individual differences as the methodological principles (use of tasks, focus on form, elaborated input... etc.) are supported by theory and research in L2

research and the used pedagogical procedures are systematically selected to fit learners' characteristics.

2. Focus on Form

The fundamental feature of TBLT is focusing on meaning. However, it is insufficient and inefficient to learn a language by merely focusing on meaning. It is argued that focus-on-form is needed to improve learning acquisition and boost the efficacy of language learning processes (Norris & Ortega, 2009). Focus-on-form refers to the "attention to linguistic elements" (Vasylets, 2017: 7), which should be differentiated from "focus-on-forms", i.e., learning isolated linguistic structures. With focus-on-forms, the instructor or curriculum rather than the learner selects the form to be treated. Learners are less motivated and attentive to acquire the concerned form as they do not feel a need to. Thus, focus-on-form is also one of the specific features of TBLT.

Ellis (2005) defined focus-on-form in three senses. According to him, focus-on-form pedagogically "refers to attempts to intervene in the process of acquisition by inducing learners to pay attention to linguistic form while they are primarily concerned with decoding or encoding message content". It is to direct learners' attention to some linguistic structures which occur in the context of communication. This view of focus-on-form is confirmed by Ellis (2005) who calls this intervention "pedagogic procedures" (PPs) to induce students' focus on form. This intervention can be deliberate (i.e. the instructor or curriculum designer selects some linguistic form to draw learners' attention) or incidental (i.e. learners become interested in some forms when they feel a gap). Focus-on-form in discourse "refers to the preemptive and reactive devices" (ibid) which are used during a dialogue to highlight specific forms to the attention of learners while participating that gives significance to message delivery. These devices include 'queries' (questions about linguistic form) and corrective feedback (to reformulate learners' incorrect utterances). Moreover, the processes taking place in learners' minds as they pay close attention to some linguistic issues while engaging in communication is focus-on-form in psycholinguistic terms. These mental processes are called 'Noticing' through which learners become aware of the linguistic input and their output of the target language in meaningful contexts (Schmidt, 1990). This actually enhances language acquisi-

tion and learners become able to "systemise what they have observed about certain features of language, to clarify concepts and to notice new things" (Willis, 1996: 58).

> *Focus on form refers to how attentional resources are allocated and involves briefly drawing students` attention to linguistic elements (words, collocations, grammatical structures, pragmatic patters, etc.) in context, as they arise incidentally in lessons whose overriding focus is on meaning, or communication. The temporary shifts in focal attention are triggered by students' problems with comprehension or production. (Long, 1998: 40)*

Focus-on-form in TBLT serves two functions. The first function is related to the assumption that learners have a working memory with limited capacity and hence struggle to attend to form and meaning at the same time. They naturally prioritize meaning over form (Ellis, 2005); consequently, their attention should be attracted to the formal characteristics of the language. Second, it is claimed that learners can only gain interlanguage skills if they take form into consideration while they are concentrating on meaning. According to Doughty and Williams (1998: 4), "the fundamental assumption of FonF instruction is that meaning and use must already be evident to the learner at the time that attention is drawn to the linguistic apparatus needed to get the meaning across". They claim that there is a 'cognitive window for the provision of focus on form' of up to 40 seconds; which means that learners can keep information in working memory for this period of time during which they can focus on the form of which temporally stored in their memory.

H. Role of Teacher in TBLT

TBLT is characterized as a "learner-centred approach to language teaching" in comparison to the traditional "teacher-dominated" approaches (Van den Branden, Bygate & Norris, 2009: 3). Therefore, the role of the teacher in this approach has got little attention both in research and pedagogical literature (Van de Branden, 2016). Rather, some researchers have minored the role of teachers in task-based language teaching. Ellis and Shintani (2014: 135) argue that TBLT is an approach that "aims to develop learners' communicative competence by engaging them in meaning-focused communication through the performance of tasks.", adding that "a key principle of TBLT is that even though learners are primarily concerned with constructing and comprehending messages, they also need to attend to form for learning to take place.". It is to imply that

learners are the key agents in TBLT classroom who are expected to autonomously perform tasks with the teacher standing aside while language learning occurs as a natural outcome. However, this view is significantly noteworthy in view of the previous substantial literature on teachers' significant role in instructed learning (Van de Branden, 2016). Hattie (2012: 169) refers to teachers as "the major source of controllable variance" in an education system and as "the major players in the educational process" (ibid: 25). In the same vein, McKinsey and Company (2010) identify the teacher as the most significant element in improving educational effectiveness. As a result, they assert that "the quality of an education system cannot exceed the quality of its instructors" (McKinsey & Company, 2010: 16). Moreover, Van de Branden (2016) argues that there are definite limits to learning independently; learners will need the assistance of others, particularly for acquiring complex skills. The learning process includes correcting mistakes and misconceptions, overcoming challenges, developing new knowledge, and improving behaviours. The assistance of others will frequently be useful and vital for this to take place (Hattie & Yates, 2014). In the classroom, learners can get support from their peers, but the assistance of a more knowledgeable partner will be required. This view of the significant role of teachers in the TBLT classroom is confirmed by Vygotsky in his Sociocultural theory in which he argues that learners will need the help of the more knowledgeable one to move through ZBD and that is the teacher in the classroom.

It is to suggest that the teacher's role is not reduced or ignored in TBLT classes as criticized by some researchers. In fact, the teacher plays a critical role in the TBLT classroom, since he is the provider of the analysis of learners' needs which determines how the tasks should be assigned to learners and their required outcomes, he offers corrective feedback and is the one who should be aware of individual differences and modify the teaching methodology accordingly. In addition, in order for all of this to take place in a good cooperative learning environment, it is the responsibility of the teacher alone (Bryfonski, 2019).

However, many studies emphasize the role of teacher as needing more experience and resourcefulness than traditional teaching methodologies of focus-on-forms such as the PPP approach (e.g. Van de Branden, 2016; Bryfonski, 2019). Long (2016) argues that teachers in TBLT classroom need to be more creative and make more deci-

sions in order to personalize input and corrective feedback to specific learners. In the PPP approach, teachers usually use a one-size-fits-all syllabus and all what they do is to present "lessons planned down to the last drill and exercise by an unseen textbook writer and assumed appropriate for all students in a group on the same predetermined day" (Long, 2016: 25). A number of researchers argue that educating teachers about TBLT is one of the real issues in developing and implementing the TBLT approach (Long, 2016; Van de Branden, 2016; Ellis, 2017). Van de Branden (2016: 164) claims that "both in the research literature on tasks and second language learning and in the pedagogical literature on task-based language teaching, the role of the teacher has received scant attention". Similarly, Ellis (2017: 508) puts teacher education programs and their ability to "overcome the problems faced in task-based teaching" on his own list of "real issues" in the development and performance of TBLT classes. In fact, it is difficult to improve teachers' ability to properly use TBLT in their classes and action research (Van de Branden, 2016). Therefore, the higher quality of TBLT pedagogy over traditional approaches depends on training teachers to implement this approach in language classes (Bryfonski, 2019).

I. Assessment in TBLT

Any approach applied in the classroom should be evaluated in order to ensure it is actually delivered and to determine if the learning goals have been achieved. Long (2015) argues that before evaluating the outcome, it is necessary to evaluate the process involved. Process assessment is carried out through collecting data during the learning process. Depending on the collected data concerning the learner's performance and the effect of used teaching methodology and learning environment, some decisions are taken to improve the teaching process (Van de Branden, 2006). In the TBLT approach to language teaching, the aim is to prompt learners' ability to meaningfully use language for communication. Thus, assessment should be to evaluate the learners' acquiring of this ability. In other words, assessment in TBLT should be carried out to determine if learners can utilize the target language in their tasks rather than to examine their knowledge of this language (Long & Norris, 2000). However, to put this concept of assessment into practice, TBLT assessment is to be different from the assessment of traditional ap-

proaches to language teaching. Long and Crookes (1992: 45) argue that the assessment of learning in TBLT should be arranged "by way of task-based criterion-referenced tests, whose focus is whether or not students can perform some task to criterion, as established by experts in the field, not their ability to complete discrete-point grammar items." Language learners should be given tasks that motivate them to use language in order to assess their proficiency in using language in real-life communication. In such tasks, the actual performance of the learners is assessed. In fact, criterion-referenced test is suitable for assessing task-based language teaching because both of them are concerned with learners' performance. Glaser and Nitko confirm that

> *a criterion-referenced test is one that is deliberately constructed to yield measurements that are directly interpretable in terms of specified performance standards. Performance standards are generally specified by defining a class or domain of tasks that should be performed by the individual. (1971: 653)*

However, Skehan (2001) argues that task-based assessment entails considerably more than assigning functional tasks to learners. First, the performance of the test should be rated and this raises the question about the meaning of 'performance to criterion'. Instructors who select a linguistic perspective in assessing learners' performance of tasks will focus on the learners' need to grasp or produce some specific linguistic aspects (vocabulary, grammatical rules.. etc.) to pass the task-based test. While who select a real-world perspective will primarily emphasize the outcome, if the tasks are performed effectively, (if the waiter brought what the testee ordered, for example) (Van de Branden, 2006). To set concrete factors to rate might be problematic, particularly with tests that need linguistic output. In other words, the features which are intended to be tested are abstract such as learning motivation, aptitude, and language proficiency. Nunan (2004: 142) argues that these qualities are measured by administering "a test of general language proficiency, and then, based on the results, infer that Student X is at an 'upper-intermediate level of proficiency', while Student Y is at a 'false beginning level of proficiency'". This is one of numerous difficulties that task-based test developers encounter. The other difficulties include how to design task-based tests that guarantee reliable scores (Messick, 1994). For more than two decades, tasks have been used for analysis in SLA and L2 teaching, only recently it has started to be used for L2 testing and to carry research in this field to study the issues of this type of assessment. In other words, "in

task-based language teaching, the 'task' is used as the basic unit of analysis at the levels of goals ('syllabus'), educational activities ('methodology') and assessment" (Van de Branden, 2006). In these levels, 'task-based' leads to the conclusion that:

- In L2 course, the attainment goals are developed according to a study of the reason behind learning the target language and what will be needed to use it ('target tasks');
- The language proficiency needed to implement these target tasks is acquired by requesting and encouraging learners to perform similar tasks (pedagogical tasks);
- Learners' language proficiency is directly assessed by evaluating how well they are able to do the target tasks (assessment tasks').

J. Task Complexity

Tasks are essential in the study of human behaviour as they are the activities that keep human life moving forward (Liu & Li, 2012). These tasks have been assigned different characteristics that have an impact on L2 learner's performance among which is complexity. This characteristic has been the subject of numerous studies and hence defined variously by different researchers. As discussed earlier, complexity can be linguistic or cognitive, and "it can refer both to properties of language performance… as well as to properties of tasks themselves" Choong (2014: 27). In this section, we are concerned with cognitive complexity. Robinson (2001a: 29) claims that task complexity is "attentional, memory, reasoning, and other information processing demands imposed by the structure of the task on the language learner". Similarly, Choong (2014) argues that task complexity is "the result of information processing demands imposed by the structure of the task on the language learner" (2014: 33). While, Robinson, Cadierno, and Shirai (2009: 535) refer to task complexity as "the intrinsic cognitive demands of a task which contribute to between task variation in spoken and other kinds of performance for any one learner performing a simple and a more complex version". On the other hand, Wood (1986) has based his definition on earlier definitions of task complexity to theorize three types of complexity; component, coordinative, and dynamic complexity.

1. Component Complexity

The component complexity, to start with, originates in the concept of multiple acts. That is to say, a task is performed by executing a number of acts that require the processing of various information cues. Yet, Wood (1986) argues that the knowledge and required skills of a component complexity are affected by component redundancy. He further explains his argument stating that component redundancy is a task characteristic that indicates the crossed demands of different task inputs. That is to say, as the amount of knowledge and required skills for overlapping acts is the same, the overall needed skills and knowledge are reduced in a complex task that is characterized by component redundancy. Component complexity is measured by the number of different task acts. Therefore, overlapping acts reduce the complexity of the task.

2. Coordinative Complexity

Wood (1986) defines coordinative complexity as the nature of the connection between task inputs and products stating that it includes elements of how well and in which way information cues, task acts, and task products are connected along with task input sequence. In other words, coordinative complexity entails how much time a task performance takes as long as with frequency, intensity, and location. He also argues that in a task characterized by coordinative complexity, performance knowledge and skill requirements increase simultaneously with the increase of complexity in terms of frequency, timing, location, and intensity.

3. Dynamic Complexity

As coordinative complexity is the nature of the relationship between task input and product, dynamic complexity is connected with the stability of task factors and how that would impact this relationship. It is associated with the occurrence of possible changes around the task that affect how task input and task product are connected. In other words, the relationship between task inputs and task products is not static; therefore, there could be changes in the required skills and knowledge needed to perform the task. That being the case, to perform a task characterized by dynamic complexity, it is necessary to keep track of the changes in task components (Wood, 1986).

K. Research on Task Complexity and Language Performance

Task-based Language Teaching (TBLT) is a language teaching methodology that is mainly based on designing teaching programs and individual lessons on a task (Ellis, 2009). TBLT researchers view task not only as a medium of delivering syllabi, but it can be itself part of the syllabus. Therefore, they have been looking for a framework for presenting pedagogical tasks in the syllabus.

In an attempt to theorize the basis for designing and sequencing tasks in task-based language teaching (TBLT) pedagogical approach, numerous studies have been conducted on the nature of task and its influence on areas of language production, namely complexity, accuracy, and fluency (CAF). Mainly, two different views have been proposed in this research based on the impact of task complexity on language production CAF. First is Skehan's (1996, 1998) Limited Attentional Capacity Model or Trade-off Hypothesis which claims that learners' information processing capacity allows them to target their attention only on one of the three language areas (i.e., complexity, accuracy, or fluency). Contradicting Skehan's model comes Robinson's (2001b, 2005) Cognition Hypothesis which claims that increasing task complexity would develop the complexity and accuracy of learners' production simultaneously, but decreases fluency.

Both theories revolve around the notion of increasing the cognitive complexity of tasks to approximate the demands of real-life target tasks. Therefore, "pedagogic L2 tasks could be sequenced for learners on the basis of increases in their cognitive complexity, rather than on the basis of linguistic grading and subsequent sequencing of the language input to tasks" (Robinson, 2003: 45).

1. Limited Attentional Capacity Hypothesis

Skehan (1996) defines task as an activity that focuses on meaning and is connected to the real world in one way or another. He also adds that task-based instruction focuses on completing the task whose performance is evaluated in regard to its outcome. Skehan and Foster (2001) then argue that a task-based teaching methodology focuses on merely performing the task, hence ignoring target language ability and development. Rejecting the concept of a complex task resulting in better language performance, Skehan (1996, 1998) argues that when performing a complex task, the learner would focus

their attention on only one part of the task as the three language areas (i.e., complexity, accuracy and fluency) compete for attentional resources. Skehan "conceive(s) attention as being a capacity-limited single pool of resources" (Gilabert et al., 2009: 369). He believes that due to the limited attentional resources of learners, a trade-off would occur between form and meaning when performing a task. In other words, the limitation of L2 learners' information processing capacity allows them to focus their attention only on one of the three constructs of CAF (Skehan & Foster, 1999); hence, they would prioritize either complexity, accuracy, or fluency in their language production. Therefore, Skehan (1996) proposes that a systematic sequence of tasks is important to direct the learner's attention to achieve balanced attention to the areas of complexity, accuracy and fluency. He argues that bad choice of tasks can negatively affect learners' language production as a very difficult task would over-emphasize fluency as the learner's attention will be focused on meaning, and similarly, a very easy task is likely to present no challenge for the learners and therefore, would not achieve effective complexity, accuracy and fluency. Thus, the task should not be too difficult that it is cognitively demanding nor should it be too easy that learners are not challenged to engage in performing the task to meet its demands.

In terms of language production complexity, accuracy, and fluency (CAF), Skehan's hypothesis argues that since learners cannot pay equal attention to all areas of production, this lack of attention results in the reduction of accuracy and complexity in favour of fluency. In other words, it suggests that a complex task is unlikely to enable learners to achieve better performance in all three aspects of language performance at the same time (Skehan and Foster, 1999). Skehan (1998), therefore, suggests sequencing tasks based on characteristics that result in complexity, accuracy, and fluency with a suitable task difficulty whose decisions is made based on either syllabus structure, cognitive complexity, or the level of communication stress. He further discusses cognitive complexity as resulting from the degree of familiarity with task, topic and genre, information category, and requirements of task processing, planning, organization and clarification.

In this theory, Skehan (1996, 1998) is influenced by the information processing perspective (Choong, 2014; Vasylets, 2017) which is a theoretical framework for L2

acquisition which focuses on cognitive processes occurring while learning. In L2 acquisition, "simultaneous processing of natural, communicative input for meaning (i.e., semantic information) and form (i.e., linguistic code feature) rarely happens" (Han, 2008: 47), it is because learners "process input for meaning before they process it for form" (VanPatten, 2004: 14). Trading off between CAF occurs because of the limited capacity of learners' attentional resources and cannot be allocated to both form and meaning. Thus, it is difficult to process both form and content. Increasing task complexity creates a burden on the learners' resources and, hence, affects their language production. Because of the scarcity of their attentional resources, they would direct their attention to meaning (fluency) or form that is divided into language control (accuracy) and restructuring (complexity) depending on context or orientation. Skehan (1996: 50) speculates that "performance is likely to prioritize fluency, and relegate restructuring and accuracy to lesser importance". High cognitively demanding tasks will direct learners' attention to meaning (fluency), and less attention will be located to form prioritizing complexity or accuracy but not both of them. That is to say, Skehan (1996, 1998) does not only speculates that task complexity makes learners prioritize between meaning (fluency) and form (accuracy and complexity) but also

> *that complex tasks force learners to either adapt an approach where they use more language for which they have developed more automatic processing (increasing accuracy) or an approach where they use language that requires more controlled processing (increasing complexity) but are unable to pay much attention to accuracy. (Choong, 2014: 39).*

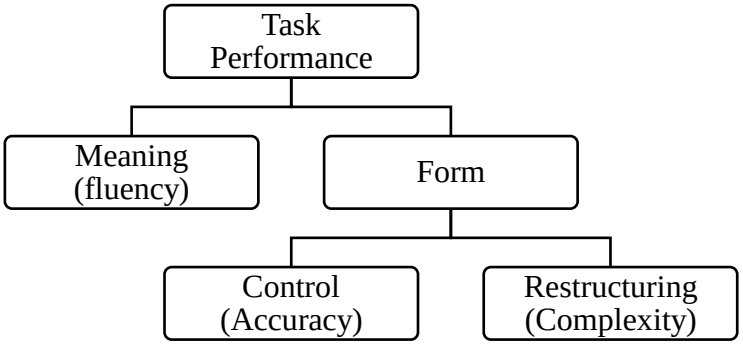

Figure 1 Task Performance Dimensions, Adopted from Skehan (2008)

2. Cognition Hypothesis

Questioning Skehan's proposal about learners' limited capacity which, as Skehan states, does not allow them to focus on more than one area in their language production; either complexity, accuracy or fluency, Robinson's Cognition Hypothesis proposes that increasing the cognitive complexity of a task results in learners' interlanguage development and better production. Robinson asserts that "simple task demands would elicit simpler pragmatic mode of production, characterized by loose coordination of clauses and little use of grammatical morphology" (Vasylets, 2017, 24), while in cognitively demanding tasks learners would use more elaborated forms and structures to express complex thoughts. While Skehan (1998) maintains that learners have limited attention resources, Robinson believes that they have multiple attention resources which they employ to perform a task.

> *The central claim is that tasks with greater cognitive load will engage L2 learners in complex thinking, and, thus, create favorable conditions for language development (see also Cromer, 1974). The need to encode complex conceptual representations will also beneficially affect performance, as it will gear learners towards higher accuracy and complexity of production. (Vasylets, 2017: 21)*

The difference between Skehan and Robinson's theories is that while Skehan confirms that high cognitive demands of tasks make learners focus on accuracy or complexity that may accompany fluency, Robinson adheres to the view of multiple attentional pools that learners draw on for parallel increase in complexity and accuracy of production.

This theory suggests how tasks should be selected and sequenced in the syllabus to facilitate L2 acquisition and development. High cognitive demands of tasks direct learners to perform them in particular ways. Manipulating task complexity by increasing the cognitive demands along specific dimensions increases L2 production accuracy and complexity as task complexity directs learners' attention to task demands in order to meet its functional demands imposed by the task design (Robinson, 2001a, 2003).

Robinson (2011a) argues that sequencing tasks based on their level of difficulty gradually moving from a simple to a more complex task results in the successful performance of complex tasks along with language learning. Thus, as part of task-based language teaching methodology and syllabus design, Robinson (2001a, 2001b) proposes

criteria for sequencing a cognitively complex task. He argues that these criteria are to be used to make decisions about sequencing tasks and as a framework for studying how increasing task complexity affects L2 production, comprehension, and learning. Robinson predicts that this increase in task complexity will have effects

> *on the quality of language performance, and comprehension, and also about the effects on learning, in the sense of progress through developmental sequences and stages, and in the sense of uptake of new language input during task performance. Bearing in mind the variation attributable to individual differences in the availability of cognitive resources, I argue that increasing the cognitive demands of L2 tasks will in general (i.e., when research uses group comparisons of performance on tasks at different levels of complexity) lead to greater functional differentiation of learner language use, and greater attention to output, and depth of processing of input, with the consequences of (a) speeding development through stages of interlanguage and of (b) increasing the likelihood of attending to, and noticing aspects of input presented to learners during task activities, and retaining these for subsequent use. (Robinson, 2003: 53)*

- **Triadic componential framework**

Robinson (2001b, 2005) proposes the triadic componential framework to distinguish three categories of factors that affect language learning and task performance, namely task complexity (cognitive factors), task conditions (interactional factors), and task difficulty (learner factors) as illustrated in Table 1.

Table 1 A Triad of Task complexity, Task Condition, and Task Difficulty Factors (Robinson, 2005: 5)

Task complexity (cognitive factors)	*Task conditions* (interactional factors)	*Task difficulty* (learner factors)
(a) resource-directing e.g., ±few elements ±Here-and-Now ±no reasoning demands	(a) participation variables e.g., open/closed one-way/two-way convergent/divergent	(a) affective variables e.g., motivation anxiety confidence
(b) resource-dispersing e.g., ±planning ±single task ±prior knowledge	(b) participant variables e.g., same/different gender familiar/unfamiliar power/solidarity	(b) ability variables e.g., working memory intelligence aptitude
Sequencing criteria	*Methodological influences*	
Prospective decisions about task units	On-line decisions about pairs and groups	

In this triad, Robinson (2001b, 2005) differentiates between task complexity and task difficulty. Task complexity refers to the external factors that would affect the performance of the same learner for different tasks, (intra-learner variability) represented by resource-directing and resource-dispersing dimensions. Task difficulty refers to internal factors such as motivation, aptitude, anxiety, and intelligence (inter-learner variability) which represent learners' differences. Moving forward, Robinson also emphasizes that task difficulty and task conditions cannot be used as a basis for making decisions about sequencing tasks and that tasks are rather sequenced based on task complexity. For this reason in Cognition Hypothesis literature, researchers manipulate task complexity along resource-directing dimensions and resource-dispersing dimensions.

Robinson (2003) states that task-based learning has two axes: development (language acquisition) and performance (production). Language development and performance are affected by the manipulation of task cognitive demands through the dimensions of resource-directing and resource-dispersing. Resource-directing variables are +/- few elements (few versus many distinguished elements in a task), +/- Here-and-Now (events happening now versus events that happened in the past), and +/- reasoning demands (simple transmission of facts versus making arguments). Choong (2014: 11) defines resource-directing dimensions are "those that have the potential to direct learners' attentional resources to specific, task-relevant aspects of the language code, thereby helping learners meet the extra demands on language use caused by potential increases in task complexity". Robinson (2001a, 2001b, 2003, & 2005) actually argues that manipulating task complexity by these dimensions would direct learner's attention to language features and thus improve the complexity and accuracy of their production, but not fluency. Resource-dispersing variables are +/- planning (learners are giving or not planning time before performing the task), +/- single task (the task has one thing or more to be performed), +/- prior knowledge (learners use their prior knowledge or not to perform the task). Robinson contends that increasing task complexity along these dimensions would deplete learners' attentional resources and cannot allocate their attention to relevant linguistic aspects. As a result, this increase in task complexity would affect the CAF of learners' production. However, manipulating task complexity through these variables would enhance automatization and access to the current L2 repertoire

Thus, dimensions of task complexity, namely resource-directing and resource-dispersing, can be manipulated to increase or decrease task cognitive demands. Manipulating a task along the resource-directing dimensions in which, for example, features of (here and now) and (few elements) are present (i.e., + here and now, + few elements) is less demanding than a task in which these features are absent (i.e., - here and now, - few elements). Robinson (2001a, 2003) claims that increasing task complexity in terms of the cognitive/conceptual variables of resource-directing dimensions challenges learners' cognitive and information-processing abilities. It "has the potential to connect cognitive resources, such as attention and memory, with effort at conceptualization and the L2 means to express it, thereby promoting L2 development" (Robinson, 2011a: 14). In the same way, manipulating task complexity along a resource-dispersing dimension, for example, planning time and prior knowledge, results in a less demanding task in which these features are present in contrast to a task in which they are absent. The performative/ procedural variables of resource-diseasing "disperse attention over many linguistic and other features" (Robinson, 2011b: 15). This is because increasing task complexity along these dimensions cannot make learners focus their attention on specific language features. Learners' attention will be depleting over many nonspecific areas of L2. This, consequently, would lead to a trade-off between the CAF of learners' production. In other words, tasks should be simple in terms of resource-dispersing variables, otherwise increasing task complexity would not be beneficial. To increase task complexity along both dimensions of resource-directing and resource-dispersing, its impact is "likely to be weakened or negated" (Robinson & Gilabert, 2007: 167).

Robinson (2001a, 2003) further explains that cognitive factors contribute to task complexity in contrast to learner factors which impact task difficulty which is concerned with learners' attitude towards task demands. Hence, task difficulty is connected with learners' motivation to complete and ability to perform a task. Therefore, while task complexity is used as a basis to discuss differences in a learner's performance of tasks with less or more cognitive demands, task difficulty is used to explain performance differences between two learners. As for task condition factors, Robinson connects them to features of participation or features of the participant; in other words, task performance

requirements (e.g., information including receiver or sender, or both) and learners' variables (e.g., gender).

Numerous studies have focused on examining the two opposing hypotheses proposed by Skehan's Limited Attentional Capacity Model and Robinson's Cognition Hypothesis on language production (e.g., Choong, 2014; Hosseini, 2010; Johnson et al., 2012; Johnson & Nicodemus, 2015; Kuiken &Vedder, 2007, 2008; Ong & Zhang, 2010). Yet, not completely rejecting nor confirming one of the two views, these studies have partially supported one or partially rejected the other.

Choong's (2014) study, to start with, states that task complexity decreases written language production complexity but increases accuracy while Kuiken and Vedder (2007, 2008) argue that task complexity results in greater written language accuracy with no effect on written language production complexity. Therefore, these three studies generally support the Cognition Hypothesis claim that task complexity increases written language accuracy, yet they support the Limited Attentional Capacity Model claim that learners can give attention to only one area of language production (i.e., complexity, accuracy, and fluency), which is accuracy in this case.

Unlike Choong (2014) and Kuiken and Vedder (2007, 2008), Hosseini's (2010) research totally supports the Limited Attentional Capacity Model. The results of this study show that task complexity increases written language fluency, yet does not affect either written language complexity or accuracy. However, contradicting Choong (2014), Kuiken and Vedder (2007, 2008) and Hosseini (2010), Ong and Zhang's (2010) study has rejected the Limited Attentional Capacity Model proposal which claims that learners' attention can be focused on only one area of language production and has partially supported the Cognition Hypothesis claim that task complexity increases language production complexity.

L. Research on Task Complexity and Writing

In an attempt to theorize the basis for designing and sequencing tasks in task-based language teaching (TBLT) pedagogical approach, numerous studies have been conducted on the nature of task and its influence on areas of language production, namely complexity, accuracy, and fluency (CAF). TBLT theories are mainly intended for oral produc-

tion. However, written communication is part of "the various domains of lifetime endeavour outside the language classroom" Robinson (2011a: 11). Therefore, similar attention given to oral production in theoretical and empirical TBLT research should be paid to written production. Yet, writing has not received the due interest as many linguists confirm (e.g., Byrnes& Manchón, 2014; Salimi& Dadashpour, 2012; Vasylets, 2017). Vasylets (2017: 89) proclaims that "to date, the available empirical evidence for Robinson`s predictions concerning the effects of resource-direction on L2 performance comes mainly from studies of oral production, and the results have been mixed and inconclusive". There are few studies that have investigated this theory in relation to written production. Byrnes and Manchón (2014) believe that the current interest in writing within the TBLT field would lead to the expansion and modification of the task's existing definitions and characterizations and explore other aspects that have not been covered by earlier TBLT research.

In his study, Choong (2014) investigated the impact of manipulating task complexity along the resource-directing factor (-/+ reasoning demands) on L2 language production complexity, accuracy, and fluency (CAF). He first conducted a pilot study to measure the impact of reasoning demands and provide context on L2 oral production syntactic complexity. For this study, the participants were grouped into three groups; two comparison groups and one experimental group. Each participant in the experimental group and one of the comparison groups performed four narrative tasks. The tasks were manipulated along the factors (+/- contextual support) and (+/- reasoning demands). The results of this pilot study showed that task complexity led to an increase of content complexity but there was no effect on syntactic complexity. After conducting the pilot study, the researcher moved forward with the main study that examined the effect of task complexity on L2 written production CAF. The participants performed a video-retelling task in which complexity was manipulated along reasoning demands at four levels, namely no, low, moderate, and high reasoning demands. The participants were grouped into two groups; an experimental group consisting of 43 L1 Japanese speakers learning English as L2, and a control group consisting of 17 L1 English speakers. The researcher argues that including L1 English speakers as the control group can help decide whether the impact task complexity has on written language is related to task complexity demands or

language proficiency. The results of this study showed that written language production complexity decreased with the increase of demands while accuracy increased with the increase of complexity. However, the study had limited conclusions about fluency as time was not measured accurately to conclude the number of words in a certain time due to the fact that the participants used software to perform the writing task. In conclusion, the study generally did not agree ultimately with the Cognition Hypothesis.

Johnson, Mercado and Acevedo (2012) investigated the impact of manipulating task complexity along the resource-dispersing factor (+/- planning) on L2 written production complexity and fluency. More specifically, they examined the effect of pre-task planning sub-processes (i.e., idea generation, organization, and goal setting) on L2 writing complexity (i.e., grammatical complexity, and lexical complexity), and fluency. The study was conducted on 968 students of English as a foreign language (EFL) whose first language (L1) is Spanish randomly assigned to five groups; a control group, three groups each of which had one pre-task planning condition (i.e., idea generation, organization, and goal setting), and a group with a combination of two planning conditions (i.e., goal setting and organization). After assigning the participants to groups, they were given ten minutes to work on the pre-task planning activity, and then given thirty minutes to write their essays. The results of this study showed that pre-task planning had no effect on L2 production complexity (i.e., lexical complexity and grammatical complexity). It affected fluency, but the impact was not significant. In conclusion, this study showed that decreasing task complexity had no significant effect on L2 written production complexity, and accuracy, and almost no effect on L2 written production fluency.

The Cognition Hypothesis claims that manipulating task to be more complex along the resource-dispersing factors negatively impacts language production complexity, accuracy, and fluency (CAF). However, the results of this study showed that manipulating task complexity along resource-dispersing factors does not affect language production CAF.

Johnson and Nicodemus (2015) replicated Johnson, Mercado and Acevedo's (2012) study. In an explanation for their results, Johnson et al. (2012) argue that perhaps pre-task planning did not have an impact on the participants' written language production because these participants did not achieve the minimum threshold of language proficiency, and their low proficiency caused directing the working memory resources to the

process of translation and composing. Johnson and Nicodemus (2015), therefore, attempted to investigate this explanation. They examined this explanation by eliminating the proficiency variable by conducting the study on 90 L1 speakers rather than L2 learners. The participants were randomly assigned to four groups with four conditions; first was the control group, second was a group with the idea generation pre-task activity, third was a group with the organization pre-task activity, and fourth was a group with the goal setting pre-task activity. This study did not have a group with the combination of two pre-task activities because the group with this combination in Johnson et al. (2012) could not finish the combination of the pre-task activities in the time given to them. The groups were given ten minutes to finish the pre-task activity, and then thirty minutes to write their essays. The results of this study showed no impact of pre-task planning conditions on L1 written production complexity, accuracy, and fluency. Therefore, the present study did not support Johnson et al. (2012) hypothesized explanation of the impact of threshold proficiency on the participants' translation and composing process. Thus, it also suggests that decreasing task complexity has no effect on written language production complexity, accuracy, and fluency. This study contributes to the discussion of how manipulating task complexity affects written language production CAF. It specifically addresses the impact of manipulating task complexity along the resource-dispersing factors.

Kuiken and Vedder (2007) tested and compared Skehan's Limited Attentional Capacity Model and Robinson's Cognition Hypothesis to investigate the impact of task complexity on L2 written production accuracy, complexity and lexical variety. The participants in this study are 159 learners whose L1 is Dutch, 84 of them are L2 learners of Italian, and 75 are L2 learners of French. They performed two tasks manipulated for cognitive complexity. The participants were given a prompt in Dutch that explained to them the task which was writing a letter to a friend about choosing a holiday destination out of five choices. Task complexity was manipulated along a number of elements factor as the number of requirements was six in the complex task and three in the less complex one. All the participants performed both tasks (i.e., complex, and non-complex). The results of this study showed that both groups (i.e., French learners and Italian learners) produced fewer errors in complex tasks. This decrease in lexical errors, the researchers ar-

gue, indicated an increase in accuracy. However, the two groups showed different performance in terms of written language production complexity. That is, while the Italian learners produced more frequent words in the complex task and more infrequent words in the less complex task, the French learners produced more infrequent words in the complex task. The researchers, therefore, argue that in terms of the effect of complex task on language production complexity, the findings of their study agree with Robinson's Cognition Hypothesis in the case of French learners but agrees with Skehan's Limited Attentional Capacity Model in the case of Italian learners. The researchers also argue that their results showed that the level of proficiency did not affect the influence of task complexity on accuracy and lexical variety. In conclusion, the results of this study partially agree with the Cognition Hypothesis which claims that task complexity increases language production accuracy, and complexity, and partially agree with the Limited Attentional Capacity Model which claims that a less complex task leads to an increase of language production complexity. However, it can be argued that the variety of results is due to the variety of L2 of the participants in this study.

This study provides empirical support to the discussion of how task complexity affects written language production complexity, accuracy, and fluency. It supports the Cognition Hypothesis as the participants' written language production complexity, and accuracy increased when performing the complex task. However, it does not completely support the Cognition Hypothesis because there was a different impact on written language production when the participants' L2 differed.

In line with Kuiken and Vedder (2007), Kuiken and Vedder (2008) also compared and tested the Cognition Hypothesis and the Limited Attentional Capacity Model to examine the effect of task complexity on L2 written language production in terms of complexity, accuracy and lexical variety. The participants in this study are 91 L2 university learners of Italian and 76 L2 learners of French. The participants had to write a letter to a friend to explain a choice of a holiday destination out of five options. They were given a task prompt in their L1, Dutch. The task was manipulated along the number of requirements, so the complex task had six requirements while the non-complex (i.e., less complex) task had three requirements. To measure accuracy, the number of errors was counted at three levels of error types; the first was the minor deviation of spelling, grammar or

meaning that did not affect meaningful comprehension, the second level of error was serious deviation of spelling, grammar or meaning, and the third level of errors was errors that made the text incomprehensible. In terms of measuring complexity number of clauses per T-unit was used, and lexical variety was measured by dividing the number of words by the total number of word tokens. The results of this study showed that in the case of L2 learners of Italian, fewer errors were made in the complex task than in the less complex task (i.e., they produced more accurate language in the complex task than in the non-complex one), but there was no significant difference in terms of complexity or lexical variety. Similarly, the L2 learners of French language production showed fewer errors in the complex task in comparison to the less complex one, but the difference in the number of errors was significant only in the first and second levels of errors, but not the third level. Besides, their language production also did not show a significant difference in complexity or lexical variety across the complex and less complex tasks. In conclusion, using different measures of language production complexity, accuracy and lexical variety than used in Kuiken and Vedder's (2007) study, the results of this study agree with the Cognition Hypothesis in one aspect which is that task complexity increases accuracy, but there was no effect of task complexity on written language production complexity or lexical variety. This study confirms the increase of written language production accuracy in a complex task, but with no effect on language production complexity.

On the other hand, Salimi and Dadashpour (2012) have got very different findings in their study of Task Complexity and Language Production Dilemmas. They have analyzed the writings of 29 EFL Turkish learners to investigate the impact of task complexity on the CAF of their written performance. They have adopted Glibert's (2007) "Fire chief task", where participants in the simple task are asked to write an essay according to a picture of a building where a fire had broken out and many people needed to be saved. The participants have to write how they would rescue the people and justify their actions. In the simple version of the task, all the people are facing the same degree of anger, and in the complex task, there are different types of people that the participants have to deal with (an old man, a pregnant woman, an injured person) and take more decisions. The findings reveal an improvement in the fluency and complexity in the writings of the complex task but no difference in terms of accuracy. This is in contrast to the findings

of Kuiken and Vedder (2007 & 2008) who detect an increase in the accuracy of the complex task. Salimi and Dadashpour (2012) attribute these results to the inability of the learners to focus on form and content at the same time of writing. This confirms Skehan's theory of Limited Attention Capacity that task complexity makes learners tradeoff between form and meaning.

Hosseini (2010) also studied the impact of task complexity on L2 written production complexity, accuracy, and fluency (CAF). Fifty-two L2 learners performed two different narrative writing tasks in which they had to write stories based on pictures. The task complexity was manipulated along the resource-directing factor (+/- here-and-now), and the resource-dispersing factor (-/+ contextual support). In the first task, therefore, the participants had to write the narrative in the present (i.e., here-and-now) with contextual support. In the more complex task, however, they had to write the story in the past (i.e., there-and-then) but without contextual support. The results of this study showed that task complexity resulted in more fluent written language production, but there was not a significant effect on either complexity or accuracy. The study rejects the Cognition Hypothesis claim that task complexity increases language production complexity, and accuracy. On the contrary, task complexity improved the fluency of participants' written production and had no effect on the complexity and accuracy. It, however, supports the Limited Attentional Capacity Model which claims that a complex task increases language production fluency.

Moreover, Ong and Zhang (2010) investigated the effect of task complexity on L2 written production complexity and fluency of 108 EFL learners. The assigned task was manipulated along three factors; the availability of planning time, the provision of ideas and macro structure, and the availability of draft. The participant then performed the writing task in three conditions. The first condition is the extended pre-task condition in which the group was instructed to plan their writing for 10 minutes and then start writing for 20 minutes, the second condition is the free writing condition in which the group was instructed to start writing without any planning for 30 minutes, and the drafting condition in which the control group was instructed to produce their first draft in 30 minutes. Task complexity, therefore, was manipulated with these conditions with the task without planning time or drafting as the most complex task, and the task with planning time as

the less complex task. Another level of manipulation of task was manipulating the amount of written assistance provided to the participants. In the first case, participants were provided with a topic, ideas and macro-structure, in the second case they were provided with a topic and ideas, and in the third case, they were provided only with a topic. Thus, the most complex task would be the task in which the participants were only provided with the topic of the essay, and the least complex is the task where the participants were provided with the topic, ideas and macro structure. The third level of manipulation was the availability of a draft. That is, in the less complex task, the participants were allowed to use the draft of their writing during revision, but in the complex task, the participants were not allowed to use their draft during revision to finalize their written essay. Thus, in the no draft condition, the task placed more processing demands on the participants' working memory. Ong and Zhang (2010), therefore, argue that according to Robinson's Componential Framework, they manipulated task along the resource-dispersing factors (-/+ planning time) and (-/+ prior knowledge), and along the resource-directing factor (-/+ draft availability). The results of this study showed that the complex task (i.e., free writing and no planning time) resulted in more fluency and accuracy of written language production than the less complex tasks. The results also showed that the complex task that was manipulated along the (+/- prior knowledge) factor, in which participants were only provided with the essay topic, resulted in greater lexical complexity than the less complex tasks. In addition, manipulating task along the (+/- draft availability) factor also affected written language production complexity and fluency. That is to say, the more complex task with the (- draft availability) condition resulted in greater written language production complexity and fluency. In conclusion, the results of this study showed that task complexity led to greater complexity and fluency which agrees with one part of Robinson's Cognition Hypothesis (i.e., greater complexity), and one part of Skehan's Limited Attentional Capacity Model (i.e., greater fluency).

Table 2 Summary of the Mentioned Studies on Task Complexity and Writing

Study	Participants	Variables	Findings
Choong (2014)	|L2 English learners	+/- reasoning demands	Syntactic complexity increase Accuracy decreased No effect for fluency
Johnson, Mercado,& Acevedo (2012)	968 EFL Spanish learners	+/- planning	No effect on complexity, accuracy or fluency
Johnson & Nicodemus (2015)	90 L1 speakers	+/- planning	No effect on complexity, accuracy or fluency
Kuiken&Vedder (2007)	159 Dutch L2 learners (84 learners of Italian and 75 learners of French)	+/- few elements	Increase in accuracy of both groups and an increase of complexity in case of French learners but not the Italian learners.
Kuiken&Vedder (2008)	167 L2 Dutch learners (91 learners of Italian and 76 learners of French	+/- few elements	Increase of accuracy but no effect on complexity
Salimi and Dadashpour (2012)	29 EFL Turkish learners	+/- few elements	Increase in fluency and syntactic complexity, but no difference in terms of accuracy
Hosseini (2010)	52 L2 learners	+/- here-and-now	More fluent written language production, but no significant effect on complexity or accuracy
Ong & Zhang (2010)	108 EFL learners	- -/+ planning time - -/+ prior knowledge	- Increase in fluency and accuracy - Increase in lexical complexity - Increase in fluency and complexity

These studies mentioned above vary in terms of L1 background, language proficiency, pedagogical intervention, methods of data collection, result measurement, and learning conditions. From their findings, it is realized that the predictions of Robinson's Cognition Hypothesis have not been approved in regard to written mode. According to this theory, the increase in the task complexity would result in a parallel increase in the

complexity and accuracy of the learner's production, but a negative impact on fluency. However, none of the investigated studies has found an improvement in both the accuracy and complexity of the participants' writings. In the studies of Johnson, Mercado and Acevedo (2012) and Johnson and Nicodemus (2015), there is no effect of the task complexity on the CAF of the participants' performance. In Choong (2014) the increase is the complexity of the participants' writings but there is a decrease in accuracy, while it is the opposite in the results reported by Kuiken and Vedder (2007, 2008) who find that the accuracy increased and the complexity of the participants' writing decreased. Moreover, the positive impact of task complexity is on fluency in the studies of Salimi and Dadashpour (2012). It is to argue that there are other factors affecting learners' written production compared to oral production. This view has been asserted by many researchers (e.g., Kormos &Trebits, 2012; Byrnes& Manchón, 2014; Tavakoli, 2014; Vasylets, 2017). To investigate Robinson's prediction of task complexity, mode should be taken into account. "Tasks with different cognitive and linguistic demands seem to elicit different patterns of performance in writing than in speech" (Kormos &Trebits, 2012: 25).

Moreover, a different perspective is proposed in a study by Nuevo (2006) in which she argues that what affects learners' language accuracy and complexity is not task complexity, but interaction. She argues that it is learner-learner interaction in high complexity task, rather than task complexity that affects learners' language production accuracy. The available research in collaborative writing supports Nuevo's (2006) conclusion about the impact of interaction on language complexity, accuracy and fluency (e.g., Dabao, 2012; Storch, 2005). In individual writing, this interaction can be between teacher and learners through feedback. There is relatively little literature that has examined the connection between task complexity, interaction (or rather feedback) and written language complexity, accuracy and fluency. This makes it necessary to investigate Robinson's predictions in relation to the written mode to figure out if they are applicable.

M. Research on Complexity, Accuracy, and Fluency (CAF) in writing

Complexity, accuracy, and fluency (CAF) are distinct constructs to measure L2 language production and proficiency (Alghizzi, 2017; Larsen-Freeman 2006; Towell, 2012) and also the progress in language learning (Housen& Kuiken, 2009). CAF constructs are multidimensional and multifaceted. This fact has likely gone unacknowledged in empirical research on CAF. The available literature on CAF in L2 has investigated these constructs from a one-dimensional approach(Larsen-Freeman, 2009; Norris & Ortega, 2009) Moreover, there are few studies that explore the CAF constructs in L2 writing production (Alghizzi, 2017). The origin of the CAF search is dated back to the 1970s when L2 linguists were searching for a quantitative, objective, and reliable method to measure L2 proficiency (Alghizzi, 2017; Housen et al., 2012; Larsen-Freeman 2006). Hakuta (1976: 345) claims that L2 field lacks a strong theoretical framework and that is "a problem which plagues (and will probably continue to plague for some time) second language acquisition research: the lack of an index of development, such as Mean Length of Utterance in first language research". In other words, there is lack of a yardstick of L2 development "apart from the use of lengthy standardized proficiency tests, which serve other purposes" (Larsen-Freeman, 2009) that should be:

> *readily available regardless of the instrument used in the research and could be used even if the data has already been collected. It should also work perfectly for various L2s and in reflecting all learners' overall proficiency, regardless of their L1s, educational backgrounds, ages, or having been analyzed individually or as groups. (Alghizzi, 2017: 64-65)*

The notion of the CAF triad has been proposed as a proficiency model for the first time by Skehan (1996, 1998). Since then, these constructs have been used extensively in L2 research as dependent variables of L2 learners' production performance that are assessed to determine the impact of other factors (Housen et al, 2012) and as "the primary foci or even as the independent variables of investigation in SLA" (Housen&Kuiken, 2009: 462). With the development of the cognitive approach in L2 studies, CAF has evolved to be a significant area of exploration (e.g. Larsen-Freeman, 2006; Ortega, 2003; Robinson, 2001a; Skehan, 1998).

> *Theoretically, these three dimensions have been claimed to imply the major stages of change in the underlying L2 system: (i) internalisation of new L2 elements (or greater complexity, as more elaborate and more sophisticated L2 knowledge systems are developed); (ii) modification of L2*

knowledge (as learners restructure and fine-tune their L2 knowledge, including the deviant or non-targetlike aspects of their interlanguage (IL) so that they become not only more complex but also more accurate L2 users); (iii) consolidation and proceduralisation of L2 knowledge (i.e. higher fluency, through routinisation, lexicalisation and automatisation of L2 elements leading to greater performance control over the L2 system. (Housen et al., 2012: 3)

Since CAF constructs are multicomponential and multidimensional, they are difficult to be defined. Housen and Kuiken (2009) claim that CAF definitions are not supported by linguistic theories or studies. Most of linguists define these concepts with general terms or in relation to quantity measurements. A number of definitions have been developed for CAF constructs; nevertheless, such definitions have not supplied the ground to comprehensively understand what may form these constructs (Alghizzi& El Deen, 2020).

1. Research on Complexity

Complexity is the most controversial term of the three constructs. "Complexity is the most complex, ambiguous, and least understood dimension of the CAF triad" (Housen& Kuiken, 2009: 463). It is defined by Housen et al. (2012: 2) as "the ability to use a wide and varied range of sophisticated structures and vocabulary in the L2". Ellis and Barkhuizen (2005) define complexity as the use of an elaborated language. They believe that this language elaboration can be in two ways:

1. The use of a language that is not internalized and beyond learners' interlanguage,
2. Learners' willingness to use a diverse variety of structures.

In fact, complexity in SLA can refer to both cognitive complexity and linguistic complexity (Housen& Kuiken, 2009). Though both of them refer to the same language features and systems,

cognitive complexity is defined from the perspective of the L2 learner-user, linguistic complexity is defined from the perspective of the L2 system or the L2 features. Cognitive complexity (or difficulty) refers to the relative difficulty with which language features are processed in L2 performance and acquisition. The cognitive complexity of an L2 feature is a variable property which is determined both by subjective, learner-dependent factors (e.g. aptitude, memory span, motivation, L1 background) as well as by more objective factors, such as its input saliency or its inherent linguistic complexity. Thus, cognitive complexity is a broader notion than linguistic com-

plexity, which is one of the (many) factors that may (but need not) contribute to learning or processing difficulty. (Housen& Kuiken, 2009: 464-465)

Cognitive complexity

is defined from the perspective of cognition in the sense that in order to regard any of the language or system features as complex, it has to make language users employ their mental resources extensively and taxingly when processing or acquiring such features. (Alghizzi, 2017: 73)

Linguistic complexity which is one of CAF constructs that is used to analyze L2 learners' performance and proficiency. Ellis (2003: 340) defines it as "the extent to which the language produced in performing a task is elaborate and varied". On the other hand, Bulté and Housen (2012: 24) refer to it as "as the number of discrete components that a language feature or a language system consists of, and as the number of connections between the different components". Linguistic complexity can be subcategorized into two dimensions: lexical complexity and syntactic complexity. "Lexical richness, knowledge, proficiency, and competence are synonymous terms for lexical complexity" (Alghizzi, 2017: 84). According to Wolfe-Quintero et al. (1998: 102) lexical complexity refers to "a wide variety of basic and sophisticated words are available and can be accessed quickly, whereas a lack of complexity means that only a narrow range of basic words are available or can be accessed". On the other hand, syntactic complexity is simply defined by Ortega (2003: 101) as "the range of forms that surface in language production and the degree of sophistication of such forms". According to Nunberg et al. (2002, Algazzi, 2017: 1728) it is "the way words are combined to form sentences". It "means that a wide variety of both basic and sophisticated structures are available and can be accessed quickly, whereas a lack of complexity means that only a narrow range of basic structures are available or can be accessed" (Wolfe-Quintero et al.,1998: 69). Briefly speaking, syntactic complexity is "progressively more elaborate language…[and] a greater variety of syntactic patterns" (Foster and Skehan, 1996: 303).

2. Research on Accuracy

Accuracy is the oldest, simplest and most consistent of the CAF triad (Alghizzi, 2017; Housen& Kuiken, 2009). "There is not the same amount of (relative) denotative congruence in the applied linguistics community with regard to fluency and complexity as there is with regard to accuracy" Housen and Kuiken (2009: 464). This is because all

definitions of accuracy is agreed on the notion of deviation from errors (Alghizzi, 2017). Accuracy is defined as "the ability to avoid error in performance, possibly reflecting higher levels of control in the language, as well as a conservative orientation, that is, avoidance of challenging structures that might provoke error" (Skehan & Foster,1999: 96). Amiryousefi (2016: 6) defines it as "the degree to which language learners' output is based on the rule system of the target language. It refers to language learners' ability to handle their interlanguage complexity to avoid producing erroneous structures". In other words, it is "how well the target language is produced in relation to its rules" (Skehan, 1996: 23). According to Housen et al. (2012: 2) it is "the ability to produce target-like and error-free language", and in other place they define it as "the extent to which an L2 learner's performance (and the L2 system that underlies this performance) deviates from a norm (i.e. usually the native speaker)" (2012: 4). Housen and Kuiken (2009) argue that these deviations can be from the norms of the target language represented by its native speakers or the non-standard usage of language in certain social situations or cultures. This is confirmed by Housen et al. (2012) who argue that the deviation from the norms should not only mean 'errors' but may refer to the acceptability of the used language to the social context or community. Thus, accuracy construct refers to acceptability and appropriateness in its general sense. This is suggested in Skehan's (1996: 46) confirmation that accuracy "relates to a learner's belief in norms, and to performance which is native-like through its rule-governed nature". However, for the purpose of this study, accuracy is used in its narrow definition. It is "the ability to be free from errors while using language to communicate in either writing or speech" Wolfe-Quintero et al. (1998: 33). Therefore, writing accuracy is to have a text free of errors. Alghizzi and El Deen (2020) argue that reaching writing accuracy is not easy to be achieved and learners need teacher's assistance to improve their performance accuracy.

3. Research on Fluency

It is also a multidimensional term. In its general definition, fluency is defined as "the ability to produce the L2 with native-like rapidity, pausing, hesitation, or reformulation" (Housen et al., 2012: 2). Also, they define it as "the ease with which learners produce the L2" (ibid: 3). According to Housen and Kuiken (2009: 464) "fluency typically

refers to a person's general language proficiency, particularly as characterized by perceptions of ease, eloquence and 'smoothness' of speech or writing". However, linguists maintain that fluency in written production should be narrowed and described qualitatively (Alghizzi, 2017). In his framework suggested for the implementation of task-based instruction, Skehan (1996: 48) defines fluency as:

> *the capacity to mobilize one's linguistic resources in the service of real-time communication, i-e to produce (and comprehend) speech at relatively normal rates, approaching (but not necessarily identical to) one's own native-language speech rates. In particular, one would look at features such as rate, pausing, reformulation, hesitation, redundancy, and the use of lexical units.*

However, Skehan has been interested in oral production for the formulation of his Limited Attentional Capacity Hypothesis. This definition is only concerned with speaking fluency that is measured with how the speak is coherent, appropriate, and fast. According to Abdel Latif (2013: 104), writing fluency is defined as "writers' ability to produce texts in large chunks or spans and is optimally measured through using the length of writers' translating episodes or production units". But such definition suggests that fluency is denoted by the number of the produced words, though this can be a result of the learners' speed in writing rather than their L2 fluent performance. Alghizzi (2017: 102-103) asserts that in defining fluency by the number of words, we ignore "important variables like text comprehensibility and lexical complexity, and when ignoring such, students' fluency would be wrongly conceived as developing even if the students kept repeating the same simple sentence over the allotted time". For the purpose of this study, writing fluency is defined "as the number of words produced in a specified time frame, together with lexical frequency, irrespective of spelling and content, provided that the writer's meaning is readily understandable" (Fellner and Apple's, 2006: 19).

Though CAF development in SLA is not collinear (Housen et al, 2012), they are interrelated variables and interact in a very complicated way. CAF are developed in different stages of language learning and they have differential development, complexity and accuracy are related to acquiring new knowledge and fluency to automatization of this knowledge. However, they are treated as one entity (Alghizzi& El Deen, 2020; Housen et al., 2012). "For second language acquisition to succeed and for learners to be able to use complex language accurately and fluently, it is essential for all three dimensions to be successful and to be integrated with each other" Towell (2012: 47). Actually,

"if we examine the dimensions one by one we miss their interaction, and the fact that the way that they interact changes with time as well" (Larsen-Freeman, 2009: 582).

Housen et al. (2012) argues that these three constructs together represent the stages of L2 acquisition:

1. Acquisition of new language features: complexity increases as learners can produce more complicated and sophisticated language.
2. Modification of L2 knowledge: Not only complexity but also accuracy increases since learners reconstruct their interlanguage to be more tragetlike.
3. Consolidation and proceduralisation of L2 knowledge: fluency increases as L2 knowledge is internalized and learners have more control on L2 system.

In this mapping of L2 development with CAF views that both complexity and accuracy are related to the status of learners' L2 knowledge. Complexity is "the scope of expanding or restructured second language knowledge" and accuracy "the conformity of second language knowledge to target language norms" (Wolfe-Quintero et al. 1998: 4). While fluency denotes to the learners' control over this L2 knowledge. It is the easy and quick access to the interlanguage knowledge "as a result of routinization, lexicalization, and automatization of more complex L2 components" (Alghizzi, 2017: 69).

This representation of CAF development suggests that L2 learners can have complexity, accuracy and fluency in their production which is a reflection of their acquiring of the language. Thus, to increase task complexity can develop the three constructs, in contrast to Limited Capacity Hypothesis and Cognition Hypothesis, especially if learners have a good language proficiency. This is what is investigated in this study.

In TBLT research, Skehan's (1998) Limited Attentional Capacity Hypothesis and Robinson's (2001b, 2005) Cognition Hypothesis determine the relation between the CAF constructs. Skehan (1998) argues that learners have a limited information processing capacity that makes them prioritize one of the constructs at the cost of the others in their language production. He speculates that with the increase of task complexity learners cannot pay equal attention to all areas of production, this lack of attention results in the reduction of accuracy and complexity in favor of fluency. On the other hand, Robinson's (2001b, 2005) claims that learners have multiple attentional resources. The increase in task complexity affects the relationship between these dimensions,

where the learners attempt to express more complicated ideas paying attention to complexity and accuracy but not fluency. However, neither of these two models has been supported by empirical research (Housen et al., 2012; Robinson& Gilabert, 2007). Housen et al. (2012: 6) point out that the difficult of proving one of these models to CAF is due to "the lack of conceptual and operational clarity of the dependent variables (i.e. complexity, accuracy, fluency)". There are many factors that can affect task performance or rather CAF such as learners' variables, pedagogical intervention, and task conditions. To examine the relationship between the CAF constructs, these factors should be taken into consideration. In contrary to Skehan (1998), Robinson's (2001b, 2005) refers to some factors that can affect the relationship between CAF in his triadic componential framework. However, there are rare studies that investigate the CAF constructs in relation to other factors that can affect learners' performance. Moreover, task-based research mainly concentrates on oral production and measuring the CAF in learners' writing has get a little attention. Therefore, this study aims at exploring how task complexity can affect the CAF of learners' written production in relation to teacher's feedback.

N. Research on Feedback

The recent interest in CLT has not only make L2 teachers change their teaching methodology but their general conception of learning and teaching. In their belief of the significance of interaction and meaningful use of language to learn, teachers' focus on form has been viewed as detrimental (Han, 2002; Horner, 1988). As a result, corrective feedback is ignored in language classrooms (Lightbown, 1991; White, 1991).

> *Recently, some researchers and educators have reacted to the trend toward communicative language teaching and have revived the concern that allowing learners too much 'freedom' without correction and explicit instruction will lead to early fossilization of errors. (Spada& Lightbown, 1999: 121)*

It is to focus on communicative competence rather than grammatical competence. The change in interest from the structure to language usage necessitates a more lenient attitude toward learners' errors, this leads, as Hendrickson (1978) argues, to "an acceptance of a wide margin of deviance from so-called 'standard forms and structures

of the target language". Believing that learners' focus on form will disturb their concentration to develop their communication skill, teachers limited error correction in an effort to emphasize the communication dimension (Horner, 1988). "Students practice meaningful communication through communicative activities such as role-play, games, information gap, and group discussion. As meaning is paramount, error correction by the teacher is avoided as long as students can express meaning with fluency" (Li, 2004: 11). It is an implication that it is whether to concentrate on structure (focus on form) or communication (meaning). Though teachers have a positive attitude towards CLT as it improves communicative skill and learners' motivation, some claim that the corrective feedback is still necessary. According to Li's (2004) research on the Chinese teachers' perceptions of the implementation of CLT in Chinese programs for teaching English, he maintains that teachers affirm the significance of feedback in teaching a language to develop learners' production. Language learners need to learn L2 structure, because they already knew how to meaningfully interact and communicate in their first language (Li, 2004). Moreover, researchers (Lightbown, 1991; Swain, 1995) affirm that the concern on the meaning will produce low-quality output which is away from the target language. Han (2002) also argues that this inaccurate output is internalized in the learners which is actually a representation of learners' interlanguage.

> *The errors and inaccuracies students hear are likely to reinforce their own misanalysis of the target language, thus creating a vicious circle. Worse still in the case where students share the same native language…. This is partly because accompanying the same L1 is also the fact that these learners share the same conceptual framework; they have highly homogeneous ways of conceptualizing and verbalizing their life experiences. Thus, even if a student gets stuck in conveying a particular message because of lack of linguistic resources, his peers are nevertheless able to figure out what he is trying to say. (Han, 2002: 3)*

Learning occurs when input is mentally processed and internalized to be output. To depend on the production practice to learn a language with limiting teacher's role to providing interaction activities is to violate this premise. For that, feedback should be used in classroom to enhance the construction and use of learners' knowledge. Corrective feedback, according to Dekeyser (1994), Schmidt (1994) and Sharwood Smith (1991) is an important part of explicit instruction that is intended to increase learners' awareness of the structure of the target language and draws their attention to notice the

gap in their knowledge. It is to conclude that feedback encourages learners to be accurate in their output, while learning by communication makes learners more fluent. It actually contributes to knowledge development and language use.

1. What is Feedback

Feedback has been one of the topics that have gained the attention of researchers in the field of L2 language teaching over the past two decades(e.g. Kao& Wible, 2014; Russell& Spada, 2006). "Feedback is considered as a vital approach to facilitate students' development as independent learners in order to monitor, evaluate, and regulate their own learning" (Mamoon-Al-Bashir et al., 2016: 38). Eraut (2006: 118) emphasizes how feedback affects learning development:

> *the type of feedback they then receive, intentionally or unintentionally, will play an important part in shaping their learning futures. Hence we need to know much more about how their learning, indeed their very sense of professional identity, is shaped by the nature of the feedback they receive. We need more feedback on feedback.*

Feedback is a controversial term that refers to comparing the actual output to the expected output and modifying the first to achieve the later. It is "the oil that lubricates the cogs of understanding" (Brown, 2007: 1). Simply speaking, feedback "is information given by teachers to students on their work" (Soden, 2013: 16).In The Power of Feedback, Hattie and Timperley (2007: 81) define feedback as "information provided by an agent (e.g., teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding". Similarly, in their meta-analysis, Kluger and DeNisi (1996: 235) defined feedback as "actions taken by an external agent to provide information regarding some aspect(s) of one's task performance".

Feedback is not merely to correct learners' errors, grade performance, or give positive or negative comment, it actually plays a significant role in improving the learning and teaching process (Mamoon-Al-Bashir et al, 2016; Hattie & Timperley, 2007; Kartchava et al., 2020; Rita Berry, 2005). This occurs with "the connection of input, internal learner capacities, particularly selective attention, and output in productive ways" (Long, 1996: 451–452). Feedback is an old topic that has emerged out of behaviourism (Brookhart, 2008). Ellis (2009: 3) argues that "feedback has a place in most theories of L2 learning". In behaviorist theories, feedback is regarded as a major aspect

of learning and motivating the learners. It was viewed "as a reinforcer. That is, the presence of feedback after a student's response increases the likelihood that the response will be repeated" (Kozma&Bangert-Drowns, 1987: 66). It is to say that teachers used feedback to reinforce the desired behaviours or negate the undesired behaviours of their students.

However, in this approach feedback is separated from learning. It is in 1970s that interest has been started to emphasize on learning from information processing view. This perspective of feedback is referred to by Askew (2000) as the "receptive-transmission mode". The model of information processing explains how learning is taking place. Feedback became a vital part of this model to tell learners how they performed. Teachers provide information through feedback about the strong and weak points of learners who process and act upon this teacher's feedback.

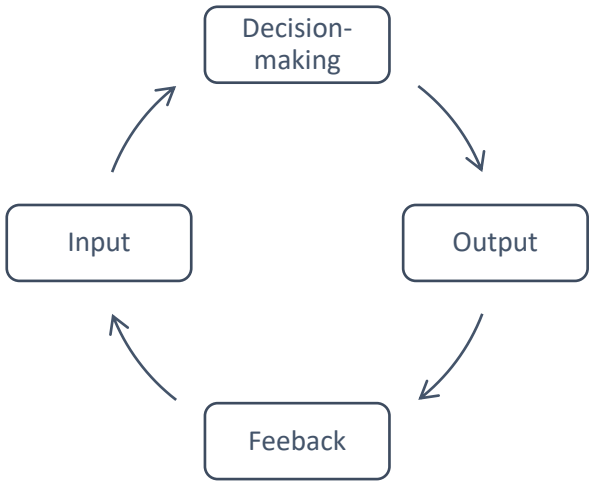

Figure 2 The Information Processing Model

Learners are seen as passive in this process as they are in behaviorism. However, this information processing is criticized that it does not take social characteristics of learners into consideration (Soden, 2013).

Behaviorism is replaced by the cognitive learning approach. There are a number of cognitive theories that account for the significance and role of corrective feedback in L2 learning including Sociocultural constructivist theory (Vygotsky, 1978), Interaction Hypothesis (Long, 1996), Output Hypothesis (Swain, 1985), and Noticing Hypothesis

(Schmidt, 1990). In fact, these theories have changed the researchers and instructors' view of feedback. Earlier, feedback "is done to the students to change their behaviour" to, in cognitive theories, "should give information to the students to process and construct knowledge" (Lipneich& Panadero, 2021: 2). The cognitive and constructive theories have led to a new theoretical framework for learning in which feedback is used to develop learner's learning and performance. There is a shift in focus from teaching to learning. Feedback is no longer information provided by teachers to passive learners, it is rather processed by the learners to comprehend where they are and what they have to do to improve their performance to reach the expected goal. It provides learners with the opportunity to bridge the gap between the present and intended performance. According to Boud (2000: 158):

> *The only way to tell if learning results from feedback is for students to make some kind of response to complete the feedback loop (Sadler, 1989). This is one of the most often forgotten aspects of formative assessment. Unless students are able to use the feedback to produce improved work, through for example, re-doing the same assignment, neither they nor those giving the feedback will know that it has been effective.*

Boud (2000) suggests that feedback is provided while performing a task and also by repeating the task.

Hattie and Timperley (2007) realize the crucial role of feedback in driving or derailing the formative process. They believe that feedback should answer three questions (Where am I going? How am I going? Where to go next?). According to them, feedback has four levels:

1. Feedback about the task: evaluating the performance and how it can be improved
2. Feedback about task processing: what are the strategies used or could be used to perform the task.
3. Self-regulation feedback: this feedback is concerned with the self-confidence and self-evaluation of the learner
4. Feedback about the learner: if he is good, clever.. etc.

Feedback has its impact in each level. But for the purpose of this study, the first two levels of feedback are used to assess participants' production. To give feedback about learners' performance of the task, what strategies they used and how they can do better can affect their learning. The feedback about self-regulation and abilities of learn-

ers as person does not affect their learning directly. It "can be effective if students hear it in a way that makes them realize they will get the results they want if they expend effort and attention" Brookhart (2008: 4)

Brookhart (2008) suggests that feedback is not one-for-all strategy, rather it differs according to learners, task, and classroom environment.

Table 3 Feedback Strategies (Brookhart 2008:.5)

Feedback Strategies can Vary in ...	**In these Ways ...**	**Recommendations for Good Feedback**
Timing	• When given • How often	• Provide immediate feedback for knowledge of facts (right/ wrong). • Delay feedback slightly for more comprehensive reviews of student thinking and processing. • Never delay feedback beyond when it would make a difference to students. • Provide feedback as often as is practical, for all major assignments.
Amount	• How many points made • How much about each point	• Prioritize—pick the most important points. • Choose points that relate to major learning goals. • Consider the student's developmental level.
Mode	• Oral • Written • Visual/ demonstration	• Select the best mode for the message. Would a comment in passing the student's desk suffice? Is a conference needed? • Interactive feedback (talking with the student) is best when possible. • Give written feedback on written work or on assignment cover sheets. • Use demonstration if "how to do something" is an issue or if the student needs an example.
Audience	• Individual • Group/ class	• Individual feedback says, "The teacher values my learning." • Group/ class feedback works if most of the class missed the same concept on an assignment, which presents an opportunity for re-teaching.

In this study, the impact of written feedback is investigated. In fact, Page (1958) confirms that teacher's written feedback has more effect on learner's learning progress and performance than giving grades or general comments.

2. Significance of Feedback

Feedback plays a significant role in language learning and development. The significance of feedback is first questioned by Truscott (1996) that has made other researchers investigate this topic. Race (as cited in Ormshaw, 2007: 31) affirms that "one of the most useful benefits of assessment for students can be feedback on their performance, the skills they are expected to develop, and their understanding of theories and concepts". Sangster and Overall (2006: 123) argue that that "giving constructive formative feedback carries the implication that there will be information available which helps you to improve your work". On the other hand, Ormshaw (2007: 37) confirms that "assessment really becomes an effective part of the learning process only when appropriate feedback is associated with it". Without getting feedback, it is difficult for learners to measure their own development and make progress in the learning process. In fact, feedback provides learners with information that shows their current level and guides them to what they have to do. "Feedback which helps a person improve their performance is likely to enhance learning" (Heywood, 2000: 152).

Feedback has a significant impact on learning and teaching. It has the power to elicit further action from the side of teacher and learner. Berry (2005) has classified the significance of feedback to learning to evaluative, motivational, and learning. Evaluative significance of feedback is expressed by assigning marks to learners' performance. It is to evaluate the learner's level without providing any information on what they should improve. This is summative feedback which is not the scope of this study. Feedback provides information about what is learned to guide on how to proceed towards what should be learned. It is not only to improve learner's performance, it is also regarded a tool of teaching and learning that enhances learner's motivation for learning. Learners can be demotived, if they do not get feedback on the tasks they perform, believing that their efforts have gone unnoticed. On the other hand, feedback makes learners get actively involved in the learning topic and environment. The goal of giving feedback is not to point out learners' mistakes, it is to motivate them and demonstrate how they might develop. Moreover, feedback does not only help learners to understand how they use the target language, it also enhances their capacity as learners and builds their interlanguage knowledge. Other researchers (e.g. Abdullah& Ghafar, 2010; Brookhart, 2008; Butler

and Nisan, 1986) have argued that feedback have an impact on both motivation and learning at the same time. Brookhart (2008) argues that feedback has a "double-barreled" effect which means that feedback affects both learning and motivation for learning. He also maintains that feedback deals with both cognitive and motivational aspects:

> *Good feedback gives students information they need so they can understand where they are in their learning and what to do next—the cognitive factor. Once they feel they understand what to do and why, most students develop a feeling that they have control over their own learning—the motivational factor. (ibid: 2)*

Feedback does not only provide learners with information to understand their actual level and improve their learning, it provides them with a sense of control over their learning. It is this feeling that motivates learners to learn.

To increase learner's motivation is through following the new paradigm shift in education that depends on feedback as part of teaching strategies. In their study of the role of teachers in assisting their students through assessment to achieve the required academic level, Abduallh& Ghafar (2010) claim that assessment can improve both learning and teaching when effective feedback is provided with paying attention to the influence of this feedback on learners' motivation. They also confirm that feedback is effective when it shows a change in learner's motivation. It is motivation that drives learners to improve their performance and develop their knowledge. Feedback also develops a sense of self-esteem and self-confidence as the learner feels a responsibility of their own learning.

Butler and Nisan (1986) investigated the impact of feedback on both learning and motivation. Believing that feedback whether positive or negative has power to motivate learners to learn, they conducted a study to explore their hypothesis. In their experiment, they randomly divided 261participants into three groups and they were given two types of tasks, quantitative task and solve-problem task. After performing the tasks, the first group was given feedback, the second was given quantitative scores, and the third no feedback. After that, all the participants performed the second session of the tasks. Butler and Nisan found that though the participants were of the same proficiency level, feedback affected their performance. The group that received feedback performed better than the other two groups in both tasks and reported more motivation, while the

second group that got evaluative scores performed well in the quantitative task and badly in the solve-thinking task and were less motivated, and the performance of the third group that did not get any feedback was poor in both tasks and was less motivated. It is to suggest that motivation has a significant impact reflected on the learners' motivation and, hence, performance. Learners are experiencing feedback as information that develops their learning and attitude towards learning rather than just judgment on their performance.

On the other hand, Ormshaw (2007) has defined the significance of feedback from the perspective of three distinct purposes: developmental, instrumental, and inspirational. The developmental function emphasizes the significance of feedback in the development of general learning by giving qualitative information on the characteristics of high-quality work. It "emphasizes the principles of lifelong learning and 'learning to learn'" (Ormshaw, 2007: 63). Feedback enables learners to see the flaws in their work and, hence, learn new things and develop their performance. It reinforces the student's academic identity from a developmental standpoint. In other words, it develops learner's meta-competences and meta-cognition. Meta-competences are learners' skills (e.g., problem-solving skills, language skills, communication skills) that they can use in other contexts. Meta-cognition refers to the learners' cognitive strategies that feedback enhances to develop reflective thinking. The instrumental function emphasizes the need of increasing the learner's comprehension of his skills and knowledge for the purpose of improving any future work. The difference between this function and developmental is that instrumental function is to stress "the benefits of raising the learner's awareness of his/ her particular skills for the purposes of enhancing any subsequent work" to get better scores (Ormshaw, 2007: 63), while developmental is concerned with the wider aspect of learning to learn. The third function is related to the inspiring aspects, in which input has an emotional or motivating effect on the learner. The significance of feedback related to this aspect is to develop learners' self-esteem and self-confidence of their performance.

Moreover, feedback provides teachers with information about the level and progression of their learners. Yorke (2003: 482) claims that:

The act of assessing has an effect on the assessor as well as the student. Assessors learn about the extent to which they [students] have developed expertise and can tailor their teaching accordingly.

Teachers are engaged in assessing and reflecting on their learner's performance which motivate them to improve the learning environment. Thus, they should develop their feedback providing process in a way that assists in improving learners' learning experience. Actually, teachers play a critical role in helping learners to comprehend self-regulation process. Butler and Winne's (1995) affirm that both external and internal feedback have an impact on learners' knowledge. That is, teachers' feedback assist learners with self-regulation: determining the next learning goal, developing strategies to reach it, and performing the activity. Teachers cannot force learners to concentrate on or learn specific thing. Actually, their feedback along with learners' internal feedback can assist learners in determining where they are and what have to do to reach the interned goals.

However, there are some studies which claim that feedback may not be useful in practice (Hyatt, 2005; Walker, 2009; Yelland, 2011). Soden (2013) refutes this claim by confirming that these studies have not been concerned with feedback in L2/TEFL scope or on critical writings. Askew (2000: 3) also contends that the assessment of feedback's effectiveness should be based on "an analysis of its purpose, the assumptions about learning on which it is based and recognition that feedback has different purposes". In their review of studies investigating the effect of feedback, Kluger and DeNisi (1996) found out that the experiment groups that had feedback intervention outperformed control groups.

Moreover, Scott and Coate (2003: 89) point out that "unexamined, idealised conception of feedback as a process in which teacher comments should be precisely mirrored in student comprehension and use". Though there is a large literature on feedback and its significance, a few number of studies report the dissatisfaction of learners with the feedback they receive (Mamoon-Al-Bashir et al, 2016; David Nicol, 2010). As Brookhart (2008) affirms, corrective feedback should be part of classroom culture as it assists in constructing learners' knowledge and improving their performance.

O. Research on Feedback and Writing

Feedback has a crucial impact on learning and developing learner's skills (Hattie & Timperley, 2007). A number of studies have been concerned with how teachers deal with learner's writing performance and production and the role of feedback in improving writing skill. In 1990s there were some papers that have investigated feedback (e.g. Lalande, 1982; Zamel, 1985). However, this topic has attracted the attention of L2 learning and teaching instructors and researchers. Its significance has been debated since Truscott's (1996) controversial article (Van Beuningen et al., 2012; Zeinolabedini & Gholami, 2014). It is as Ferris (1999: 2) states, "if nothing else, Truscott's essay and reviewing the primary sources he cites has highlighted for me the urgent need for new research efforts which utilize a variety of paradigms to examine a range of questions that arise around the important topic". Research on the effects of feedback in improving writing skill falls into two strands. Some researchers proclaim that teacher's feedback is not only ineffective but can be also harmful and should not be provided (Krashen, 1982; Truscott 2007; Zamel, 1985). Others support the necessity of giving feedback in developing learners L2 writings (Bitchener, 2008; Chandler, 2003; Van Beuningen et al., 2012).

Truscott has made a review of some studies concerned with feedback and concluded that it "has no place in writing courses, and should be abandoned" (1996: 328). He argues that teacher's feedback is not only ineffective but can be also harmful. Although many debates about the efficiency of written corrective feedback have been decided in favor of its importance, Truscott (2007) confirmed in another article that correcting learners' errors has no positive effect on the actual use of language for communication.

Truscott (2007) claims that the assumption of feedback significance depends on measuring the effect of feedback on the revised writings of the learners and, hence, these findings are an evidence of learning. In other words, the participants' usage of the correct forms in their revision of the writing tasks does not mean that they acquire them. However, there are many studies that have examined the learning potential of feedback on actual writings. Chandler (2003) affirms that Truscott's conclusion does not depend on the real findings of the reviewed studies. He also states that corrective feedback should be provided for language learners in order to improve the accuracy of their writ-

ings. Moreover, Ferris (2006) and Ferris and Roberts (2001) argue that feedback is useful as it improves the accuracy of learners' writings. Akbarzadeh, Saeidi, and Chehreh (2014) argue that EFL teachers have to provide learners with feedback to improve their writings. Though there are different types of feedback, Soden (2013) argues that written feedback on texts has attracted the attention of researchers and scholars. It is to suggest the significant relation between teacher's feedback and developing writing skills.

Ferris (2006) affirms that feedback a long with error analysis and instruction is important for L2 writing classes and cannot be excluded. He conducted a study to inspect the nature and impact of feedback in L2 writing classes on writing accuracy. Believing that "more research is needed before anyone can claim that error feedback should be universally embraced or abolished" (ibid: 82), the writings of 92 ESL university students are examined to find out if teacher's feedback improves the accuracy of the participants' writings on the short and long term. The study data are collected from a writing class of the duration of two semesters. Participants' draft writings have received teacher's written feedback regarding the ideas and organization. The participants revise their drafts and then they get detailed linguistic feedback. The final drafts are submitted after editing for the purpose of grading. By examining the three drafts of all writing task, Ferris find out a relationship with teacher's feedback and the improvement in participants' writings and progress in the writing accuracy.

Many of the studies that conducted to investigate the effects of feedback on writing are concerned with accuracy (e.g. Chandler, 2003; Evans, Hartshorn& Tuioti, 2010; Ferris, 1995; Van Beuningen et al., 2012). Zeinolabedini and Gholami (2014) state that recently L2 and FL teachers and researchers have changed their focus from product-oriented approach to process-oriented approach to writing. In the product approach, the focus is on evaluating the end written product that should be comprehensible and free of errors not on the actual performance. On the other hand, the process approach focuses on the process in which the learners are engaged to perform the writing task. The teachers are facilitators who assist learners to improve their writing and come up with new ideas. It is to promote self-directed learning with concentrating on procedures rather than results. Zeinolabedini and Gholami (2014) confirm that the significance of providing learners with feedback on their writings for the purpose of improvement. It is goal-

directed in providing learners with information that lead them towards the intended goal. Feedback emphasizes on the correct performance, and may also explain the defects of the current product. In their study, Zeinolabedini and Gholami (2014) have investigated to what extent written feedback affects the accuracy of learner's writing production. The findings show that feedback affects the accuracy rate in subsequent work as feedback enables the learners to notice their errors. This implies that learner's noticing of the errors in their writing production scaffolds learning process. The importance of noticing has been established in SLA literature as critical to long-term learning (Schmidt, 1994).

Studies investigating the efficiency of feedback mostly focused on accuracy of writing more than complexity. We cannot find a study that measures the improvement of complexity alone but in relation to accuracy (e.g., Akbarzadeh et al., 2014; Van Beuningen et al., 2012) or accuracy and fluency (e.g., Rastgou et al., 2020 ;Robb et al., 1986). However, all these studies confirm the importance of providing feedback to develop the complexity of learners' writings.

In their study, Akbarzadeh et al. (2014) have been interested in investigating the effect of giving oral feedback on the complexity and accuracy of learners' writings. It is a quasi-experimental study conducted on 68 EFL Iranian learners. The two groups are given pre- and post-tests and writing tasks through 11 sessions, one per week. The experimental group is provided with feedback for each writing task they perform and is asked to revise their compositions according to the given feedback. The results show that oral feedback with negotiation significantly affects both the accuracy and complexity of participants' writings whether in the revised compositions or the post-test. Feedback has a positive impact on the accuracy and complexity of learner's written production.

Van Beuningen et al. (2012) have investigated the effect of direct and indirect corrective feedback on the accuracy and also both lexical and structural complexity of L2 learners' writing. They conducted a quasi-experimental study (experiment study) which included pretest, treatment/control, posttest, and delayed posttest sessions on 268 secondary school L2 learners of Dutch. The participants were randomly assigned to four groups; two experimental and two control. Direct feedback was provided to the first experimental group and indirect to the second group. While the control groups, they were not given any feedback but one group was asked to revise their writings and the other

no. The impact of feedback on both the learner's revised versions of the tasks and new writings was examined. It is to find out if comprehensive feedback improves the accuracy of learners' performance and yields long-term learning. This study also investigated if feedback develops lexical and structural complexity of learner's writings or lead to their avoidance. The findings support the comprehensive written feedback. Both direct and indirect feedback improved the overall accuracy of learners' performance with greater impact in favor of the direct. In addition, Van Beuningen et al. (2012) inspected Truscott's claim (2007) that the use of feedback makes learners avoid complex structures as a way to not commit errors once again. The findings demolish this claim, as they show significant between-groups differences where the experimental group's writings are more complex.

Fluency is the "rapid production of language" (Wolfe-Quintero et al., 1998: 117). There are few studies that have been concerned with the relationship between feedback and writing fluency. One of the reasons that lie behind Truscott's (2007) claim of the harmful impact of feedback is its negative effect on fluency. Chandler (2003) performed a study that is based on experimental and control group to examine how feedback affects writing accuracy in relation to fluency. She examined the effects of both direct and indirect feedback on the accuracy improvement and how that affects fluency. The study was conducted on 31 high intermediate Asian university students. The duration of the experiment was a semester of 10 weeks where the participants were divided into two groups that both were received feedback, but the experimental group was asked to revise each task and the control group was not. The experimental group showed a significant increase in writing accuracy compared to the control group. In addition to this result, Chandler found that this increase in the accuracy was not accompanied with a decline in fluency. On the contrary, the writings of the participants showed an increase in fluency as the final writing task was performed with the same amount and type of text at lesser time. It is to indicate that feedback does not cause reduction in fluency, and fluency is achieved through more practice.

The results of Chandler's (2003) study corresponds to those reported in Robb, Ross, and Shortreed(1986) research on Japanese EFL. Robb et al. (1986) also studied the effects of feedback on the writings of L2 learners. They have investigated the benefits of

both direct and indirect feedback by comparing four types provided to EFL students. The researchers wanted to see if giving students more immediate feedback would help them improve their overall writing quality. 134 Japanese university students were assigned to four groups. They attended 23 classes of an hour and a half, doing the same activities and assignments. The teacher provided all the groups with feedback on lexical, syntactic, and stylistic errors. The difference was in the type of feedback provided to the students to revise their writings accordingly. The teacher corrected all the errors on the papers of the correction group, while the other three groups were provided with coded feedback (writing only the type of the error), uncoded feedback (marking the error with yellow pen), or marginal feedback (number of errors are written on the paper margins). All participants were required to write 5 compositions which they revised after they got the feedback. Robb et al. (1986) analyzed the effect of feedback in terms of accuracy, fluency, and complexity. They found that direct feedback did not produce outcomes that commensurate with the teacher's effort to attract students' attention to their errors. Giving feedback produced an improvement in the CAF of students' production regardless of the used type. Concerning fluency, the results of this study counter the claim that feedback make learner preoccupied with correction affecting their fluency in writing.

Goksoy and Nazli (2016) also conducted similar study. They examined direct and indirect written feedback by evaluating two essays written by 60 advanced teacher trainees of English to see if there is an improvement in the accuracy and fluency of the second essay assignment. Communicative teaching approach was used to enhance students' reading and writing skills. The course duration was 14 weeks and the class time was divided into two sessions for reading and writings. Every week, students were asked to write a paragraph or essay which the teacher revised and gave written feedback on cohesion and coherence, then students were asked to edit their drafts. Pre- and post-test model was used to measure the change after the intervention. In other words, there was no control group included in the experiment, so the impact of feedback was evaluated by analyzing the error difference between the first and second drafts of students' writings. In their findings, Goksoy and Nazli determined that feedback whether direct or indirect would improve learners' writings in terms of accuracy and fluency. In her study, Chandler (2003) confirmed that feedback did not affect fluency and both experimental and

control groups showed improvement of fluency which can be attributed to their writing practice. Similarly, Goksoy and Nazli detected the positive influence of feedback on the fluency of the students' writings.

The review of these studies refutes the claim of the ineffectiveness of feedback to learning. Feedback does not only have a good impact learner's writings, but it guarantees to be a tool of long-term learning.

P. Research on Task Complexity and Feedback

Recently there is a growing literature on studying Robinson's and Skehan's theories. Most of the conducted researches focus on investigating the impact and efficacy of task complexity on the CAF of language learners' performance. However, learners' production whether oral or written is affected by other factors like teaching environment, learners variables, pedagogical intervention, and task conditions. In fact, Robinson (2001a, 2001b) has referred to these factors in his triadic componential framework. In this framework, Robinson classified the factors that affect language learning and task performance into task complexity (cognitive factors), task conditions (interactive factors), and task difficulty (learner factors). Feedback is implied within task conditions with which Robinson (2001a, 2001b) refers to the direction of information flow. In the two-way participation, interaction cannot take place without feedback. In fact, Robinson (2003; 2005) affirms that feedback is needed for learning in complex tasks. It is because cognitively demanding tasks lead to more interaction between instructor and learner. "Greater task complexity along resource-directing (but not necessarily resource-dispersing) dimensions promotes more interaction-driven learning" (Robinson, 2003: 65). In other words, interaction is manifested as a source of learning that provides opportunities for the attentional process of attention and noticing. In this point, Cognition Hypothesis depends on Schmidt's (1990) theory of noticing where learners' attention is drawn to the problems in their output to address them, hence, lead to long-term learning and interlanguage development. The noticing of gap and lack of information about the target language can be internal (by the learner himself) or external (by the teacher) (Gilabert et al, 2009). Consequently, teacher provides feedback to enable learners close this gap in their information.

Moreover, Robinson (2005) argues that the congitively complex demands of a task make learners search for more support from the available input to accomplish the task. It is to imply the significance of teacher's feedback as input to help learners to improve their performance. Since the Cognition Hypothesis is intended for learners' oral production, Robinson (2003) predicts that in interactive tasks learners avoid using complexity, while in individual tasks interaction lead to more complex production. However, in written production which is usually an individual work and feedback is a way of interaction between the learner and insturction, it is expected that interaction leads to more complex production. This is what the present study examines.

Though Robinson (2003) recommends to study the effects of task complexity in relation to the other factors of task conditions and task difficulty, there are a scarity of studies on task complexity with other variables affecting learner's production such as feedback. There are some linguists who argue for amending the categories of Robinson's triadic componential framework. Byrnes and Manchón (2014) claim that Robinson's triadic framework needs reconsideration to include other factors within the categories of task complexity, task difficulty, and task conditions. This is to make this framework suitable for written mode. Interaction is one of the task condition variables which affect task performance.

Studies on task complexity and interaction generally agree that complex task generates negotiation and interaction more than simple tasks (Gilabert et al, 2009; Kim, 2012; Robinson, 2001b, Vasylets, 2017). Gilabert et al (2009) claim that the manipulation of task features may affect the interaction between learners themselves and between learners and teacher. This interaction prompts learning of the target language as it involves the request for clarification and confirmation of some information as well as the provision of feedback on wrong performance. Thus, teacher's feedback is required to complement the effect of task complexity and lead to more accurate production. In this sense, Robinson refers to the significance of feedback in performing complex tasks:

> *at any one point in time, therefore, more complex tasks making greater demands on proficiency should elicit more of such feedback relative to simpler versions, and such feedback provides an interactive context (e.g., through use of clarification requests, confirmation checks, and responses to them) for reactive Focus on Form techniques, such as recasting (Robinson 2003: 54)*

Byrnes and Manchón (2014) confirm that feedback should be added to the variables of task conditions. Feedback is not regarding only a critical element in L2 learning and teaching,

> *Interaction in writing should also be analyzed from the perspective of the provision and processing of feedback, which is an essential ingredient not only of the learning and teaching of writing in SLA instructional settings but also of the practice of writing in the academic domain as well as in a wide range of professional and workplace settings. Therefore, diverse interactive events and conditions that result from the provision and processing of feedback on one' s own writing should be added to the list of potentially relevant task conditions whose effect on task processes and task performance require further specification. (Byrnes & Manchón, 2014: 31)*

Machon (ibid) does not only recommends adding interaction as a factor of task condistion domain, he also calls for making theortecial predicitons supported with practical studies on how this factor can affect written task performance and learning. In such research, feedback should be taken into consideration: what, how, when, and what level of feedback is provided. Moreover, Vasylets (2017) argues that the factors of task conditions should be revised to include [+/- interaction] variable and that is necessary to make these factors suite the nature of learner's written production which can be individual or collaborative. In such interaction, feedback is a critical part which is generated with cognitively complex tasks. In fact, it is feedback that "provides an interactive context" (Robinson 2003: 54).

Though there is a large literature invesitiaging feedback and how it is offered and processed, yet it has not got the interest of TBLT researchers (Gilabert et al., 2016; Byrnes& Manchón, 2014; Vasylets, 2017). "Therefore, a re-interpretation of feedback as an essential component of interaction as a task condition would constitute an avenue worth exploring in future research in light of the demands of understanding writing tasks" (Byrnes& Manchón, 2014: 32). This point is confirmed by Gilabert et al. (2016) who state that there is a lack of concern on the written corrective feedback in TBLT research. This significance of feedback comes from its being an input source and a form of interaction. According to them, input in TBLT is often offered as corrective feedback. "It is typically part of a dynamic, goal-oriented, input-output-feedback cycle in both the oral and written modes" Gilabert et al. (2016: 122). Thus, feedback should receive the appropriate attention in TBLT research.

Q. Research on Teaching in Yemen

With the growth of English as a language used by the majority of people around the world, teaching it in Yemen has become a must for most Yemenis. Therefore, it is largely taught nowadays as a foreign language (FL) at different schools, universities, and language centers whether as a compulsory subject or as a means of global communication. At the level of schools, English is a compulsory subject taken throughout six years in primary and secondary years in public schools in contrast to twelve years of English classes in private schools. It is, on the other hand, taught as English for specific purposes (ESP) in the first year of every university major except in the department of English in which it is compulsory.

English teaching in Yemen, however, faces a lot of challenges. Despite its widespread now in comparison to previous years, it is still not used properly by most school leavers or even those who choose to take extra English courses at language centers. In fact, there are many challenges and problems in Yemeni teaching system that produces low competent students (Ahmed, 2018; Ahmed& Qasem, 2019; Muthanna &Karaman, 2014). Yemen still follows very traditional teaching methods where teacher directs students to learn through memorization and recitation and judges their level by testing of their ready-to-forget information.

Research on English teaching and learning in Yemen indicates the use of poor teaching techniques with poor language learning outcomes (e.g., Ahmed, 2018; Ahmed & Qasem, 2019; Al-Sohbani, 2013; Anaam, 2021). These researchers attribute Yemeni English learners' low proficiency level and poor performance to a number of factors including, instructors' low language proficiency, large class size, lack of teaching tools, use of mother tongue and mother tongue interference, and learners' lack of motivation and their limited use of English to communicate in addition to teachers' use of traditional methods like the Grammar Translation Method (GTM). In his study that investigated the problems encountering EFL teaching and learning in a Yemeni directorate, Ahmed and Qasem (2019: 486) argues that "producing competent users of English in Yemeni schools requires overcoming several EFL teaching and learning problems and implementing communicative language teaching to provide students with opportunities for language use".

In a study exploring teachers' practices and application of Communicative Language Teaching (CLT) in the Yemeni context, Al-Sohbani (2013) concludes that the dominating pedagogical practice of the majority of language instructors is the Grammar Translation Method (GTM) along with using Arabic, Yemenis' mother tongue, in all class interactions. Therefore, the main focus in such classrooms is grammar rather than language use. Not only that, but also instructors lack understanding of Communicative Language Teaching (CLT) and how it is implemented in the classroom. Similarly, Anaam (2021) determines that EFL instructors in Yemen prefer using GTM rather than the communicative approach as their major objective is finishing the syllabus. Rula Bataineh, Ruba Bataineh, and Samiha Thabet (2011) have also investigated Yemeni instructors' knowledge and practice of CLT and concluded that these instructors find a difficulty in implementing this approach due to large classes and lack of funding and CLT training. Bataineh et al (2011) and Nemah Ezzi (2012), however, conclude that despite instructors' knowledge of CLT, this knowledge is not apparent in their classroom practices as they tend to prefer to focus their classes on structure and grammar rather than communication. It is to understand that language teaching in Yemen is still confined to the use of traditional approaches and there is a total ignorance to the recent approaches of teaching including TBLT and Task complexity theories.

Language teaching should focus on improving learners' skills that would enable them to communicate in the target language. Writing as a means of communication is an essential part in learning a new language and so it is the case for learning writing in an English learning class. Writing is the most difficult among the four language skills to be acquired and more attention should be given to develop this skill in language learners. However, as previously stated, learning and teaching English in Yemen is in a poor condition and as writing is a part of language learning, its case is not different by any means. Yemeni learners' writing is generally characterized by language errors including wrong word choice, spelling, sentence structure, and punctuation among others (Abdulwahab and Motair, 2019; Al-Tamimi, 2018). These errors inevitably hinder learners' attempt to communicate in writing. A number of factors contribute to this insufficiency of writing learning outcomes including the writing curriculum itself, teachers' practices and teaching methodologies, and the general condition of education in Yemen.

Research on the writing curriculum used in Yemeni schools shows that it is highly dependent on the principle of cognition rather than communication. In his examining of students' written production, Al-Hammadi and Sidek (2015) states that they are not trained well enough in the types of essays with high cognitive demand (i.e.. expository) in contrast to the less cognitively demanding writing (i.e., narrative), which does not prepare them well in terms of writing in English. Thus, the Yemeni curriculum of English ignores communication and even worse, the use of cognition, which is the objective of the curriculum, is not handled properly.

Further research on the condition of teaching writing in Yemen declares that teachers find it challenging to teach English writing to Yemeni learners, whose mother tongue is Arabic, due to language interference, large class number, and learners' negative attitude towards writing and low level of competence. Yet, aside from these challenges, the greatest challenge of teaching and learning writing is the teachers themselves. That is to say, teachers are neither well-qualified nor well-trained to teach the writing skill. Not only that but they also lack the use of communicative methods in their pedagogical practices (Nasser, 2016).

Despite the limited number of studies on the Yemeni context, all of the available research generally agrees that teaching English in Yemen and particularly writing is not at its best. Poor teaching methodologies and curriculum along with the class condition result in poor language learning outcomes. One of the biggest challenges that face language learning in Yemen is the lack of application and knowledge of the communicative approach as Yemeni teachers largely depend on the Grammar Translation Method.

III. METHODOLOGY

A. Introduction

This chapter provides an overview of the experimental part of this study. It describes the study design, context, participants, tasks, data collection instruments and procedures, CAF measurement, and used programs. With the theoretical framework of task complexity theory, an experiment was carried out.

In his theory, Robinson (2001b: 28) defines task complexity as "the result of the attentional, memory, reasoning, and other information processing demands imposed by the structure of the task on the language learner". Task complexity is manipulated through a number of factors divided into resource-directing and resource-dispersing. The focus of this study is on resource-directing factors, namely +/- here and now, +/- few elements, and +/- reasoning demands. According to Robinson's Cognition Hypothesis, the increase in cognitive complexity in terms of these factors would improve the complexity and accuracy of learners' performance but not fluency. The available literature on task complexity and the Cognitive Hypothesis could neither approve this theory nor establish a balance between the CAF of learners' performance. It is important to note that these studies share one concept that they are studying the effects of task complexity in isolation from other factors that may affect learners' performance. However, in his triadic componential framework, Robinson (2003) has pointed out other factors that may affect language learning and task performance, and other researchers (e.g., Byrnes and Manchón, 2014; Vasylets, 2017) have called for amending the Cognitive Hypothesis, which is intended for oral mode, to be suitable for written mode.

This study confirms that there are some factors other than task complexity that affect learners' performance. It is to say that, if task complexity is investigated in relation to such a factor, a balance can be created between CAF of learners' performance. Though the TBLT approach advocates a learner-centred class, the role of the teacher is

not totally ignored. A teacher plays an important role as a facilitator who guides learners through the learning process and promotes their performance. Therefore, this study aims at exploring the impact of one of the most important factors that may influence learners' performance, in addition to task complexity. It is the teacher's role, represented by direct written corrective feedback. To accomplish this, a number of tasks have been adopted to study the effects of increasing both task complexity and corrective feedback on participants' written performance. It is to find out if it can create a balance between the CAF constructs of learners' production.

B. Research Design

This study followed a primary research design where the hypothetical question was answered using empirical data. It was an experimental study that involved the manipulation of independent variables while controlling all other relevant variables to measure their effects on a number of dependent variables. It was a repeated-measured design (within-subjects design) in which the independent variables were examined on the same group of participants under different conditions. That is to say, each participant took part in each condition of the independent variables over the course of the experiment, and their responses were measured. One of the advantages of this design is that it requires fewer participants. The researcher did not have to recruit a group of participants for each condition, yet still had a good chance of detecting an effect that actually existed because the participants were involved in all of the treatment conditions to detect the effect size. In addition, this design reduced participant variables that may affect experiment results because it allowed the participants to serve as their own control. The repeated measures design is statistically powerful and efficient.

In this study, the effects of task complexity with and without the teacher's written corrective feedback on the CAF of participants' written performance were investigated by having all the participants perform a series of tasks. Besides the pre-test, the experiment consisted of nine treatment tasks that differed in the independent variables of complexity and teacher intervention. In each task, a variable was changed in order to be able to measure the impact of task complexity (simple vs. complex) in terms of resource-directing factors (+/- here and now, +/- few elements, +/- reasoning demands) with or

without written corrective feedback. The dependent variables were the CAF constructs of participants' production (complexity, accuracy, fluency) that reflected the influence of the manipulation of task complexity and corrective feedback. The study aims to answer the following question:

Research Question 1: What are the effects of task complexity with or without the teacher's direct written feedback on the complexity, accuracy, and fluency of the learners' written production in terms of resource-directing variables?

The question was answered by evaluating the participants' written compositions. The effects of task complexity alone were examined by comparing participants' performance of simple and complex versions of the six tasks of the first phase of the experiment. Since in each session a different resource-directing variable was employed (+/- few elements, +/- reasoning demands, +/- here and now) in the provided prompts, there was an appropriate amount of data to measure which of these independent variables had a greater impact on the dependent variables of complexity, accuracy, and fluency in the participants' written performance. The effects of task complexity associated with the teacher's direct feedback were measured by comparing the participants' compositions in the second phase of the experiment. In this phase, written corrective feedback was provided to the participants on their writings in addition to task complexity manipulation.

C. Context and Participants

This study was conducted at the New Horizons Center in Sana'a, the Republic of Yemen. In this country, English is taught as a foreign language in schools and institutes. Though Arabic is the mother tongue, a proficiency level in English is required to join some university majors, such as medicine and engineering, and to be hired in a number of job positions. English is taught in Yemeni schools from an early age, but students graduate with low proficiency levels due to teachers' lack of interest. Consequently, a huge number of students study English at private language institutes. However, such institutes are still following the traditional approaches to language teaching.

Over the course of a semester, the study experiment was conducted on a group of participants who were enrolled in their regular course at a private language institute.

They were intermediate-level EFL learners whose first language was Arabic. In fact, the experiment was conducted on 53 EFL learners. The participants who did not perform more than two of the treatment tasks were taken out. Thus, the study sample consisted of 33 Yemeni EFL adult learners (20 males and 13 females) whose ages ranged from 19 to 23 years old. The participants were selected on purpose to be the study's primary source of data. The purpose was to have a sample that has a good mastery of the English language and the ability to write compositions. It was an appropriate sample to investigate the impact of task complexity and corrective feedback on written performance. Thus, this research depended on purposive sampling, where participants were selected according to their characteristics related to the study's problem. The participants were a homogenous group in terms of age, L1, and proficiency level. All of them had attended English courses before and had the capability to use the English language and write narratives. It is to be noted that the participants formed the treatment group and there was no control group, because the goal of this study relied on measuring the improvement of the same participants' writings in multiple conditions.

It was not necessary to determine the participants' proficiency level, as most of the participants already had taken a number of courses at the institute and passed a proficiency test in order to move to the intermediate level. The new participants joining the institute were placed in this course according to the scores of the institute's placement test. Moreover, all participants were given a writing task before starting the experiment to evaluate their writing proficiency. The participants who did not have the capability of writing were taken out of the group.

D. Methodology

1. Instrument

This study was based on empirical research that relied on original data collected in the field. It aims to investigate the effects of task complexity with and without feedback on language performance and production in EFL classrooms. It is a mixed-methods study that employed both quantitative and qualitative approaches to achieve its objectives. In the macro-level perspective, the quantitative approach was used to investigate to what extent task complexity with and without feedback affected the CAF of learners'

written performance. The effects of manipulating independent variables were examined using a range of quantitative measures. The complexity, accuracy, and fluency of participants' written production were measured by analyzing the types of words and complex structures, grammatical and structural mistakes, and the number of words, respectively. While in the micro-level perspective, the qualitative approach was used to explore the quality of participants' performance before and after the intervention. There was a focus on the results of each task individually, and then on the impact of applying the designed method in general.

The study was designed to have a pre-test and treatment tasks. The pre-test was used as a baseline to measure the improvement in participants' production before and after the intervention. The participants were given two direct questions to select one and write on a particular topic. The topics were taken from "*501 Writing Prompts,"* published by Learning Express, LLC, in 2003). In the treatment, visual prompts were used to help the participants to write short narratives. Such tasks were used in most of the literature available on task complexity. But none had used them to measure the effects of both task complexity and corrective feedback at the same time, to the researcher's best knowledge. There were 9 treatment tasks; a different prompt was used in each task. The picture stories were taken from "Storyboard" by Mark Fletcher and Richard Munns (2006) as well as from www.pinterest.com which shares images, known as pins, and other media content. These picture stories were similar but different in one variable as shown in the following Table 4. They prompted the participants to write a story according to the events they could imagine. It was to find out how the independent variables could control and improve the CAF constructs in the participants' writings.

Table 4 List of Treatment Tasks

Task No.	**Task Description**	**Independent Variables**
Task 1	Simple task	+/- few elements + no feedback
Task 2	Complex task	+/- few elements + no feedback
Task 3	Simple task	+/- reasoning demands + no feedback
Task 4	Complex task	+/- reasoning demands + no feedback

Table 4 (continued) List of Treatment Tasks

Task 5	Simple task	+/- here and now + no feedback
Task 6	Complex task	+/- here and now + no feedback
Task 7	Complex task	+/- few elements + feedback
Task 8	Complex task	+/- reasoning demands + feedback
Task 9	Complex task	+/- here and now + feedback

2. Data Collection Procedures

This study predicted that increasing task complexity with consideration of other factors that may affect the learning process such as teacher's feedback would achieve balance in the CAF of participants' written performance. It depended on a number of independent variables which were +/- here and now, +/- few elements, +/- reasoning demands, and teacher's feedback that were manipulated to investigate their effects; as well as on dependent variables: complexity, accuracy, and fluency which were measures for these effects. To address the study's questions, the participants were provided with a number of tasks to perform, in addition to the pre-test. Each of the adopted tasks was presented in two versions (simple and complex) with distinct variations in task complexity and feedback. They were visual prompts which helped the participants to write a short narrative story. It was expected that the more complex versions of resource-directing tasks would engage participants in higher cognitive processes and with the addition of the teacher's direct corrective feedback would improve the participants' performance level and enhance the CAF of their written production.

The study largely depended on measuring the possible changes that may occur in learners' written production CAF in accordance with the increase in task complexity and the presence of teacher's feedback. The participants were provided with the tasks at the beginning of their class by their own teacher. It is to say that the researcher was not the teacher of the course and the participants were engaged in other activities. The participants did not have any idea about the purpose of the writing tasks. It is to get realistic data and evaluate the participants' actual performance.

The study experiment was implemented in two phases that took a 5-week duration. Each phase contained a number of tasks of 15 minutes duration. Every two or three days, one task was implemented. Before starting the tasks, the participants were instructed that they should look at the visual prompt, imagine the occurred events, and write a narrative. They were required to write narratives of up to 250 words.

Before starting the experiment, the participants took a writing task to measure their writing proficiency (Appendix 1). The participants were provided with two topics and they had to select one and make a narrative writing. The topics were taken from "*501 Writing Prompts"* published by Learning Express, LLC., (2003).

- ✓ "Movies and books often talk about the importance of loyalty and friendship. Tell about a time in your life when friendship proved to be of great importance to you".
- ✓ "Some of our richest experiences take place when we travel. Tell about a memorable experience you had when you were traveling".

The purpose of this task was to get baseline data before the study intervention. Then, the two phases of the experiment started. The first phase was concerned with increasing task complexity in terms of resource-directing variables (one variable in each session). After that, the participants were given general feedback about their implementation, errors and weak points. Then, the second phase of the experiment was implemented. In this phase, task complexity manipulation was associated with giving the participants direct corrective feedback on each task writing. The compositions were collected to be evaluated and write direct corrective feedback on them and asked participants to revise them incorporating all comments. The experiment design is shown in the following diagram:

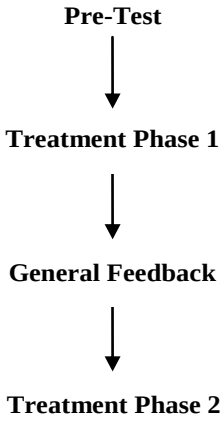

Figure 3 Diagram of the Experiment Design

As mentioned above, the treatment consisted of nine tasks implemented in two phases. In the first phase, 6 sessions were implemented. In each session, a different resource-directing variable was employed (+/- here and now, +/- few elements, +/- reasoning demands). For each variable, there were simple and complex versions. The second phase consisted of three sessions where written corrective feedback was provided in addition to task complexity manipulation.

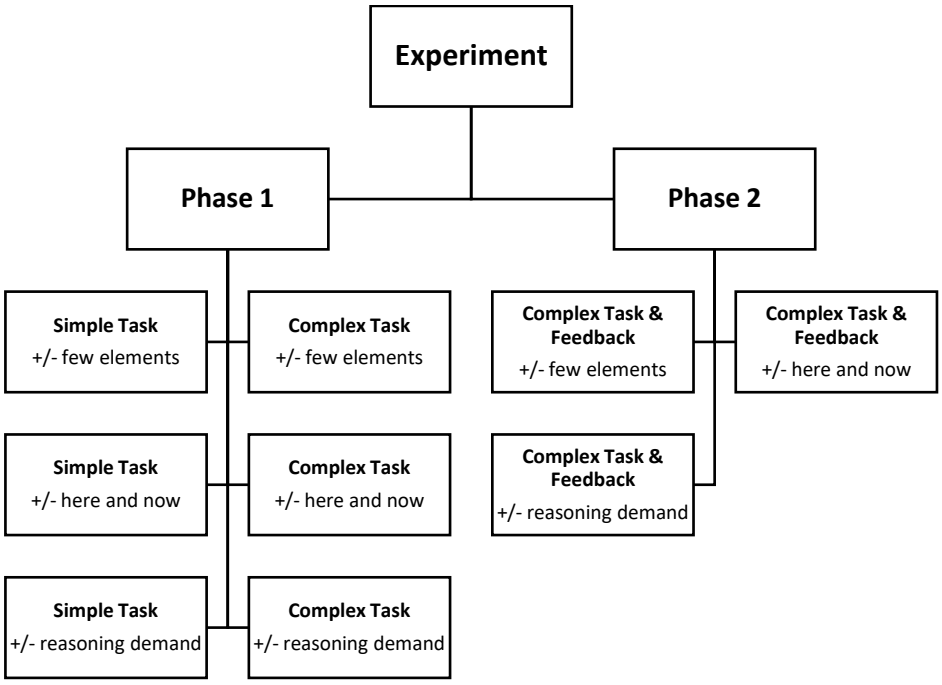

Figure 4 Diagram of the Experiment Phases

First Session: In this session, task complexity was manipulated in terms of the (+/- few elements) variable. It was to adopt Kim's (2009) picture difference task. It was a picture-narration task in which participants were asked to write a story from the picture they saw. Here, the participants performed the simple version of the task where the picture contained few characters and objects (Appendix 2).

Second Session: In this session, participants performed the complex version of the "(+/- few elements" task. They were provided with a picture similar to the one used

in the first session but with more elements and events in order to write a narrative (Appendix 3).

Third Session: In this session, task complexity was manipulated in terms of the (+/- reasoning demands) variable. By reasoning demands it is referred to the requirement of critical thinking. The participant was obliged to provide reasons and justifications for his point of view. In this session, the participants were required to perform the simple version of this task where they were not required to provide any reasons while writing (Appendix 4).

Fourth Session: The participants were required to perform the complex version of the variable (+/- reasoning demands). In this task, the participants were obliged to provide reasons and justifications for their decision (Appendix 5).

Fifth Session: Task complexity was manipulated in terms of the (+/- here-and-now) variable. The narrative task of Robinson, Ting, and Urwin (1995) was adopted. The participants were provided with a comic strip and they were required to narrate a story (Appendix 6). In this session, the participants performed the simple version of this task, i.e., they wrote the story in the present tense (+ here-and-now).

Sixth Session: In this session, participants were required to perform a task similar to the fifth one but in the complex version (Appendix 7), i-e, they narrated the story in the past tense to manipulate the task complexity variable of (+/- here-and-now).

In the first phase, the compositions were collected from the participants, scanned, and returned to them without any feedback. But before starting the second phase of the experiment, complete direct feedback was given to the learners about their written performance.

Immediately following the first phase, the second phase of the experiment was implemented to measure how teacher's feedback would impact learners' written production CAF in the presence of task complexity. Therefore, the participants were required to carry on writing tasks similar to the ones in phase one, but with the addition of the teacher's direct written corrective feedback on their writings. The feedback was on spelling errors, grammatical mistakes, content, ideas, organization... etc.

Seventh Session: The participants were provided with the complex version of the "+/- few elements" task (Appendix 8). The picture contained many elements and

events and participants were required to write the narrative with the help of the picture. The task was similar to the one performed in the second session but with a different picture story. It was to evaluate how feedback given on their performance affected the quality of their writing for a similar task. Also, the compositions were collected to be evaluated and write direct corrective feedback on them and asked participants to revise them incorporating all comments.

Eighth Session: The participants performed the complex task of the "+/- reasoning demands" task (Appendix 9) where task complexity was manipulated in terms of the reasoning demands factor. The task was similar to the one performed in the fourth session but with a different picture story. It was to evaluate how feedback given on their performance affected the quality of their writing for a similar task. The compositions were collected to be evaluated and write direct corrective feedback on them and ask participants to revise them incorporating all comments.

Ninth Session: The participants were provided with the complex version of the "+/- here-and-now" task (Appendix 10). They performed a task similar to the one performed in the sixth session but with a different picture story. They were required to write the narrative in the past tense according to the events they saw in the picture. The compositions were collected to be evaluated and write direct corrective feedback on them and ask participants to revise them incorporating all comments. It was to evaluate how feedback given on their performance affected the quality of their writing for a similar task.

The data were collected to measure the CAF of the participants' production before and after manipulating task complexity and getting the teacher's written feedback.

3. CAF Measurement

The available research on the effects of task complexity measure language performance, whether speaking or writing, using CAF constructs, namely, complexity, accuracy, and fluency. This CAF division of the performance dimension was suggested by Skehan (1996, 1998), and then adopted by other linguists later. CAF constructs are used to measure how language in use is elaborative (Thompson, 2014) as well as track language learning progress (Choong, 2014). To evaluate the impact of any intervention on

learners' production, these constructs are measured. They are multidimensional concepts that provide a more objective and precise account of learners' performance. Since this study is concerned with exploring the effect of task complexity, language performance has been measured using these constructs.

a. Complexity measurement

Complexity refers to the use of more challenging and difficult language. According to Wolfe-Quintero et al. (1998: 69) complexity is "a wide variety of both basic and sophisticated structures and words available to the learner". That is to say, complexity includes both lexical and syntactic complexity. Choong (2014) argues that complex tasks would demand the use of more sophisticated terminology. Therefore, in this study, lexical complexity was analyzed by measuring lexical diversity and lexical density. It was to understand which types of words the participants use and how they use them with variation or repetition.

Lexical density is the ratio of lexical words in a text. It estimates linguistic complexity in writing from the content words to functional words. It is calculated according to the following formula

$$\frac{\text{number of content words}}{\text{total number of words}}$$

(1) The **detective saw** that the **manager's head** was **shot** from the **back**, which **meant** that the **murderer** did **not use** the **door** to **enter**. They **took** the **bullet** out of the **manager's head** and **gave** it to the **police station**. After the **result came** to the **detective**, he **immediately caught** the **company security guard** because it was his **bullet**. After some **questioning**, he **admitted** to **killing** the **manager** because of his **bad treatment**.

In the above example, Participant 16 wrote these sentences in response to task 3 of the treatment (simple version of reasoning demands tasks). To measure the complexity of this text in terms of lexical density, the number of content words was computed to the total number of words. Therefore, the lexical density of this text is 34/73, or 0.47.

To assess the lexical richness of a text, lexical diversity should be measured. Lexical diversity isthe ratio of distinct word stems (types) divided by the total number of

words (tokens). It can be calculated using a variety of indices. Most of them are sensitive to the effects of text length and thus mix up text length and vocabulary breadth. In this study, the MTLD measure was used because it provides the strongest evidence for producing objective lexical diversity scores and is extremely stable across all text lengths (Zenker & Kyle, 2021). MTLD is "the mean length of sequential word strings in a text that maintain a given TTR value" (McCarthy & Jarvis, 2010: 384). It takes advantage of the fact that the Token-Type Ratio (TTR) decreases as more words are added and calculates how many words must be added before the TTR falls below a predetermined threshold. TTR serves as a cutoff point for MTLD's text inspection when it reaches a specific value (normally 0.79). When the TTR factor size value is reached, the TTR measurement recurs with the subsequent token. The mean length of sequential word strings in a text that maintains a specific TTR value is used to calculate MTLD. The total factor count is divided by the text's overall word count.

Syntactic complexity was investigated by measuring phrasal and clausal complexifications. To implement this, a number of measures were used. First, the mean length of the T-units was considered. T-unit was referred to as “a finite clause together with any subordinate clauses dependent on it” (Choong, 2014: 101). Norris and Ortega (2009) argued that the mean length of T-unit is a “generic meter of linguistic complexity” as it measures general syntactic complexity. To compute the mean length of T-units the following formula was used:

$$\frac{\text{number of words}}{\text{number of T-units}}$$

(2) The detective saw that the manager’s head was shot from the back, which meant that the murderer did not use the door to enter. // They took the bullet out of the manager’s head and gave it to the police station.// After the result came to the detective, he immediately caught the company security guard because it was his bullet.// After some questioning, he admitted to killing the manager because of his bad treatment.

In the same example taken from the writings of Participant 16, double slashes indicated T-unit boundaries. The participant in this case generated four T-units. They are 75 words long in total. As a result, the mean length of the T-unit (MLT) is 75/4, or 18.75 words.

However, T-units that are shorter in length may be more complicated than those that are longer. Thus, another common measure of syntactic complexity was used which is subordination. To implement this, the number of clauses was calculated by the following formula:

$$\frac{\text{number of clauses}}{\text{number of T-units}}$$

(3) The detective saw that the manager's head was shot from the back,// which meant that the murderer did not use the door to enter. // They took the bullet out of the manager's head and gave it to the police station.// After the result came to the detective,// he immediately caught the company security guard// because it was his bullet.// After some questioning,// he admitted to killing the manager// because of his bad treatment.

Using the same example, we denoted clause boundaries with double slashes. It was made up of 9 clauses and 4 T-units. It meant that there were 9/4 clauses per T-unit (CT), or 2.25 clauses per T-unit.

Since the subordination measure does not include coordinated T-units that participants may use in exchange for subordinated T-units, this would affect the ratio of clauses. As a result, syntactic complexity was also explored by the coordination measure proposed by Bardovi-Harlig (1992). It was used to differentiate between those who used coordination and those who used subordination to increase syntactic complexity. Therefore the third measure was to calculate the number of coordinated phrases in each T-unit.

$$\frac{\text{number of coordinated phrases}}{\text{number of T-units}}$$

(4) The detective saw that the manager's head was shot from the back, which meant that the murderer did not use the door to enter. They took the bullet out of the manager's head **and gave it to the police station**. After the result came to the detective, he immediately caught the company security guard because it was his bullet. After some questioning, he admitted to killing the manager because of his bad treatment.

There was just one coordinated phrase in this example, which was highlighted. It meant that the number of coordinated phrases per T-unit (CP/T) was 1/4, or 0.25 coordinated phrases per T-unit.

The mean length of clauses was the fourth measurement that was employed. According to Norris and Ortega (2009), this sort of measure can detect the sub-clausal complexity created by adjective, adverbial, and nominal phrases, which other measures cannot. Sub-clausal syntactic complexity was measured using the following form of calculation: The mean length of a clause was computed by summing the total number of words in all clauses and then dividing by the total number of clauses.

$$\frac{\text{number of words}}{\text{number of clauses}}$$

(5) The detective saw that the manager's head was shot from the back, which meant that the murderer did not use the door to enter. They took the bullet out of the manager's head and gave it to the police station. After the result came to the detective, he immediately caught the company security guard because it was his bullet. After some questioning, he admitted to killing the manager because of his bad treatment.

Since these lines written by Participant 16 consisted of 75 words and 9 clauses, the mean length of a clause was calculated as 75 words divided by 9 clauses (75/9), or 8.3333 words per clause.

b. Accuracy measurement

Accuracy refers to the degree of conformity to certain language usage norms. Skehan and Foster (1999: 96) view accuracy as "the ability to avoid error in performance, possibly reflecting higher levels of control in the language, as well as a conservative orientation, that is, avoidance of challenging structures that might provoke error". Some researchers measure accuracy by the ratio of error-free clauses or error-free T-units. However, Wolfe-Quintero et al. (1998: 34) argue that "the decision to include various types of errors depends on the learners' level, the discriminative value of the errors within the population, and the researcher's preferences". It is to denote that the error-free approach to analyzing accuracy cannot be generalized. Moreover, Choong (2014) believes that it may be difficult to find out free-error clauses in the writings of intermediate-level learners, which is the level of this study's participants. Thus, the error-free approach with considering spelling errors and punctuation is not beneficial as it does not provide important information. Therefore, while evaluating accuracy in this

study, errors in spelling and punctuation were not taken into consideration. Accuracy was analyzed by calculating the number of errors in each 100 words in the written compositions.

$$\frac{\text{number of errors} \quad \text{x } 100}{\text{total number of words}}$$

(6) The detective saw ***that*** the manager***'s*** head was shot from the back, which mean***t*** that the murderer did not use the door to enter. They took *of* the bullet out of the manager***'s*** head and gave it to the police station. After the result came to the detective, he immediately caught the company security guard because it was his bullet. After some question***ing,*** he admitted killing the manager because ***of*** his bad treatment.

In the original version of the example taken from the writings of Participant 16, we could find some mistakes that affected the accuracy of his writing. All mistakes were italicized; the bold words are supposed to be added, and the underlined words should be removed. One punctuation error was discovered that was not calculated (the missing comma that should be put after "After some questioning"). It means that the total errors in these lines, consisting of 71 words, were (7). Therefore, accuracy in each 100 words was computed as (7/71x100) = 9.85.

c. Fluency measurement

Fluency refers to a person's general language proficiency. Skehan (1996: 46) has defined fluency as "the capacity to mobilize the inter-language system to communicate meaning in real time". Similarly, Wolfe-Quintero et al. (1998: 117) have defined it as "rapid production of language". Therefore, Skehan (1998) suggests three measures for fluency; breakdown fluency (number of pauses in speech), repair fluency (self-correction measure of false starts, reformulation, repetition…etc.), and speed fluency (rate of speech). However, fluency in written mode is different from that in oral mode. It "is not a measure of how sophisticated or accurate the words or structures are, but a measure of the sheer number of words or structural units a writer is able to include in their writing within a particular period of time" (Wolfe-Quintero et al., 1998: 14). Some researchers have examined fluency through three measures; number of clauses, number

of T-units, and number of sentences. However, with these measures, there would be an overlap between fluency and complexity. However,

> *the addition of subordinate clauses can lengthen an utterance or T-unit, but so can adding adjectives and prepositional phrases that pre- or postmodify nouns, or adding nonfinite verb phrases that modify other elements via nonsubordinating clausal means, or other possibilities. It is for this reason that the mean length of a potentially multi-clausal production unit can only be interpreted as a global or generic metric of linguistic complexity: such measures index overall syntactic complexity. (Norris & Ortega, 2009: 561)*

Therefore, fluency was measured in this study by the total number of written words in a task within a required time limit. It is to follow Schmidt's (1992: 358) definition of fluency as "the processing of language in real time". The fluency construct was measured by calculating the total number of words a participant was able to write within a given time frame of 15 minutes.

4. Data Coding Tools

After conducting the experiment, all compositions written by the participants for the pre-test and treatment tasks were transcribed into Word files. These gathered data were coded according to the selected CAF measures. It should be noted that was not coded manually but with the use of reliable programs. This helped decrease the percentage of mistakes while measuring the effects of study interventions and coding them.

Lexical density was measured in order to analyze lexical richness. This was carried out using the Lexical Complexity Analyzer (LCA), one of the most well-liked text analysis tools. It is a web-based system designed by Xiaofei Lu (2010) to automatically analyze texts in terms of lexical density, variation, and sophistication. It uses texts and generates output in numbers without the need for any preprocessing. For the purpose of this study, only the lexical density index was used. It is to measure the ratio of content words to functional words by dividing the number of content words by the total number.

For analyzing lexical diversity, TAALED was used. It is a tool designed by Kristopher Kyle, Scott Crossley, and Scott Jarvis (2021) primarily to investigate lexical diversity. TAALED analyzes lexical diversity in terms of a number of indices. In this study, the MTLD index was selected. Kyle et al. (2021) argue that MTLD has been demonstrated to be the best measure for capturing lexical diversity because it gives im-

partial cores while keeping a high level of stability across different text lengths. Zenker and Kyle (2021) also confirm that the MTLD index is an appropriate and stable measure of lexical diversity in short L2 English written texts.

A number of text analysis systems currently exist that measure some indices of syntactic complexity. In this study, syntactic complexity was investigated by measuring the mean length of T-units, number of clauses, mean length of clauses, and the number of coordinated phrases in each T-unit by using TAASSC (Kyle, 2016). It is a tool for analyzing the syntactic properties of written texts. It automatically measures syntactic complexity and sophistication using a variety of indices. Indices that are relevant to our purpose of using this tool, which is primarily to quantify syntactic complexity in order to refine our analysis of linguistic complexity, were selected. Therefore, the output was constrained by syntactic complexity indices (MLT, MLC, CP/T, and C/T). TAASSC is "particularly useful for researchers testing theories of language development generally and writing development specifically" (Kyle, 2016: 156).

To avoid any bias in analyzing accuracy, the researcher employed artificial intelligence. The accuracy of participants' writings was verified using both Grammarly and Quilbot. They are writing platforms designed to enhance writing to be more effective, professional, and polished. They include a tool for simplifying the writing process and checking a wide range of grammatical mistakes, tense misuse, punctuation errors, word misuse, and spelling errors. It is important to note that the texts were revised one by one manually in order to check for the identified errors and exclude punctuation and spelling errors.

IV. RESULTS AND FINDINGS

A. Introduction

In this chapter, the results obtained from the experiment are displayed. The analysis performed in this study is original and has been carried out for specific purposes. All participants' writings are transcribed in Word format and then analyzed. It is to analyze the effects of manipulating task complexity with and without the teacher's direct written corrective feedback on the CAF constructs of the participants' written production. After transcribing and encoding the texts written by the participants, IBM SPSS version 28.0.0.8 is used to carry out the statistical analysis of the data. Repeated measures ANOVA test is conducted to investigate the effects of task complexity factors associated with and without teacher's feedback. Each variable of task complexity's resource-directing dimension (+/- here and now, +/- few elements, and +/- reasoning demands) is examined in terms of the three CAF constructs. The results of each part of the hypothetical question are presented separately.

B. Data Analysis

Different measures are used in the analysis, which are claimed to constitute valid descriptors of L2 performance (Housen et al., 2012; Pallotti, 2009). These measures are selected according to their relevance to the purpose and objectives of this study and the tasks they are used for. The way in which CAF constructs has been investigated is discussed in Chapter 3. In fact, the study intervention consists of three tasks related to each of the resource-directing variables: simple task, complex task, and complex task associated with the teacher's feedback. The simple task is considered to be the control against which the effects of task complexity variables and teacher's feedback manipulated in the second and third tasks are compared. It is to say that the participants undergo each condition, the control and the treatment.

A series of repeated measures ANOVA tests are run for task complexity variables with and without feedback as within-subject variables. The three variables of task complexity's resource-directing dimension (+/- here and now, +/- few elements, and +/- reasoning demands) are tested separately with and without the teacher's direct corrective feedback. They are measured by comparing the results of CAF in the three tasks of each variable (simple task, complex task, complex task associated with teacher's feedback).

Repeated measures ANOVA test looks for any general variations between comparable means. It investigates how the mean scores of various conditions differ from one another. The fact that this approach requires fewer participants is one of its benefits. As long as participants are included in all of the treatment conditions, this design allows us to avoid using a group for each condition and yet have a reasonable probability of finding an impact that truly occurs. This approach also minimizes participant factors that might influence the outcomes of an investigation mainly because it lets the participants act as their own controls. This increases the statistical power and effectiveness of repeated measures design. It is crucial that the same sample is evaluated several times using the same dependent variable. The repeated measures ANOVA is an appropriate option of analysis for this study since the participants are exposed to more than one condition and it is necessary to examine how well they have performed in each of them. It is important to examine the effects of task complexity factors on the CAF of the participant's written production and to understand if these effects would differ if the participants are provided with teacher feedback. Therefore, the dependent variables of CAF constructs are evaluated in three conditions (i.e., without task complexity, with task complexity, with task complexity and teacher's feedback).

C. Research Question

- What are the effects of task complexity on the complexity, accuracy, and fluency of the learner's written production in terms of resource-directing variables (+/- few elements, +/- reasoning demands, +/- here and now)? Does task complexity combined with direct feedback create a balance between complexity, accuracy, and fluency variables in the learner's written production?

The analysis of the raw data related to the research question is conducted using the repeated measures ANOVA test. For this question, it is predicted that task complexity would have a greater impact on improving learners' written production if combined with the teacher's direct written feedback.

The study's null hypothesis is that the participants' performance would be the same in all three conditions (simple task, complex task, and complex task with teacher feedback). The manipulation of task complexity resource-directing variables does not have any impact on the CAF constructs of the participants' written production; whether it is or is not associated with the teacher's written corrective feedback.

The alternative hypothesis states that there would be some significant differences in the participants' performance in one of the conditions. The manipulation of task complexity resource-directing variables has effects on the CAF constructs of the participants' written production, especially when it is associated with the teacher's written corrective feedback.

D. Effects of Study Intervention

Table 5 presents the descriptive and inferential statistics for the whole measures including mean scores, standard deviations, and confidence intervals over the three writing tasks determined for each task complexity variable (+/- few elements, +/- reasoning demands, +/-here and now). It summarizes the main effects of the three variables of task complexity with and without feedback in terms of complexity (lexical complexity is measured by lexical density and lexical diversity; and syntactic complexity is measured by MLT, MLC, C/T and CP/T), accuracy (measured by the number of errors in 100 words), and fluency (measured by the number of words measured within 15 minutes).

The analysis of the raw data related to the research question is conducted using the repeated measures ANOVA test. It is predicted that task complexity would have a greater effect on improving learners' performance if other factors affecting the learning process are considered. In this study, the impact of the three dimensions of task complexity (+/- few elements, +/- reasoning demands, +/- here and now) on learners' written production is investigated in combination with the teacher's direct written feedback.

Given that we are investigating eight measures for each of the three resource-directing dimensions, twenty four tests on the dataset of the three variables are performed. For all tests, the alpha value of the statistical significance threshold is 0.05. In cases where the repeated measured ANOVA reveals statistically significant differences, LSD's post hoc comparison test is used to reveal which variable is responsible for the difference.

Depending on the various independent factors being investigated in the study, Table 5 presents the descriptive and inferential statistics for the whole measures, including mean scores, standard deviations, and confidence intervals over the three writing tasks determined for each task complexity variable (+/- few elements, +/- reasoning demands, +/- here and now).

Table 5 Descriptive Statistics for Simple and Complex Tasks

Independent Variable						**+/- Few Elements**				
		Simple Task			*Complex Task*			*Complex and Feedback*		
Dep. Measure	*N*	*M*	*SD*	*CI*	*M*	*SD*	*CI*	*M*	*SD*	*CI*
Syntactic Complexity										
MLT	22	9.59	2.17	8.63-10.56	8.52	1.06	8.05-9.00	9.01	1.49	8.36-9.68
C/T	22	1.27	0.33	1.12-1.41	1.13	0.21	1.03-1.22	1.17	0.15	1.10-1.24
MLC	22	7.74	1.47	7.09-8.40	7.76	1.42	7.13-8.39	7.75	1.26	7.19-8.31
CP/T	22	0.22	0.11	.17-.27	0.18	0.14	.12-.24	0.23	0.17	.16-.31
Lexical Complexity										
Density	22	0.47	0.04	.45-.49	0.47	0.12	.41-.52	0.47	0.04	.45-.49
Diversity	22	42.49	10.15	37.99-46.99	45.75	14.27	39.42-52.08	37.03	10.16	32.53-41.54
Accuracy										
Errors/100 words	22	10.95	5	8.73-13.17	11.57	5.24	9.25-13.90	10.83	5.23	8.52-13.16
Fluency										
Words no	22	98.09	44.41	78.40-117.78	111.5	51.76	88.51-134.40	103.1	29.55	89.94-116.15
Independent Variable						**+/- Reasoning Demands**				
		Simple Task			*Complex Task*			*Complex and Feedback*		
Dep. Measure	*N*	*M*	*SD*	*CI*	*M*	*SD*	*CI*	*M*	*SD*	*CI*
Syntactic Complexity										
MLT	25	11.54	2.81	10.38-12.70	10.85	2.77	9.71-12.00	9.66	1.61	9.00-10.33
C/T	25	1.48	0.44	1.29-1.66	1.35	0.38	1.19-1.51	1.34	0.22	1.25-1.43
MLC	25	8.08	1.79	7.34-8.82	8.38	2.36	7.41-9.35	7.3	1.29	6.77-7.83

Table 5 (continued) Descriptive Statistics for Simple and Complex Tasks

CP/T	25	0.31	0.17	0.23-.38	0.26	0.23	0.17-0.35	0.2	0.17	0.13-0.27
Lexical Complexity										
Density	25	0.46	0.04	0.44-0.48	0.47	0.04	0.46-0.49	0.46	0.04	0.45-0.48
Diversity	25	40.81	9.12	37.05-44.57	39.98	10.56	35.62-44.33	47.33	16.94	40.34-54.32
Accuracy										
Errors/100 words	25	10.89	4.23	9.14-12.64	10.91	3.72	9.37-12.44	10.07	4.99	8.01-12.13
Fluency										
Words No.	25	170.6	54.29	148.19-193.01	121.6	47.05	102.14-140.98	136.6	58.81	112.36-160.92
Independent Variable						**+/- Here and Now**				
				Simple Task			*Complex Task*			*Complex and Feedback*
Dep. Measure	***N***	***M***	***SD***	***CI***	***M***	***SD***	***CI***	***M***	***SD***	***CI***
Syntactic Complexity										
MLT	21	9.32	1.83	8.49-10.15	9.46	1.64	8.71-10.20	10.85	2.22	9.84-11.86
C/T	21	1.02	0.22	.92-1.12	1.26	0.2	1.16-1.35	1.42	0.3	1.29-1.56
MLC	21	9.62	3.26	8.14-11.10	7.64	1.44	6.99-8.30	7.7	1.11	7.20-8.20
CP/T	21	0.31	0.19	.22-.40	0.17	0.11	.12-.22	0.28	0.14	.22-.34
Lexical Complexity										
Density	21	0.48	0.12	0.42-0.53	0.47	0.05	0.45-0.50	0.46	0.03	0.45-0.48
Diversity	21	39.27	11.07	34.24-44.31	33.62	6.17	30.81-36.43	37.1	10.58	32.29-41.92
Accuracy										
Errors/100 words	21	12.83	3.9	11.05-14.60	9.96	5.63	7.40-12.53	11.66	7.22	8.37-14.94
Fluency										
Words No.	21	107.2	42.48	87.90-126.58	125.8	35.64	109.59-142.03	103.8	36	87.42-120.20

1. The Effects of +/- Few Elements Variable with/out Teacher's Written Corrective Feedback

Starting with the variable "+/- few elements," the results show that there is no statistically significant difference when the task complexity of the written tasks is manipulated in terms of the resource-directing variable "+/- few elements," as shown in Table 6. The learners' performance in the three tasks (simple task, complex task, and complex task after getting the teacher's direct feedback) remained at the same level of proficiency.

Table 6 Main Effects of +/- Few Elements Variable with/out Teacher's Written Corrective Feedback

Independent Variable	**+/- Few Elements**				
	F	*Df*	*P*	η_p^2	*Observed Power*
Dependent Measures					
Syntactic Complexity					
MLT	2.619	1.439	.104	.111	.411
MLC	.001	2	.999	.000	.050
C/T	1.963	1.459	.167	.085	.323
CP/T	.959	2	.391	.044	.205
Lexical Complexity					
Lexical Density	.031	1.270	.909	.001	.054
Lexical Diversity	3.672	2	.034	.149	.644
Accuracy					
Errors/100 words	.232	2	.794	.011	.084
Fluency					
No. of Words/15 min.	1.147	2	.327	.052	.239

Lexical complexity is measured by lexical density and lexical diversity. In terms of lexical density, the participants performed the three tasks with the same level of density (simple task, M = 0.47; complex task, M = 0.47; complex task associated with teacher's feedback, M = 0.47). There is no statistically significant difference in the lexical complexity of the learners' writings (F (1.270, 26.660) =.031, p. 909). It means that the +/- few elements variable does not have any impact on the improvement of the participants' use of lexical items, whether it is manipulated alone or along with the teacher's corrective feedback. The lexical density is kept the same in the participants' performances of the three tasks.

However, mean scores in lexical diversity differ significantly across the three tasks. As Table 5 depicts, the mean scores of the three tasks were different (simple task: M = 42.49; complex task: M = 45.75; complex task associated with teacher's feedback: M = 37.03). There is a statistically significant difference (F (2, 42) = 3.672, p. 034). To examine the differences precisely, post hoc comparisons are made using the LSD's test. The analysis shows an increase in mean lexical diversity scores between the simple and complex tasks (42.49 vs. 45.75, respectively), but this is not statistically significant (p = 0.375). However, the mean lexical diversity scores reach significance when comparing the complex task to the complex task combined with the teacher's feedback (45.75 vs. 37.03), where the p value is (0.017). The results of the repeated measures ANOVA indi-

cate that the +/- few elements variable associated with the teacher's corrective feedback has a negative impact on the lexical diversity of the participants' writings.

Table 7 Pairwise Comparisons of Effects on Lexical Diversity in the Three Tasks (of +/- Few Elements Variable)

Pairwise Comparisons

Measure: Lexical_Diversity

(I) Few_Elements	(J) Few_Elements	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-3.260	3.596	.375	-10.739	4.219
	3	5.454	2.731	.059	-.225	11.134
2	1	3.260	3.596	.375	-4.219	10.739
	3	8.714*	3.359	.017	1.729	15.699
3	1	-5.454	2.731	.059	-11.134	.225
	2	-8.714*	3.359	.017	-15.699	-1.729

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Syntactic complexity is measured in terms of subordination, coordination, length of T-units, and length of clauses. When we look at sentence composition in terms of phrases, clauses, and T-units, we find that there are no significant differences between the three tasks in terms of syntactic complexity using the four selected indices (MLT, C/T, MLC, and CP/T). In the participants' writings for the three tasks, the mean length of T-units is nearly the same (simple task, M = 9.59; complex task, M = 8.52; complex task associated with teacher's feedback, M = 9.01). It is indicated that in the three tasks, the participants produced T-units that consisted of 9 to 10 words (range: 8.52–9.59). It means that no type of intervention has a statistically significant difference, as measured by MLT (F (1.439, 30.228) = 2.619, p. 104). Similarly, the mean of MLC was nearly the same in the participants' performances of the three tasks (simple task, M = 7.74; complex task, M = 7.76; complex task associated with teacher's feedback, M = 7.75). In all three tasks, the participants' clauses are nearly eight words long. There is not any statistically significant difference in the mean length of clauses of the participants' writings (MLC) (F (2, 42) = .001, p < .999),

At the level of clause and phase linking, there is no impact of task complexity with or without feedback on participants' writings. The number of subordinated clauses

per sentence is kept the same in the participants' writings for the three tasks (simple task, M = 1.27; complex task, M = 1.13; complex task associated with teacher's feedback, M = 1.17). It is the same case with the number of coordinated phrases per sentence (simple task, M = 0.22; complex task, M = 0.18; complex task associated with teacher's feedback, M = 0.23). There is not any statistically significant difference for either the number of subordinated clauses per T-unit **(C/T)** or the number of coordinated phrases (CP/T), as denoted by the p values ($F(1.459, 30.630) = 1.963$, $p < .167$), and ($F(2, 42) = .959$, $p < .391$), respectively.

Moreover, the results of the repeated measures ANOVA test show that there is no improvement in the accuracy of the participants' writings through the three tasks. The participants are committing the same range of errors while writing tasks (simple task, M = 10.95; complex task, M = 11.57; complex task associated with teacher's feedback, M = 10.83). The mean accuracy scores range from 11 to 12 errors per 100 words. The p value, which is greater than (0.05), indicates that there is not a statistically significant difference in accuracy between the three tasks ($F(2, 42) = .232$, $p < .794$). It indicates that the +/- few elements variable does not have any effect on the accuracy of the participants' performance, whether it is associated with the teacher's feedback or not.

In regard to the fluency indicated by the number of words in the participants' compositions, it is nearly kept at the same level in the three tasks (simple task, M = 98.09; complex task, M = 111.45; complex task associated with teacher's feedback, M = 103.05). Fluency is improved a little in the complex task with the manipulation of +/- few element variable, yet this increase in fluency does not have any statistically significant difference in performance ($F(2, 42) = 1.147$, $p < .327$). That is, manipulating +/- few elements variable with or without teacher feedback has no effect on the fluency of the participants' written production.

It is to be noted that these findings regarding the effects of task complexity on learners' performance totally reject the predictions of Robinson's Cognitive Hypothesis. They are also in contradiction with the studies of Kuiken and Vedder (2007), Kuiken and Vedder (2008), and Salimi and Dadashpour (2012) that agree somehow with these two theories. Regarding the effects of providing teacher's corrective feedback to the variable of increasing complexity, the findings do not validate the research hypothesis.

2. The Effects of +/- Reasoning Demands Variable with/out Teacher's Written Corrective Feedback

Table 8 Main Effects of +/- Reasoning Demands Variable with/out Teacher's Written Corrective Feedback

Independent Variable	**+/- Reasoning Demands**				
	F	*Df*	*P*	η_p^2	*Observed Power*
Dependent Measures					
Syntactic Complexity					
MLT	4.739	2	.013	.165	.766
MLC	2.482	2	.094	.094	.475
C/T	1.325	2	.275	.052	.273
CP/T	2.286	2	.113	.087	.442
Lexical Complexity					
Lexical Density	.869	2	.426	.035	.191
Lexical Diversity	3.927	2	.026	.141	.680
Accuracy					
Errors/100 words	.531	2	.591	.022	.133
Fluency					
No. of Words/15 min.	11.489	1.518	.001	.324	.970

With regard to the +/- reasoning demands variable, the obtained results show that the mean of using lexical words in participants' writings is nearly the same in the three tasks (simple task, M = 0.46; complex task, M = 0.47; complex task associated with teacher's feedback, M = 0.46). The difference in lexical density between the three tasks is not statistically significant (F (2, 48) =.869, p 0.426). It indicates that the participants' written production in the tasks had the same level of lexical density.

However, the mean lexical diversity scores differ among the three tasks (simple task, M = 40.81; complex task, M = 39.98; complex task associated with teacher's feedback, M = 47.33). There is a statistically significant difference in lexical diversity in the participants' performances *(F* (2, 48) = 3.927, p<0.026). The intervention affects the participants' use of unique words. To know which variable is significant, the LSD's post hoc test is conducted. It shows that the lexical diversity of the participants' writings does not change in the first and second tasks (p = 0.730), but it increases in the third task, as the p value is (0.046) between the first and third tasks and (0.025) between the second and third tasks. It denotes that lexical diversity is significantly affected by increasing the complexity of the task with the +/-reasoning demands variable associated with the

teacher's feedback. In other words, the manipulation of the +/- reasoning demands variable has a positive impact on the lexical diversity of the participants' written production when it is associated with the teacher's feedback.

Table 9 Pairwise Comparisons of Effects on Lexical Diversity in the Three Tasks (+/- Reasoning Demands Variable)

Pairwise Comparisons

Measure: Lexical_Diversity

(I) Reasoning_Demand	(J) Reasoning_Demand	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	.836	2.390	.730	-4.097	5.768
	3	-6.520*	3.091	.046	-12.899	-.141
2	1	-.836	2.390	.730	-5.768	4.097
	3	-7.356*	3.086	.025	-13.725	-.987
3	1	6.520*	3.091	.046	.141	12.899
	2	7.356*	3.086	.025	.987	13.725

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Syntactic complexity is examined in terms of the four measures (MLT, C/T, MLC, and CP/T). A decrease in the length of the T-units in the participants' writings is noticed. The mean MLT scores in the three tasks are (simple task: M = 11.54; complex task: M = 10.85; complex task associated with teacher's feedback: M = 9.66). There is a statistically significant difference related to the mean length of T-units (F (2, 48) = 4.739, p<0.013). To study the differences precisely, LSD's post hoc comparisons are made. The analysis shows that the length of the T-unit decreases significantly in the third task. The +/- reasoning demands variable associated with the teacher's feedback has a negative impact on MLT of the participants' written production, where the significance values between the first and third tasks and the second and third tasks are (0.005) and (0.034), respectively. However, the decrease in MLT for the complex task is not statistically significant (p =.333).

Table 10 Pairwise Comparisons of Effects on MLT in the Three Tasks (+/- Reasoning Demands Variable)

Pairwise Comparisons

Measure: MLT

(I) Reasoning_Demand	(J) Reasoning_Demand	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	.690	.699	.333	-.752	2.132
	3	1.879*	.613	.005	.613	3.144
2	1	-.690	.699	.333	-2.132	.752
	3	1.189*	.529	.034	.098	2.280
3	1	-1.879*	.613	.005	-3.144	-.613
	2	-1.189*	.529	.034	-2.280	-.098

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

There is a slight difference in the mean scores of the length of participants' clauses (simple task, M = 8.08; complex task, M = 8.38; complex task associated with teacher's feedback, M = 7.30). The repeated measures ANOVA results show that there is not a statistically significant difference in the mean length of clause (MLC) of the participants' written production across the three tasks (F (2, 48) = 2.482, p<0.094). It indicates that the manipulation of the+/- reasoning demands variable does not have any impact on the participants' performance, whether it is associated with the teacher's feedback or not.

Similarly, the study intervention with the +/- reasoning demands variable with and without the teacher's feedback does not have any effect on the number of subordinated and coordinated units. The mean scores of clauses per T-unit in the participants' performances are nearly the same across the three tasks (simple task, M = 1.48; complex task, M = 1.35; complex task associated with teacher's feedback, M = 1.34). It means that there is no statistically significant difference in the mean number of C/T (F (2, 48) = 1.325, p<0.275). On the other hand, there is a slight decrease in the mean number of coordinated phrases per T-unit in the participants' writings for the three tasks (simple task, M = 0.31; complex task, M = 0.26; complex task associated with teacher's feedback, M = 0.20). However, the test results denote that this difference is not statistically significant (F (2, 48) = 2.286, p <0.113). It denotes that the independent variables do not have any impact on the CP/T of the participants' written production.

With regard to accuracy, the participants committed the same range of errors across the three tasks (simple task, M = 10.89; complex task, M = 10.91; complex task associated with teacher's feedback, M = 10.07). The mean accuracy scores range from 10 to 11 errors per 100 words. There is no statistically significant difference in the accuracy of the participants' performance among the three tasks(F (2, 48) = .531, p<0.591). It indicates that increasing task complexity in terms of the +/- reasoning demands variable does not have any impact on the accuracy of the participants' written production, whether it is associated with or without the teacher's feedback.

Finally, the mean scores of the fluency of the participants' performances in the three tasks are (simple task: M = 170.60; complex task: M = 121.56; complex task associated with teacher's feedback: M = 136.64). The test results show that there is a statistically significant difference in fluency across the three tasks (F (1.518, 36.435) = 11.489, p<0.001). To determine which variable is responsible for the difference, LSD's post hoc test is conducted. It shows that fluency declines significantly in the second and third tasks. The p value of the comparison of the first task to the second task is (0.001) in favour of the first task, the first task to the third task is (0.007) in favour of the first task, and the second task and third task is (0.40). It is to denote that the manipulation of the +/- reasoning demands variable has a negative impact on the fluency of the participants' written production, whether it is associated with the teacher's feedback or not.

Table 11 Pairwise Comparisons of Effects on Fluency in the Three Tasks (+/- Reasoning Demands Variable)

Pairwise Comparisons

Measure: Fluency

(I) Reasoning_Demand	(J) Reasoning_Demand	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	49.040*	12.109	<.001	24.049	74.031
	3	33.960*	11.598	.007	10.022	57.898
2	1	-49.040*	12.109	<.001	-74.031	-24.049
	3	-15.080*	6.953	.040	-29.431	-.729
3	1	-33.960*	11.598	.007	-57.898	-10.022
	2	15.080*	6.953	.040	.729	29.431

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

The findings here also do not support Robinson's Cognitive Hypothesis. There is no improvement in any of the CAF constructs of the participants' production. Since there is a reduction in accuracy and complexity, the decrease of fluency in the participants' writings cannot be attributed to the participants' concern to improve the accuracy and complexity of their performance as suggested in the Cognitive Hypothesis. The findings of this research also differ from that of Choong (2014) in terms of complexity and fluency. Moreover, the research hypothesis is not supported by the findings when it comes to the impact of giving corrective feedback to enhance the effects of increasing task complexity.

3. The Effects of +/- Here and Now Variable with/out Teacher's Written Corrective Feedback

Table 12 Main Effects of +/- Here and Now Variable with/out Teacher's Written Corrective Feedback

Independent Variable	**+/- Here and Now**				
	F	*Df*	*P*	η_p^2	*Observed Power*
Dependent Measures					
Syntactic Complexity					
MLT	4.470	2	.018	.183	.734
MLC	7.341	1.403	.006	.269	.833
C/T	13.254	1.511	.001	.399	.983
CP/T	5.141	2	.010	.204	.795
Lexical Complexity					
Lexical Density	.191	1.282	.727	.009	.072
Lexical Diversity	2.318	2	.112	.104	.443
Accuracy					
Errors/100 words	2.998	2	.061	.130	.550
Fluency					
No. of Words/15 min.	4.132	2	.023	.171	.698

Ending with the +/- here and now variable, there is no improvement in lexical complexity when manipulating task complexity along the +/- here and now variable, either alone or with the teacher's feedback. The lexical density of the participants' writings slightly decreases through the three tasks (simple task, M = 0.48; complex task, M = 0.47; complex task associated with teacher's feedback, M = 0.46). Yet the results show that this decline is not statistically significant (F (1.282, 25.637) =.191, p<0.727). It means that there is no development in the participants' use of lexical words.

Similarly, there is no improvement in the lexical diversity of the participants' written production. There is actually a slight variance in the mean scores of lexical diversity in the participants' performances in the three tasks (simple task, M = 39.27; complex task, M = 33.62; complex task associated with teacher's feedback, M = 37.10). Yet, these differences are not statistically significant *(F* (2, 40) = 2.318, *p*<0.112). It indicates that the manipulation of the +/- here and now variable does not affect the lexical diversity of the participants' writings, whether it is associated with the teacher's feedback or not.

With regard to syntactic complexity, there are significant differences between the three tasks in the four selected indices (MLT, C/T, MLC, and CP/T). In the participants' writings for the three tasks, the mean scores of the length of T-units are different (simple task, M = 9.32; complex task, M = 9.46; complex task associated with teacher's feedback, M = 10.85). It denotes that in the three tasks, the participants produced T-units that consisted of 9 to 11 words (range: 9.32–10.85). It means that there is a statistically significant difference in the MLT between the three tasks (F (2, 40) = 4.470, p < .018). To know in favour of which variable is the significance, LSD's post hoc comparison test is conducted. The results show that the mean length of T-units produced by the participants increases in the third task, where task complexity is manipulated using the +/- here and now variable along with the teacher's feedback. The significance values between the first and third task, and the second and third task are, respectively, 0.015) and (0.026). The manipulation of the +/- here and now variable has a positive impact on the MLT of the participants' written production when it is associated with the teacher's feedback.

Table 13 Pairwise Comparisons of Effects on MLT in the Three Tasks (+/- Here and Now Variable)

Pairwise Comparisons

Measure: MLT

(I) Here_and_Now	(J) Here_and_Now	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-.136	.539	.803	-1.262	.989
	3	-1.527*	.577	.015	-2.730	-.324
2	1	.136	.539	.803	-.989	1.262
	3	-1.390*	.578	.026	-2.597	-.184
3	1	1.527*	.577	.015	.324	2.730
	2	1.390*	.578	.026	.184	2.597

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Similarly, there is a significant difference in phrase linking. The mean scores of coordinated phrases per T-unit in the participants' writings across the three tasks are (simple task, M = 9.62; complex task, M = 7.64; complex task associated with teacher's feedback, M = 7.70). It indicates that the participants produced clauses that consist of 8 to 10 words (range: 7.70–9.62). It means that there is a statistically significant difference in the MLC between the three tasks ($F (1.403, 28.061) = 7.341$, $p < .006$). To determine which variable is significant, LSD's post hoc comparison test is conducted. The results show that the length of clauses produced by the participants decreases in the second and third tasks compared to the first task. The significance values between the first and second tasks, and the first and third task are, respectively, (0.009) and (0.010). The manipulation of the +/- here and now variable has a negative impact on the MLC of the participants' written production when it is or is not associated with the teacher's feedback.

Table 14 Pairwise Comparisons of Effects on MLC in the Three Tasks (+/- Here and Now Variable)

Pairwise Comparisons

Measure: MLC

(I) Here_and_Now	(J) Here_and_Now	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	1.978*	.679	.009	.562	3.394
	3	1.922*	.675	.010	.514	3.330
2	1	-1.978*	.679	.009	-3.394	-.562
	3	-.057	.347	.872	-.780	.667
3	1	-1.922*	.675	.010	-3.330	-.514
	2	.057	.347	.872	-.667	.780

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

The independent variables affect the coordination and subordination used by the participants. As shown in Table 5, the mean scores of the number of clauses per T-unit in the participants' writings across the three tasks are (simple task, M = 1.02; complex task, M = 1.26; complex task associated with teacher's feedback, M = 1.42). There is a statistically significant difference in the number of clauses per T-unit (C/T) in the participants' writings across the three tasks(F (1.532, 30.637) = 4.158, p<0.34). To determine which variable is significant, LSD's post hoc comparisons test is run. The results show that the p value between the first and second tasks is (0.001), between the first and third tasks is (0.001), and between the second and third tasks is (0.48). These values indicate that the task complexity dimension of +/- here and now, with or without the teacher's feedback, has a negative impact on the participants' performance.

Table 15 Pairwise Comparisons of Effects on C/T in the Three Tasks (+/- Here and Now Variable)

Pairwise Comparisons

Measure: C_T

(I) Here_and_Now	(J) Here_and_Now	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-.233*	.055	<.001	-.347	-.119
	3	-.401*	.095	<.001	-.598	-.203
2	1	.233*	.055	<.001	.119	.347
	3	-.168*	.080	.048	-.334	-.002
3	1	.401*	.095	<.001	.203	.598
	2	.168*	.080	.048	.002	.334

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Moreover, the mean scores of the number of coordinated phrases per T-unit in the participants' writings across the three tasks are (simple task, M = 0.31; complex task, M = 0.17**;** complex task associated with teacher's feedback, M = 0.28). The test determines that the mean CP/T scores differ significantly across the participants' writings of the three tasks ($F(2, 58) = 5.699$, $p = .006$). LSD's post hoc pairwise comparison is conducted to determine which variable is significant. The results show that the p value between the first and second task is (0.012) in favour of the first task, the p value between the second and third task is (0.038) in favour of the third task, and the p value between the first and third tasks is more than (0.05). It illustrates that the +/- here and now variable has a negative impact on the CP/T of the participants' writings and has no effect when it is associated with the teacher's feedback.

Table 16 Pairwise Comparisons of Effects on CP/T in the Three Tasks (+/- Here and Now Variable)

Pairwise Comparisons

Measure: CP_T

(I) Here_and_Now	(J) Here_and_Now	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	.142*	.051	.012	.035	.248
	3	.027	.050	.596	-.077	.131
2	1	-.142*	.051	.012	-.248	-.035
	3	-.115*	.038	.007	-.195	-.034
3	1	-.027	.050	.596	-.131	.077
	2	.115*	.038	.007	.034	.195

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

The results of repeated measures ANOVA test show that the intervention does not improve the accuracy of the participants' written production through the three tasks (simple task, M = 12.83; complex task, M = 9.96; complex task associated with teacher's feedback, M = 11.66). The mean accuracy scores range from 10 to 13 errors per 100 words. Though there is a slight decrease in errors in the participants' writings of the complex task, this is not statistically significant. In other words, there is not any statistically significant difference in the accuracy of the participants' performance (F (2, 40) = 2.998, $p < 0.061$). It indicates that the +/- here and now variable does not have any effect on the accuracy of the participants' performance, whether it is associated with the teacher's feedback or not.

Regarding fluency, the results of the repeated measures ANOVA test show that the mean scores of the participants' fluency in the three tasks are (simple task, M = 107.24; complex task, M = 125.81; complex task associated with teacher's feedback, M = 103.81). There is a statistically significant difference in fluency among the three tasks (F (2, 40) = 4.132, $p < 0.023$). LSD's post hoc comparison test is used to examine the differences precisely. The results show that the mean difference is significant in favour of the second task, where the p value is less than (0.05) compared to the first and third tasks. It means that the manipulation of the +/- here and now variable positively affects the fluency of the learners' writings. On the other hand, the third task's fluency maintains the same level as p=.685. It indicates that the +/- here and now variable has no statistical significance when it is manipulated along with the teacher's feedback.

Table 17 Pairwise Comparisons of Effects on Fluency in the Three Tasks (+/- Here and Now Variable)

Pairwise Comparisons

Measure: Fluency

(I) Here_and_Now	(J) Here_and_Now	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-18.571*	8.280	.036	-35.844	-1.299
	3	3.429	9.373	.718	-16.123	22.981
2	1	18.571*	8.280	.036	1.299	35.844
	3	22.000*	6.859	.004	7.691	36.309
3	1	-3.429	9.373	.718	-22.981	16.123
	2	-22.000*	6.859	.004	-36.309	-7.691

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

The findings of increasing task complexity in terms of the +/- here and now variable do not support the Cognitive Hypothesis. On the contrary, we find a decrease in the complexity and accuracy of the participants' written production and an increase in fluency. These findings are similar to those of Hosseini's (2010) study. Additionally, the findings do not support the research hypothesis when it comes to the effect of providing the participants with corrective feedback to enhance the effects of increasing task complexity.

V. DISCUSSION AND CONCLUSION

A. Introduction

To discuss the data gathered, the research question is divided into three parts; the effects of increasing task complexity on the CAF constructs of learners' written production in terms of (+/- few elements, +/- reasoning demands, +/- here and now). It should be taken into consideration that the effects of each domain are investigated on all the constructs of complexity, accuracy, and fluency using a number of measures. Based on the used measures, the effects of task complexity on learners' written performance are different across the three domains.

B. Effects of Task Complexity and Feedback

1. Effects of Manipulating +/- Few Elements Variable on the CAF

As the findings denote, when task complexity is manipulated in terms of +/- few elements variable, we do not find any important impact on the CAF constructs of the participants' written productions. There is not any improvement in lexical complexity which is measured by lexical density and lexical diversity. Both Lexical density and lexical diversity are nearly kept the same without being influenced by any positive or negative impact. Similarly, there is no impact on the syntactic complexity of the participants' writings which was measured in terms of subordination, coordination, length of T-units, and length of clauses. It is to say that there is not any improvement in the syntactic features of the participants' writings. The findings also show that the participants are committing the same range of errors in their writings even after manipulating +/- few elements variable in the task. This variable does not have any impact on the accuracy of the participants' written production. Moreover, increasing task complexity in terms of +/- few elements variable does not have any positive or negative impact on the fluency

of the participants' performance. They are writing the same range of word numbers before and after the cognitive complexity of the task.

These findings of the effects of manipulating task complexity in terms of +/- few elements variable are in contradiction with the findings of previous studies (e.g. Kuiken & Vedder, 2007; Kuiken& Vedder, 2008; Salimi& Dadashpour, 2012). In their studies, these linguists have been concerned with investigating the impact of task complexity on the accuracy and complexity of learners' writings. Task complexity was manipulated by +/- few elements factor. Though there were some contradictions in their findings, they agreed with Robinson's Cognition Hypothesis in some aspects, and agreed with Skehan's Limited Attentional Capacity Model in other aspects. However, the results of this study do not support both theories, where the manipulation of task complexity in terms of +/- few elements variable does not have any positive or negative impact on the CAF constructs of the participants' written performance.

On the other hand, providing the participants with the teacher's direct corrective feedback in addition to the manipulation of the +/- few elements variable does not have any significance. The complexity of the participants' writings has been influenced a little bit. In lexical complexity, the lexical density of the participants' writings is kept at the same level, but there is a negative impact on the lexical diversity. The lexical richness of their writings is affected for some reason. On the other hand, syntactic complexity has not changed measured by the length of the T-units, length of clauses, number of subordinated units, and number of coordinated units. Moreover, both the accuracy and fluency of the participants' written performance have not been influenced. It is to say that the participants' performance is kept at the same level. They used the same lexical items, with the same syntactic structures, the same range of errors, and the same number of words. These findings invalidate the study's hypothesis that assumes manipulation task complexity in the presence of teacher's feedback would improve learners' performance and create a balance between the CAF constructs of their writings.

2. Effects of Manipulating +/- Reasoning Demands Variable on the CAF

Analyzing the tasks conditioned by increasing task complexity in terms of +/- reasoning demands variable, the findings show some influence. Similar to the findings

of the few element variable's effects, the +/- reasoning demands did not have any impact on the lexical complexity of the participants' written performance. The lexical density and lexical diversity of the participants' writings are kept at the same level. The same results are noticed in the impact of manipulating +/- reasoning demands variable on the syntactic complexity of their writings. The participants have kept using the same syntactic features such as the length of the T-units, the length of clauses, and the number of subordinated and coordinated units. Similarly, there is not any impact on the accuracy of the participants' writings. The manipulation of task complexity in terms of +/- reasoning demands variable does not affect the correctness of the participants' use of language in their writings. Nevertheless, the findings show that this variable has a negative impact on the fluency of their performance. There is a decrease in the length of the participants' writings.

The findings of this research are in contradiction with that of Choong (2014). In his study, he states that increasing task complexity in terms of +/- reasoning demands variable would increase syntactic complexity, decrease accuracy, and does not have any effect on fluency. However, the findings here show that manipulation of +/- reasoning demands variable has kept complexity and accuracy at the same level and decreased fluency.

With looking back to Robinson's Cognition Hypothesis and Skehan's Limited Attentional Capacity Model, we find that these findings contradict the predictions of both theories. While Skehan (1998) argues that increasing task complexity would result in the reduction of accuracy and complexity in favour of fluency, Robinson (2001b, 2005) believes that increasing task complexity in terms of resource-directing variables such as +/- reasoning demands variable would improve accuracy and complexity but not fluency. However, in our findings, the accuracy and complexity of the participants' written production are not affected by reduction as predicted by Skehan (1998) nor improved as predicted by Robinson (2001b, 2005), but they are kept at the same level. Though there is a reduction in the fluency of the participants' performance as predicted in Robinson's theory, this cannot be attributed to the participants' paying attention to improving the accuracy and complexity of their writings. This can be because of other factors affecting the decrease in the fluency of the participants' writings.

On the other hand, when the participants are provided with the teacher's direct corrective feedback in addition to increasing cognitive task complexity in terms of the +/- reasoning demands variable, we find out slight impact compared to the effects of manipulating reasoning demands alone. With regard to lexical complexity, though the lexical density of the participants' writings is kept the same, there is an impact on the lexical diversity. It is to say that the intervention has improved the participants' use of different words in their writings. On the other hand, there are no significant effects on syntactic complexity except in terms of the length of T-units. There is a decrease in the length of the T-units in the participants' writings, but the length of clauses, number of subordinated, and number of coordinated units are kept nearly at the same range. It is to say that, the manipulation of +/- reasoning demands variable associated with providing corrective feedback had a negative impact on MLT of the participants' written production. Moreover, this intervention of increasing cognitive complexity of the task in terms of the +/- reasoning demands variable associated with providing written corrective feedback has the same results of manipulating the +/- reasoning demands variable alone on the accuracy and fluency of the participants' writings. In both cases, there is no effect on the accuracy of the participants' writings. The participants have continued committing the same range of errors. Nevertheless, there is a negative impact on the fluency of the participants' written performance. The length of their writings has declined compared with the length of their writings before the intervention. It is to say that adding a feedback variable to the manipulation of +/- reasoning demands does not have any important significance. The effects of increasing cognitive complexity of tasks have not been improved not a balance is achieved between the CAF constructs as this research hypothesis premises.

3. Effects of Manipulating +/- Here and Now Variable on the CAF

When increasing the cognitive complexity of task in terms of the +/- here and now variable, the findings show that there is little difference compared to the other two variables, namely few elements and reasoning demands. Starting with complexity, the manipulation of the +/- here and now variable does not have any impact on the lexical complexity of the participants' written performance whether in terms of lexical density

or lexical diversity. However, the impact of manipulating this variable is inconstant on syntactic complexity. In their writings, the participants are writing with the same mean length of T-units but with much longer clauses. In addition, there is a decrease in the number of subordinated and coordinated units. We can say that the effects of manipulating the +/- here and now variable are negative in general on the syntactic complexity of the participants' written performance. Moreover, this variable does not affect the accuracy of the participants' writings. Their use of language has the same range of errors before the intervention. Conversely, the fluency of participants' written performance has been positively affected. The participants become able to produce large chunks of text.

These findings are in line with Hosseini's (2010) study. Hosseini (2010) has conducted a similar study in which he has manipulated task complexity in terms of +/- here and now variable. His findings show that task complexity has resulted in more fluent written language production, but there is a significant effect on neither complexity nor accuracy. Similar to Hosseini's (2010) study, this research rejects the Cognition Hypothesis' assumptions. In his theory, Robinson argues that increasing the cognitive complexity of task would impulse learners to increase the complexity and accuracy of their writings to express their complicated ideas but in turn, there would be a decrease in fluency. Yet, we find out here that increasing task complexity in terms of +/- here and now variable have contradictory effects. The complexity and accuracy of the participants' writings are nearly kept at the same level with a reduction in the number of subordinated and coordinated units, while fluency is improved. In fact, these findings support the Limited Attentional Capacity Model which argues that learners would be unable to pay equal attention to all areas of production and this would result in the reduction of accuracy and complexity in favour of fluency.

On the other hand, providing the participants with the teacher's written corrective feedback to associate increasing tasks' cognitive complexity does not have a good effect. Similar to the impact of increasing task complexity in terms of the +/- here and now variable alone, this intervention does not have any impact on the lexical complexity of the participants' written production. Concerning syntactic complexity, the participants' writings are improved in terms of the length of T-units and clauses, but not in subordination and coordination. Moreover, the accuracy and fluency of their writings are

kept at the same level. It is to say, the participants have written texts with the same amount of words and range of errors. Though it has a slight impact on syntactic complexity, we can say that the teacher's feedback has not any effect on all the constructs of complexity, accuracy, and fluency. These findings denote that applying teacher's feedback has a negative impact on the participants' performance compared to the findings of just increasing task complexity. This actually rejects the research hypothesis which assumes that increasing task cognitive complexity would have more positive effects on the learners' performance if it is associated with providing them with teacher's feedback.

C. Conclusion

In this research, we have investigated the effects of increasing task complexity with and without teacher's corrective feedback on EFL learners' written performance. According to Robinson's Cognitive Hypothesis, there are three resource-directing variables of task complexity (+/- here and now, +/- few elements, +/- reasoning demands) in terms of which cognitive complexity of task if increased, learners' attention would be directed to produce more accurate and complicated production but it would have a negative impact on the fluency of their production. The researcher of this study examines the predictions of this theory in relation to the Limited Attentional Capacity Model and also attempts to find out if the application of this theory in the context of other factors affecting learners' performance would create a balance in the CAF constructs of the learners' written production.

It should be kept in mind that Robinson's Cognitive Hypothesis has been meant for spoken mode. Linguists have adapted and modified Robinson's Cognition Hypothesis to be applied to written mode due to the dearth of theoretical frameworks addressing writing production and being Robinson's Cognition Hypothesis a prominent idea in TBLT presently. The predictions of this theory are still under investigation regarding written production and available studies have not approved them yet. This research is also concerned with applying this theory to the written mode in an attempt to add to the existing research in this field and also to realize a balance between the CAF constructs of learners' writings if another factor affecting the learning process is put into consideration.

The results of this study are random. The effects of increasing task complexity on the written production have differed across the three variables of (+/- here and now, +/- few elements, +/- reasoning demands), though the experiment has been conducted for the three on the same participants under the same conditions. The findings of this research do not validate its hypothesis that if providing learners with teacher's feedback is associated with increasing task cognitive complexity would improve learners' performance and develop a balance between the three areas of complexity, accuracy, and fluency. Despite this, the findings somehow support the implication of the hypothesis. We should take into consideration that Robinson's Cognitive theory was meant for L2 learners' spoken production, then extended by other linguists to be applied to written production. The findings show that there are certain gaps in the Cognitive Hypothesis that need to be addressed in order to be suitable for writing. Contradictory findings have been found in the literature on this theory's application to writing, and its predictions have not been confirmed. It is to argue that other factors that have not been considered may have an impact on learners' written performance. Cognitive theory still needs amendments in order to be convenient for written mode. Though in this study we tried to add the variable of teacher's feedback to see how it would improve the effects of task complexity, there is no significant improvement in the results. However, this does not mean that the teacher's feedback does not have effects on learners. Feedback needs repetition and more time to have an impact on the learners' performance. It is to suggest that the effect of this factor and other factors along with task complexity needs more research. There are a number of factors affecting learners' performance such as learning environment, teacher, learner's motivation, academic level, age.. etc. Though Robinson (2001a, 2001b) has mentioned some of these factors in his triadic componential framework, scholars and linguists who are interested in investigating this theory have not been concerned with examining such factors connected to task complexity to view their effects.

All studies have been conducted to investigate the predictions of Robinson's Cognitive Hypothesis or even Skehan's Limited Attention theory to examine the effects of increasing the cognitive complexity of tasks by measuring the CAF constructs of learners' production. This way of measuring the improvement in learners' performance

would have some problems. Spoken and written modes are crucial for L2 learners to master accurate and complex language, but they are axiomatically different in nature (Pekka Lintunen & Mari Makila, 2015). In both Robinson's Cognitive Hypothesis and Skehan's Limited Attention Hypothesis the measurement of the effects of cognitive complexity on developing the learners' performance is confined to the complexity, accuracy, and fluency of the production. It is not to forget that these two theories have been intended for spoken mode and then extended to the written one. It is to point out that the Cognitive Hypothesis still needs refinement to better account for learners' production in the written mode. It is to argue that the CAF constructs are not enough to measure the development in written production due to the effects of increasing task complexity. There are a number of criteria to measure the proficiency of a written text, including organization, cohesion, focus, readability, development, and style. The findings of this research show that there are no good effects of increasing task complexity with or without providing learners with the teacher's corrective feedback. However, these effects have been traced in terms of the measures of complexity, accuracy, and fluency. There could be an effect on other dimensions of the learners' written performance.

Moreover, the research findings have some pedagogical and methodological suggestions for teaching writing. The essential concept of task complexity theories is that increasing the cognitive complexity of tasks would improve learners' performance as they try to express more complicated ideas to meet the high cognitive demands of the task. In this area, we have two contradictory views of Limited Attentional Resources in which Skehan argues that because of their limited capacity learners would not be able to process form and meaning at the same time and would trade off complexity or accuracy for fluency, and Cognitive Hypothesis in which Robinson affirms that learners have multiple attentional resources and increasing task complexity would result in learners' interlanguage development and better production in terms of form rather than content. However, to learn a language both meaning (fluency) and form (complexity and accuracy) are important and we cannot prioritize one construct over the other. The goal of teaching is to ensure balance in the development of all performance areas. Therefore, task cognitive complexity should be increased and sequenced in a systematic and

designed way that improves each construct or the other in one stage of learning. As suggested by Housen et al (2012) the CAF constructs represent the stages of L2 acquisition; complexity increases when acquiring new linguistic features, accuracy increases when reconstructing interlanguage to be more targetlike, and fluency increases when having more control over the L2 system. In other words, complex tasks should be provided with a special sequence according to the requirements and needs of the learning process and proficiency level of the learners in order to achieve a balance between the CAF constructs when the learners get a good command of the target language. Briefly, the Cognitive Hypothesis needs amendments not only to approve its assumptions but also in order to present tasks in a way to develop a balance between the CAF constructs of learners' production. Because prioritizing one construct of production over the other may have negative consequences on learners' proficiency. A balance between all performance areas is what teaching aims to achieve. Even with timely prioritization of one performance area over the other, the theory needs considerable revision to guarantee this equilibrium.

Teaching writing is a tough process that needs a great effort from both learners and teachers. Writing is more than just a product in which learners express their thoughts, feelings, or perceptions, it is also a means for learning language use. While writing, learners are concerned with putting what they have in mind on the paper rather than concerned with the CAF constructs. It is crucial that teacher provides learners with feedback to enable them to move to the following level of proficiency. Teacher's corrective feedback is necessary to make learners notice the gap in their knowledge to bridge it and gain competency. However, it was found in this research that learners were repeating the same errors they were notified of. The impact of feedback takes time to make learners internalize the given information to be used automatically. For that, it is suggested to present tasks in curricula spirally to enable teachers to provide feedback on the same concept repeatedly.

Providing effective feedback is an important factor in teaching L2 writing. Yet, it should be taken into consideration that overcorrecting may be quite demotivating. Consequently, how to evaluate learners' production is a key factor in fostering L2 writing proficiency. When making comments on their writings, teachers must first dispel

the misconception that excessive corrections devalue them. Moreover, tasks could be presented in a such way that allocates a task for teaching certain language features according to learners' proficiency level and needs which enables teachers to assess learners' acquisition of these features and provide them with proper feedback instead of giving them feedback for all their errors at a time. In addition, teachers should be keen to select the type of feedback suitable to their students. Giving feedback cannot be always of a good benefit if it is not performed proficiently. In this study, for example, though written corrective feedback took great time and effort it was not useful.

Finally, teaching writing is challenging. Teachers should methodologically employ teaching approaches to enhance learners' wiring skill. They should be aware that the goal of teaching learners how to write well is to increase their interest and enjoyment in the process and help them discover the joy of using words to achieve a variety of outcomes. When assigning any task, teachers must consider learners' motivation, their writing proficiency, and their preferred learning style. Therefore teachers should be familiar with innovative teaching methods and approaches in order to enable successful learning. They should also provide learners with as many opportunities as possible to gain proper exposure to the language through tasks; hence they can understand how language functions as a communicative tool. It is to say that while teaching L2 writing, teachers should take care of writing as a product and a process.

D. Limitations

Though the findings of this research may add something to the available literature on Cognitive Hypothesis, there are a number of limitations to be mentioned which make this study's findings cannot be generalized.

First, the experiment was conducted on a good number of participants to explore how the three dimensions of increasing task complexity (+/- here and now, +/- few elements, +/- reasoning demands), according to Robinson's Cognitive Hypothesis, could affect the CAF constructs of the learners' written production. In addition, these effects of increasing task complexity are compared to the ones caused when increasing task complexity is associated with providing learners with the teacher's written corrective feedback. There is a huge data to analyze. Though the researcher has tried to use the appro-

priate indices and applications for data analysis, the findings may differ if the experiment is carried out as a case study. In this way, there will be more focus on the slight changes in the participant's performance.

Second, the participants in this research are at an intermediate level. The findings may differ if the same experiment is conducted on other proficiency levels. Beginner-level learners are still learning the target language and their writing skill is weak. They are in the stage where they are eager to practice their writings and get the benefit of every single feedback given to them. On the other hand, advanced-level learners would have a full command of writing good texts. Writing skill tends to be consolidated in this level of language proficiency. The errors in their written pieces would be little, the structure and sentences would be more complex, and would have the ability to express more ideas and that makes their writings more fluent. It is to say that we could have totally different findings if the participants were of other levels of language competence.

Third, the study sample that participated in this study is Yemeni English learners. As discussed before, Yemen is one of the countries that have a poor education system and teaching the English language still follows the traditional teaching methods like the Grammar Translation Method (GTM). Language teachers there are more concerned with teaching grammar rather than language use. Therefore, these research findings cannot be generalized. If it is repeated in other teaching contexts, particularly those that follow the communicative language teaching method which is the basic principle of TBLT, the findings could be different.

Fourth, this study is based on the assumption that the classroom environment is affected by a number of factors that may influence the learning process and consequently learners' performance. This study is investigating only one factor which is teacher's feedback and how it may affect the impact of increasing task complexity. There are a number of factors that can affect learning and learners' performance in turn such as learning environment, learner factors, task type, and teaching methods. It is to suggest that more research is required to explore the effects of increasing task complexity along with other factors. Furthermore, the impact of giving feedback on the learners' performance may take time and needs to be repeated more than one time till the provided in-

formation is internalized in the learners'. Thus, the same research could have different findings if applied with different procedures.

Fifth, another limitation to generalize the findings of this study is task type. It is important to note that only one type of task is used in this study to implement the experiment. The participants are required to look at a photo and start writing a narrative. The type of task given to the learners could have an impact on their production of language. This implies that the findings of this research cannot be generalized to other types of tasks not used here.

Notwithstanding these limitations, the research has contributed to the field of task complexity. It tested the Cognitive Hypothesis in search of a developmental balance between the CAF of learners' written production. It provides empirical evidence for the need for this theory for modification and amendment to be more appropriate for written mode. It also has a methodological contribution. Various measures and applications are used to collect research data. This can be helpful for future research on the effects of task complexity in particular and L2 performance in general. Additionally, the results of this study open up new directions for future research that are mentioned in the study's limitations.

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VII. APPENDICES

Appendix 1

Name: …….

Age: ……

Gender: Male ☐ Female ☐

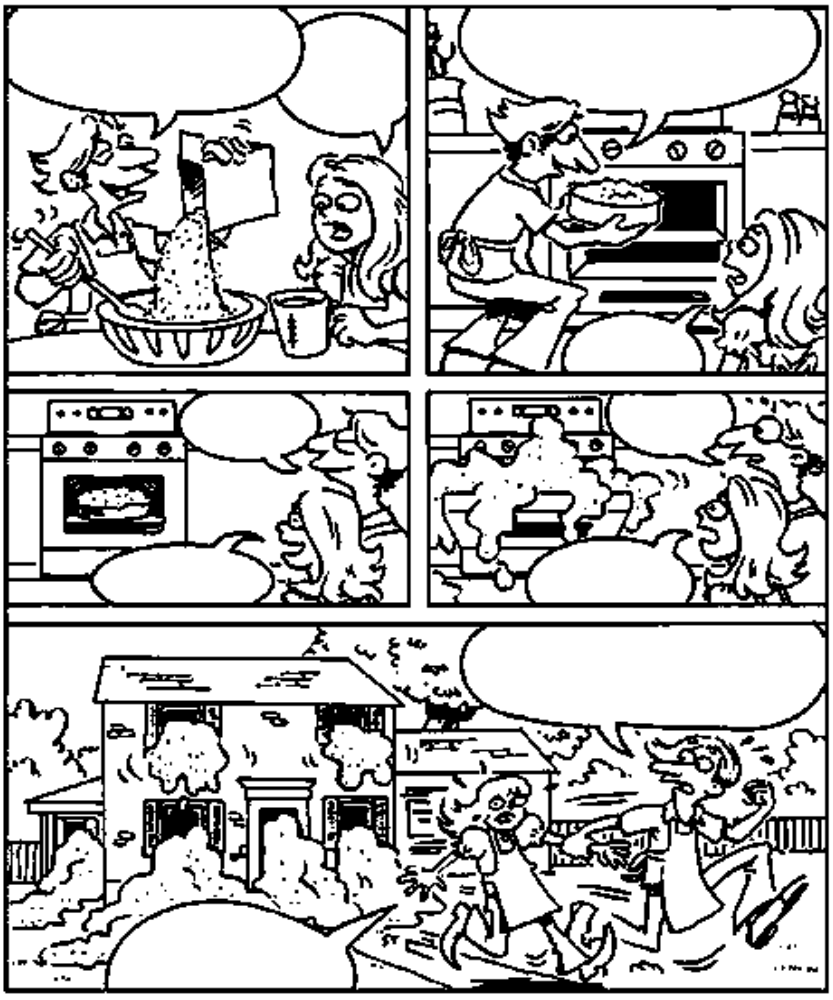
- Please select one of the following topics and write a paragraph of up to 250 words.

- ✓ Movies and books often talk about the importance of loyalty and friendship. Tell about a time in your life when friendship proved to be of great importance to you.

- ✓ Some of our richest experiences take place when we travel. Tell about a memorable experience you had when you were traveling.

Appendix 2

- Please write a narrative paragraph of up to 250 words with the help of the below pictures.



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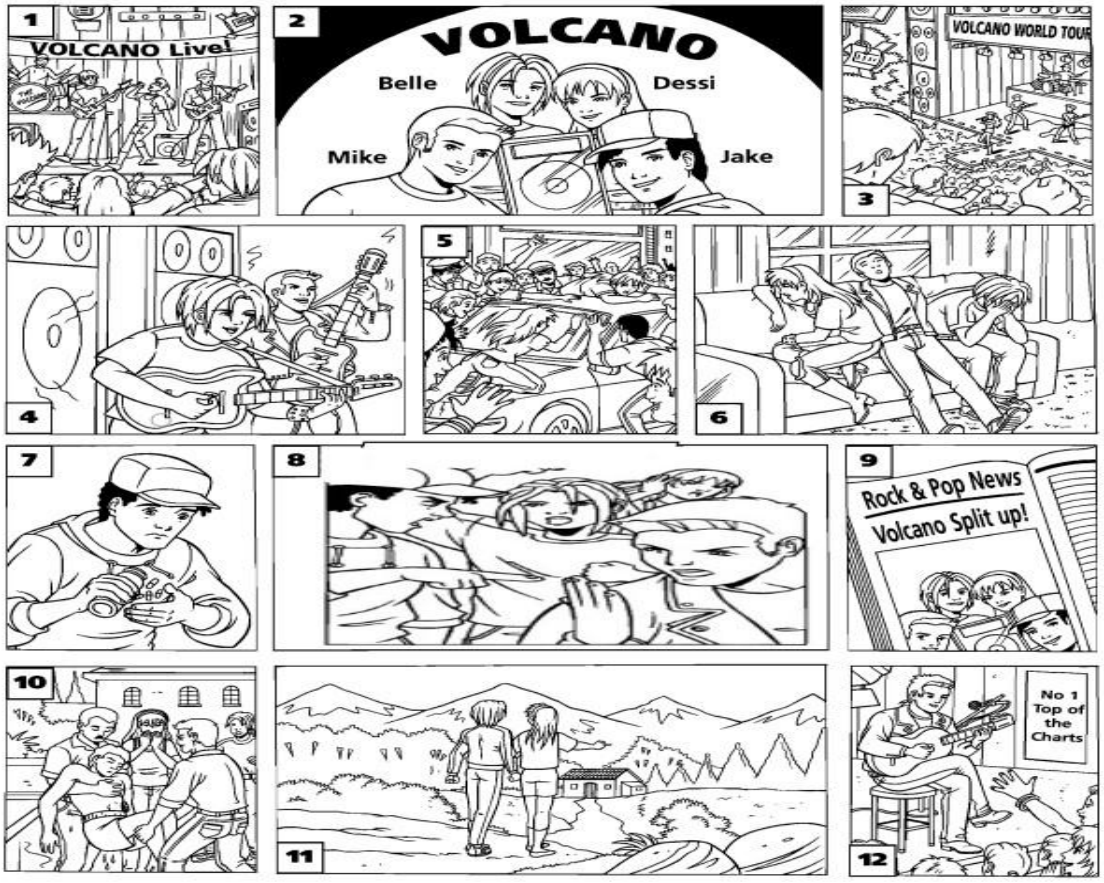
Appendix 3

Mike, former lead guitarist with Volcano, has just made No.1 in the charts with his new solo disc.

- Please write a narrative paragraph of up to 250 words with the help of the below pictures.



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Appendix 4

There is a dead man in his office, what do you think is his life story?

- Please write a narrative paragraph of up to 250 words with the help of the below pictures.

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Appendix 5

There is a dead man in his office, what do you think is his life story? Is it a murder or suicide, please justify your view point.

- Please write a narrative paragraph of up to 250 words with the help of the below pictures.

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Appendix 6

Mr. Smith invited his boss, Mr. Plummer to dinner. But they forgot about the cat....

- Please write a narrative paragraph (in Present Tense)of up to 250 words with the help of the below pictures.

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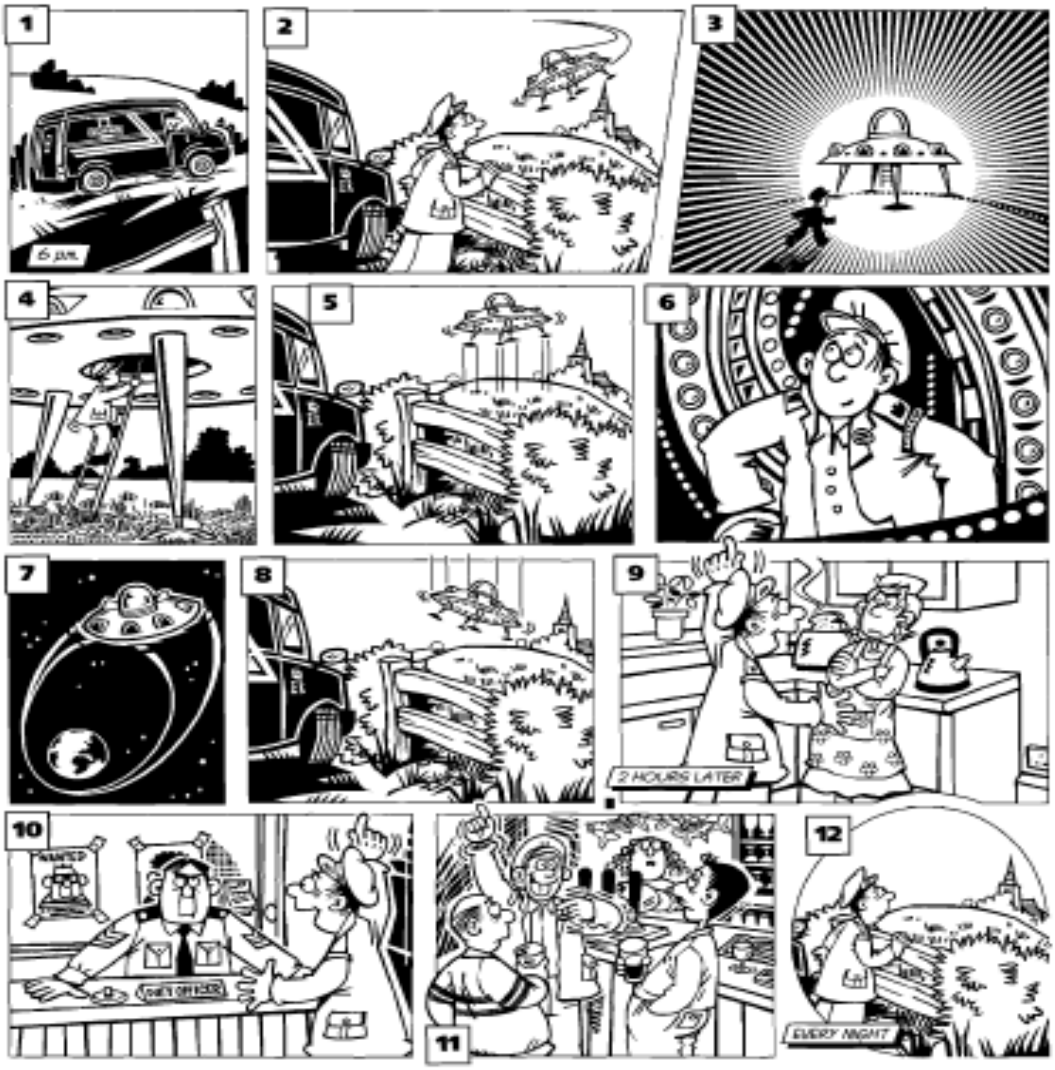
Appendix 7

Postman John spends every night in a field waiting for another visit from outer space.

- Please write a narrative paragraph (in Past Tense) of up to 250 words with the help of the below pictures.



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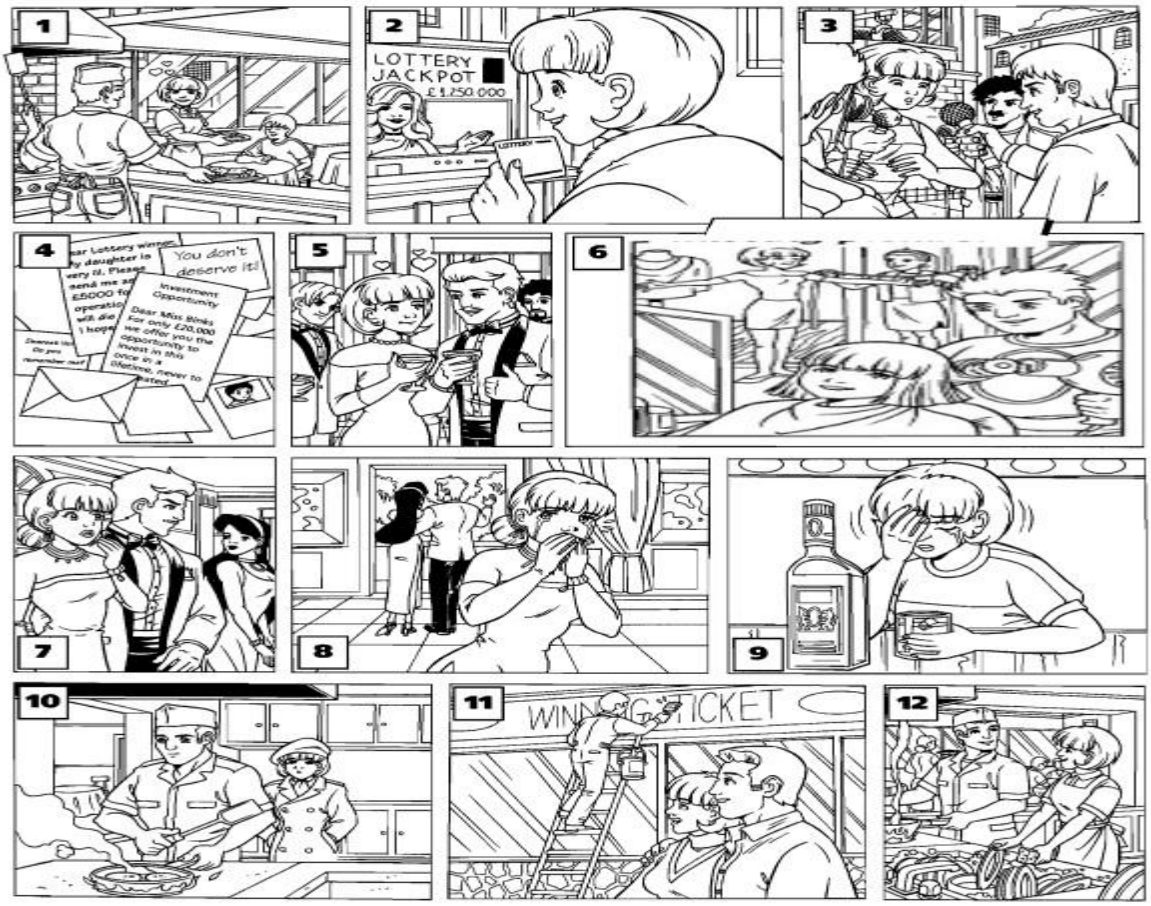
Appendix 8

After only six months of the 'high life', ex-waitress Vera Binks, winner of the £1,250,000 lottery, started work again today -in the kitchen of h
er own cafe.

- Please write a narrative paragraph of up to 250 words with the help of the below pictures.



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Appendix 9

There is a dead man in his room, what do you think is his life story? Is it a murder or suicide, please justify your view point.

- Please write a narrative paragraph of up to 250 words with the help of the below pictures.

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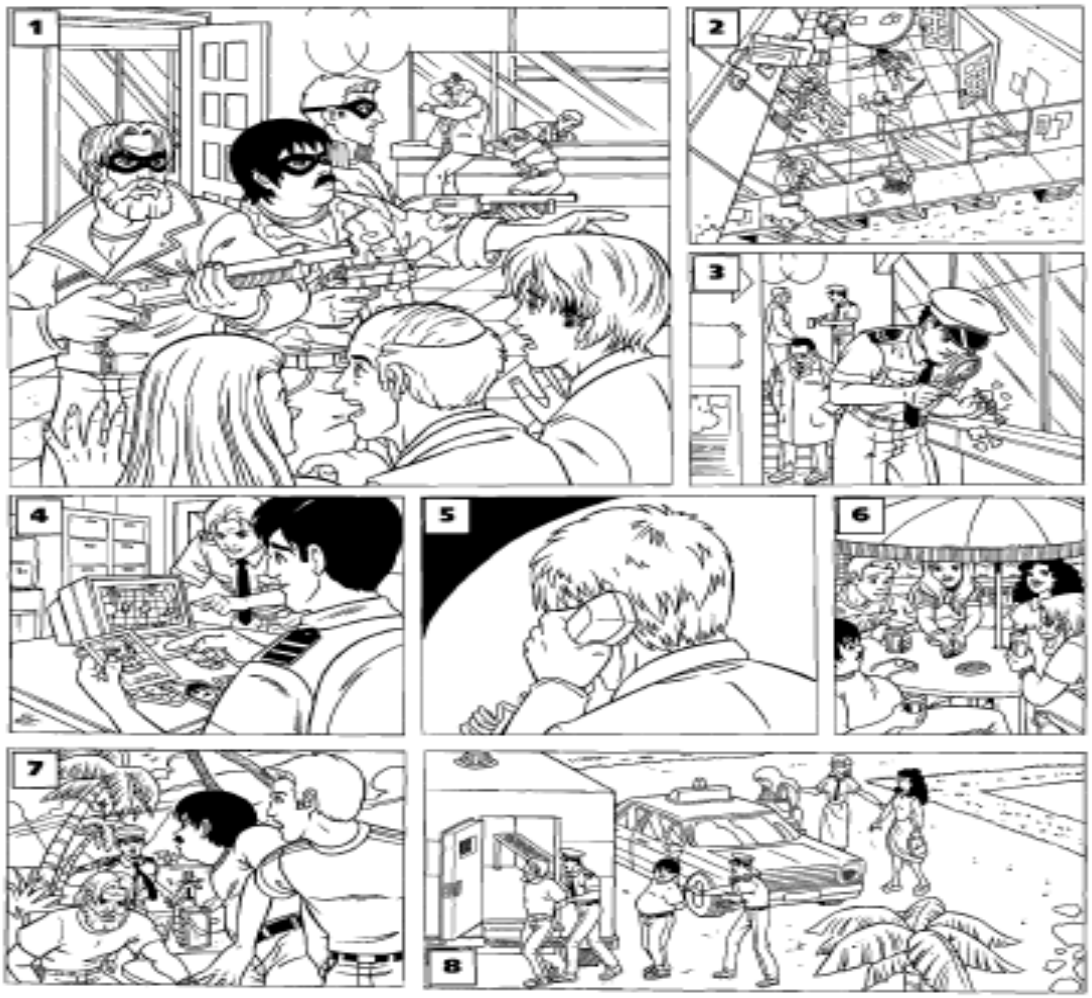
Appendix 10

These robbers attacked a bank. Will they get away with the money?

- Please write a narrative paragraph (in Past Tense) of up to 250 words with the help of the below pictures.



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