Self-Regulation and linguistic competence in language learning: A Socio-Cultural Theoretic perspective

Musa Alahmari

King Khalid University, Faculty of Languages & Translation, Department of English.
Abha, Saudi Arabia.
https://orcid.org/0000-0001-5211-9810
alahmari@kku.edu.sa

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Abstract

The present study investigates the relationship between learners' psychological regulation and linguistic competence during L2 development of lexical knowledge. Within the framework of Socio-Cultural Theory, two types of regulation were investigated in the current study: self-regulation and object-regulation. To this end, the study analyzed content and functional word frequencies in L2 speech productions by two groups of elementary and advanced learners of English as a foreign language with the purpose of finding out how and to what extent L2 learners display content and functional word forms in response to a designed performance task. Content word frequency analysis indicated that elementary learners rely more on content words rather than on functional words, reflecting object-regulation status. In contrast, advanced learners balanced between content and functional words in their L2 productions, reflecting a higher sense of psychological self-regulation status. The findings of the study show that regulation difficulty is correlated with the learner's competence as shown in the precedence of non-inflected language forms over inflected forms in the learner's language. [1]

Keywords: regulation, self-regulation, socio-cultural theory, mediation, competence, acquisition, content, functional

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Second Language Acquisition (SLA) as an interdisciplinary field has connections with many disciplines. Its basic inquiry is about how a language other than the native/first language(s) is learned in various contexts, often referred to as L2. It is well established that L2 learning is a complex process that has been studied under various theoretical frameworks from the perspective of many different fields such as linguistics, cognitive science, sociology, and psychology. In this context, Socio-Cultural Theory (SCT) has constructed a theoretical framework that perceives second language learning as both social and psychological, and it has been one of the less studied theoretical frameworks within the field of SLA. Because of its implications for the study of SLA, SCT may be specifically relevant to the general understanding of L2 development.

SCT marks the view that learning is primarily social. Within this framework, language learning is a social-interactional developmental process that first takes place in the social environment (Poehner and Lantolf, 2005; Lantolf and Thorn, 2006; Lantolf et. al., 2015). Thus, the focus in SCT is the social activity itself rather than the learner. In its core, SCT argues that human mental functioning in general is mediated and regulated through material and symbolic socio-cultural artifacts, of which language is considered as a symbolic one (Lantolf and Thorn, 2006). In SCT, whatever the learner learns appears first on the social level (interpsychological) before it appears on the personal/psychological level (intra-psychological) (Lantolf and Thorn, 2006). Sociocultural factors, such as regulation and mediation, can influence language development of the learner. The present study focuses on regulation (i.e. self-regulation) as the most relevant factor in language learning development from the perspective of SCT.

Recent research has shown that the interconnection of self-regulation with language learning is rather an active experience that interacts with the language learner's proficiency level (Dörnyei, 2005; Tseng et. al., 2006; Liu and Lee, 2015; Fakuda, 2017). Nonetheless, self-regulatory research is a recent area of inquiry, and there is lack of studies on how self-regulation is demonstrated in other domains of second language learning, such as the learner's linguistic competence and what the learner actually knows about language. Thus, the current study aims to fill this gap by exploring the relationship between self-regulation and the learner's linguistic competence in terms of content and functional words use during language learning.

The present study aims to find out if sociocultural factors, such as L2 regulation, have correlations with the learner's competence (i.e. linguistic knowledge). More precisely, the study examines how learners of English as a foreign language[2] use their linguistic knowledge (i.e. competence) in order to regulate an L2 activity. Two groups of high proficiency and low proficiency learners are tested with regard to how they can efficiently use their linguistic knowledge of content and functional categories to regulate an L2 performance task. The study also investigates whether or not proficiency levels can indicate regulation difficulty for learners and explains how regulation development may be related to competence development.

The contribution of the current study is twofold. First, the study attempts to make sense of a rather less studied topic in the literature of L2 acquisition. Second, the study tries to find correlations between two seemingly independent and non-simultaneous aspects of the learner's L2 development, i.e. psychological development and linguistic knowledge development. The remainder of this paper is organized as follows. In the following section, an overview of SCT is presented with relevant previous research within this framework in the literature of second

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[2] Foreign language learning context (as opposed to second language learning) refers to the study of a language other than the native language in the learner's native language environment.

language acquisition. The methods section, which follows, describes the method of research and task design implemented in the current study. The results are then presented followed by a discussion of the study's results. The paper concludes with concluding remarks on the findings of the current study.

Background and Previous Literature

Socio-Cultural Theory

Socio-psychological influences in second language learning have been recognized in the literature from different approaches such as Krashen's *affective filter* and Dell Hyme's *communicative competence* (Krashen, 1986; Dell Hymes, 1985, 1991). The *affective filter* proposes that factors such as motivation, self-confidence, and anxiety can affect the quality of second language learning, resulting in various individual experiences in language learning whereas *communicative competence* refers to the social-communicative knowledge that a language learner needs besides linguistic knowledge in order to learn language successfully. On the other hand, in the intersection of linguistics, psychology, and sociology, the socio-cultural approach to language learning emphasizes that language learning is a social practice that occurs in the social and cultural contexts and closely interacts with the learner's developmental psychology (Kramsch, 1993, 1995; Kern, 2000; Lantolf and Thorn, 2006; Cole and Engestrom, 2007; Mackerras, 2011; Lantolf et. al., 2015; Poehner, 2018).

Sociocultural theory has introduced a special way of studying language learning in a specific context, especially the social and cultural contexts of second language acquisition. Its major argument is that learning is not an isolated or an intra-psychological process. Rather, it is an inter-psychological process that takes place through interaction and participation in social and cultural environments (Lantolf et. al., 2015). This means that SCT is a psycholinguistic theory in which mental functioning is based on communicative activities (Lantolf and Thorn, 2006). Within this framework, second language acquisition is looked at as a psychological developmental process that is influenced by the surrounding social and cultural environments. Based on that, language learning can be understood as the outcome of the interaction found between the learner on one hand, and the social and material environments (e.g. instructional settings) on the other hand. The theory is built on a number of major constructs including, but not limited to, mediation, regulation, internalization, and the zone of proximal development. The two concepts, mediation and regulation, are the most relevant aspects of the theory to the current study. Hence the study elaborates on these two aspects. In what follows, a brief overview of these constructs of the theory is introduced.

Mediation. Mediation is the core construct of sociocultural theory. It has its roots in the studies of developmental psychology. Basically, mediation refers to the process through which the human mental functioning takes conscious control over its biological actions via the use of cultural artifacts (Lantolf et. al., 2015). Thus, mediation is performed by virtue of either symbolic or material tools. Mediation through symbolic tools can be achieved by tools such as language, logic, numeracy, literacy, and categorization (Lantolf and Thorn, 2006). To put it simply, the voluntary execution of a symbolic tool, such as language, results in a mediated mental activity.

Regulation. Regulation is the process through which mediation is controlled. According to SCT, a human developmental activity (e.g. learning) goes through three steps of regulation: object-regulation, other-regulation, and self-regulation (Lantolf et. al., 2015). Object-regulation is

the preliminary step in which a human developmental activity is assisted through an object such as computer or toys. The medial step is other-regulation where the successful achievement of an activity is reached with the aid of another person such as parents or teachers. The final step of regulation is self-regulation, which means that a learner can perform an activity successfully without the assistance of another person. In the context of language learning, successful language learning is reached when learners become self-regulated. That is, they become able to use language efficiently on their own without an external assistance. An important indicator of self-regulation in language learning is a phenomenon known as *private speech* (Lantolf and Thorn, 2006). Private speech is the inward and self-directed language used in order to manipulate a specific mental activity for the purpose of comprehension or cognitive assistance (Smith, 2007; Steinbach-Kohler and Thorn, 2011).

Internalization. Internalization is the process of converting external mediation into an internal mediation (Lantolf et. al., 2015). Language learning is a developmental process that requires internalization in order to reach the level of self-regulation. In some sense, internalization means taking experience into a psychological level (Kozulin, 1990).

The Zone of Proximal Development. The Zone of Proximal Development (ZPD) is an assessment tool in SCT. It refers to development that can be achieved with mediation as well as development in the absence of mediation, usually the kind of mediation connected to other-regulation (Lantolf et. al., 2015). The ZPD is different from other concepts of language learning assessment in that it pays particular attention towards both what the learner has already achieved and what can be potentially achieved by the learner. That is, what can be done with mediation at some level is an indication of what one can do without mediation in the future. Once the learner is able to perform a particular task independently, mediation should be removed (Aljaafreh and Lantolf, 1994).

Previous Research on SLA within SCT

Early studies on second language acquisition within the framework of SCT explored aspects such as private speech and how regulation is attained during the mastery of second language (See Lantolf and Thorn 2006 for a complete review). Studies have shown that higher-level L2 learners have more ability to self-regulate than low-level learners (Lantolf and Thorn, 2006). For example, during L2 task performance of storytelling in a study by Frawley and Lantolf (1985), self-regulation and object-regulation have been shown to be linked to the kind of language chosen by L2 learners. For example, low-level L2 learners used the present progressive tense more frequently than higher-level L2 learners who showed more usage of the simple past. The frequent use of the present progressive tense was interpreted as a difficulty in regulation by the low-level learners as they were object-regulated while the higher-level L2 learners showed more self-regulation. Language choice by L2 learners does not only reflect the level achieved in L2 acquisition but also the ability to regulate mental activities through L2.

Evolving from other-regulation to self-regulation was explored by a study on negative feedback by Aljaafreh and Lantolf (1994). They show that learners will gradually develop from other-regulation in the form of providing negative feedback to language learners by others to self-regulation once they are able to function independently. Higher-level L2 learners will thus be able to show more self-reliance (i.e. self-regulation) during an L2 activity than low-level learners. This

can be seen as a dichotomy between the learner being regulated by objects or others and the learner's own ability to regulate through L2.

In all of these studies, self-regulation is seen as the ultimate goal of language learning development. Assisted L2 communicative activities are always object- or other- regulated. That is, language learners evolve from object-regulation and other-regulation towards self-regulation as the final stage when they become able to use and produce language independently. While self-regulation is not a stable condition, in some sense self-regulation in L2 acquisition can be interpreted as a higher level of L2 competence of the learner. Nonetheless, it is not clear how self-regulation and linguistic competence are related. It should be noted that *competence* as a *nativist* concept and *regulation* as a *sociocultural* concept originate from fundamentally different approaches to the study of language acquisition[3]. The link between the learner's L2 competence and regulation remains unclear to a large extent in the SLA literature. Thus, the current study investigates the relationship between competence and regulation in the context of foreign language learning. This is accomplished through the investigation of how L2 learners of English as a foreign language produce and use (*i.e. regulation*) English *content* versus *functional* morphemes during L2 activities (*i.e. competence*). A review of research on the acquisition of content and functional forms is in order. We start by highlighting the distinction made between content and functional categories.

The Content-Function Distinction

Human languages make a distinction between two categories in their lexicon. The first is content (i.e. lexical) categories that include the major parts of speech such as nouns, verbs, adjectives, and adverbs. These are also called open-class words or free morphemes in morphological terms. The second is functional categories that generally involve functional or grammatical elements in the language that are usually attached to a content form to add grammatical information such as tense, aspect, person, number, case and gender. For example, auxiliaries, determiners, prepositions, and complementizers. These categories are usually referred to as closed-class words or bound morphemes in morphology. Both categories, content and functional, are equally important in human languages to convey meaning, reference, and grammatical information.

Previous Research on First & Second Language Acquisition of Content & Functional Forms

Research on the acquisition of content and functional forms has shown that these categories have different patterns. For example, it was found that functional forms in early language acquisition are typically absent in language productions of children in many languages (Radford, 1990, 1997). This was explained as lack of access to functional forms in early stages of language acquisition and that children seem to have access only to content words during early language production as suggested by the *Semantic Bootstrapping Hypothesis* (Grimshaw, 1981; Pinker, 1982, 1984). An independent support for this view comes from the fact that children only produce single words that are essentially content (i.e. not functional) in their early stages of language

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[3] Nativism is a linguistic approach that has dominated the late research in linguistics and the SLA literature. It asserts that at least some aspects of language learning are innate. Later developments in special nativism are guided by Chomsky's theory of Universal Grammar and the theory of Principles and Parameters (Gass and Selinker, 2008).

development while functional words are produced in later stages of development (Tomasello, 2000, 2002).

Similarly, adult L2 learners seem to differentiate content and functional forms in the course of L2 learning. Empirical studies have demonstrated that there are differences in the neurolinguistic and psycholinguistic processing and representation of functional words versus content words in adult subjects such as differences in comprehension, reading time, and memory (Hicks, 2006; Kedar, 2007). These differences in processing and representation indicate that adult language learners are presumably treating these categories differently during language acquisition (Kedar, 2007).

In nativist approaches to SLA such as those related to the theory of Universal Grammar (UG), content and functional categories are considered as components of the innate linguistic knowledge of the learner (Gass and Selinker, 2008). For example, under the *Minimal Trees Hypothesis*, functional categories during SLA are regarded as independent of L1 and thus the development of L2 functional categories is only relevant to the appropriate L2 input for all learners regardless of their L1 background (Gass and Selinker, 2008). Hence no transfer is assumed from L1 to L2 on this view. Support for this view comes from studies on morphological acquisition order, especially those on the acquisition of English morphemes (Ortega, 2009). These studies show that the acquisition of English functional morphemes follows a specific learning pattern. That is, adult and young L2 learners have been observed to learn English functional morphemes in a certain order whether learning is instructed or naturalistic and regardless of L1 background.

In addition, VanPatten (2007), based on extensive L2 research, proposed a model for L2 input processing. The model contains an important principle he referred to as the *Primacy of Content Words Principle,* which states that L2 learners process content words before anything else (VanPatten, 2007). This means that even adult L2 learners access content categories before functional categories during L2 input parsing.

The preceding review demonstrates that considerable research has been carried out on the acquisition and development of content and functional forms in the learner's language. Nonetheless, research on the *sociocultural* development and use (as opposed to nativist research) of such linguistic systems is far more limited. Sociocultural research on SLA in general has been concerned with how language learners regulate their L2 activities. To the best of our knowledge, no study has focused on the link between sociocultural development and the innate structural development of certain linguistic systems before. Thus, by examining how content and functional forms (as an innate structural system) are used by the learner, we can reach a proper understanding of the factors that may contribute to the overall development of the learner's language. Relating the findings of research on the acquisition and development of content and functional forms in the learner's language to the current study raises the question of whether or not regulation development as a psychological factor is related to the innate content-functional linguistic system development.

Method

The Current Study

The purpose of the current study is to investigate the relationship between sociocultural regulation and linguistic competence during an L2 communicative activity. More specifically, it addresses the issue of whether or not learners of English as a foreign language can use their L2 competence in order to self-regulate. We investigate two groups of learners with different

proficiency levels as low level (elementary) and high level (advanced) proficiency learners. Based on the findings of previous research (discussed in the preceding section), we assume that elementary learners have regulation difficulty, and thus they should display less competent language forms than advanced learners during an L2 performance task. We investigate these language forms in terms of how L2 learners display functional and content word forms in their L2 productions during an instructed language production activity.

Based on the discussion of previous literature, we also assume that the acquisition of content forms is prior to the acquisition of functional forms. In addition, we assume that content (i.e. lexical) categories are accessed for production and use before functional (i.e. grammatical) categories. Therefore, it is hypothesized that differences in proficiency levels of learners will result in differences in the amount of L2 functional forms produced and used by participants of the two groups. Furthermore, disparity in the displayed linguistic forms is hypothesized to reflect regulation levels that correlate with stages of object- and self-regulation. Our inquiry is guided by the following research questions:

1. Does L2 competence level reflect regulation level during an L2 activity?
2. How and to what extent does learner's self-regulation differ based on proficiency levels?

In order to reach adequate answers to these questions, we recruited participants, designed an L2 performance task, elicited data, and analyzed them. More details on how this was conducted are presented below.

Participants

Participants in the current investigation were 30 male students at college level. These students are studying English as a foreign language in formal instructional settings. All participants are Arabic native students at university level in Saudi Arabia. Participants are divided into two groups based on L2 proficiency level as low level and higher level L2 learners who are studying in an English program with eight levels of English study beginning from elementary levels to intermediate and advanced levels. Low level learners form a group of 15 participants who are studying English in their elementary stages (i.e. first to third levels) while the other group is 15 participants who are advanced level English learners in their seventh and eighth levels of study. Participants were aged between 18 to 23 years. Students were selected based on these criteria and recruited by their teachers in order to optimally serve the purpose of limiting the context of this research to adult language learners who are learning English as a foreign language.

Elicitation Technique

Individual appointments were scheduled with each participant of the two groups during a 3-week period. Each participant completed a picture-description task that lasted for 3-5 minutes per meeting. The task was designed to elicit instances of using functional forms in comparison with instances of using content forms during L2 productions. Each participant was asked to orally describe a picture with no interference or assistance. Productions were recorded by the researcher and written down later on for further analysis.

Design of The Picture-Description Task

Participants were individually asked to describe a photograph that shows two kids, a boy and a girl, buying an ice-cream. Each of the two kids performs a different activity. The photograph

also shows a young man selling ice-cream in a cart. The background in the photograph shows trees and a house. This photograph was selected for its richness of scenes and simplicity for potential description. The photograph was shown to the participants and each participant was asked to orally describe the photograph in a minimum of 3 full sentences. In cases when the participant elaborated and produced more than three sentences, only the first three sentences were selected for the analysis. This was done in order not to affect frequency values in the analysis, and in order to capture the first spontaneous productions by the learner.

Data

The research data were collected from the responses of the participants to the picture-description task described above. Responses were written down into sentences as much as possible. Fragments were not counted as they were not considered sentences. Samples of elementary and advanced learners' responses are presented in list (a) and list (b) below, respectively.

(a)   Samples of elementary level learners' responses to the picture-description task:

- *I see house small and nice.*
- *The seller is look for money.*
- *The boy eat ice cream now.*
- *Nice view and beautiful nature.*
- *Someone sell ice cream.*

(b)   Samples of advanced level learners' responses to the picture-description task:

- *A man give the children ice cream.*
- *The ice cream seller ringed the bell.*
- *There is a house behind the man.*
- *The man is selling an ice cream to the kids.*
- *I can see in the picture three persons.*

It can be noticed that productions of advanced learners appeared to be longer than those produced by elementary learners. While this was expected of learners with different proficiency levels, this also affected the total number of tokens collected from the two groups. However, this should not raise an issue for the analysis since qualitative production of sentences with proper grammatical use was the main focus of this study and not their quantity. At the same time, we are not concerned with grammatical errors in the present study as can be found in the samples above. Rather, we focused on what the learner can produce along the lines of the content/functional distinctions with no grammatical judgments.

Components of each sentence were identified as belonging to one of the two major categories: content and functional. Further detailed categorization for each token under each category was also identified as linguistic variables. The categories and the linguistic variables are summarized in Table 1 below. A sequence of [content+functional], such as [buy+ing] (i.e. verb+tense), was identified as two tokens.

Table 1

Variables examined in the current study with their categories.

I. Functional Categories	II. Content Categories
1. Pronouns 2. Articles 3. Prepositions 4. Conjunctions 5. Auxiliary Verbs 6. Modals 7. Qualifiers 8. Quantifiers 9. Tense (Present and Past) 10. Aspect (Continuous)	11. Verbs 12. Nouns 13. Adjectives 14. Adverbs

Analysis

To answer the first research question, an overall calculation of the linguistic variables in each major category was conducted to show the total amount of content forms versus functional forms for each group. This will determine if there is any relationship between competence and regulation. It is expected that the total amount of functional forms for the advanced-level learners group will outstrip that of the elementary-level learners group. To put it simply, the more functional forms are used, the less regulation difficulty can be. This is attributed to competence differences between the two groups since higher level learners have presumably developed a more advanced level of competence than low level learners. This part of the analysis shows whether or not regulation difficulty can be linked to competence level.

To answer the second research question, the study examined frequency of use of linguistic variables in the functional category and the content category for each group. This test will show us if there is any relationship between learners' proficiency levels and regulation development. For example, and based on findings of previous research, frequency of use of the simple past tense for advanced learners is expected to be higher than that of elementary learners due to regulation difficulty for low level learners. It is also expected that advanced learners will do better than elementary learners in frequency tests across various functional forms. This portion of the analysis shows whether or not competent use of functional forms can be predictors of self-regulation and object-regulation. It is important to note that we are not concerned with errors produced by learners in this analysis. For example, incorrect use of the present continuous aspect is counted as a token in our analysis as long as the progressive morpheme [-ing] is produced by the learner, regardless of its grammaticality[4]. What we are concerned with is how grammatical forms are used by the

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[4] As noted by an anonymous reviewer this could raise an issue regarding the assessment of the learner's competence. Nonetheless, since the study is qualitative by nature as a developmental psycholinguistic study, it is concerned with the use of the grammatical structure for the purpose of detecting grammatical ability (i.e. quality of grammatical choice) regardless of errors which could be corrected in later stages of competence development. This need not lead to positing that grammaticality and competence are in contradiction here

participants and how frequently they are invoked in their actual use of language even if that does not meet the correct grammatical structural requirements.

Results

A total of 376 tokens were collected from productions of elementary level learners, and a total of 463 tokens were collected from advanced level learners' productions. The tokens were analyzed in terms of how frequently elementary level learners and advanced level learners demonstrate the following categories in their language productions: *content and functional forms, types of content forms, types of functional forms, and tense and aspect.* The results of how these categories were demonstrated by learners in their L2 productions are presented in the following.

Content and Functional Forms

Figure 1 below shows the results of the overall use of content forms versus functional forms in the productions of participants of the two groups. It also shows the total number of the demonstrated forms as either content or functional. The designation of a specific form as content or functional is based on the distribution of content and functional forms outlined in table 1 in the previous section.

Figure 1

Content and functional forms for elementary and advanced groups.
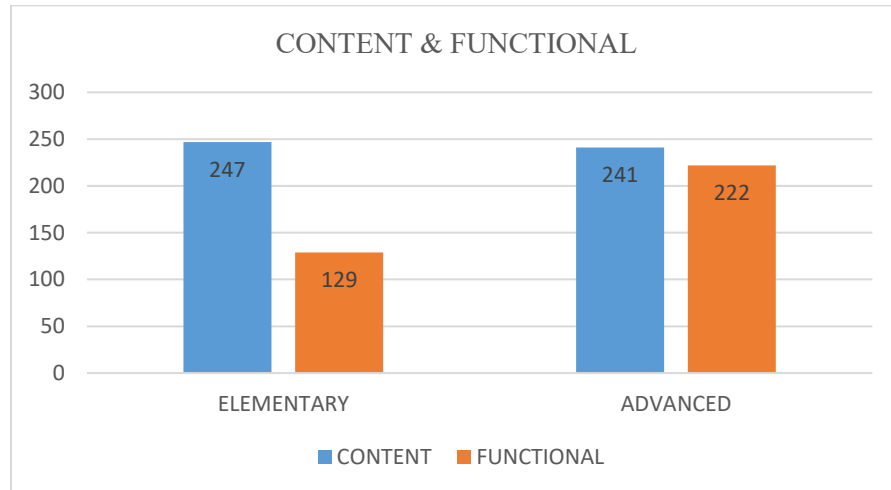
As Figure 1 demonstrates, both groups seem to display content forms more frequently than functional forms in their productions. For elementary level learners, the displayed content forms seem to substantially outnumber functional forms. On the other hand, advanced level learners appear to achieve a balance between these two categories in their productions. Although there is a difference between content and functional forms for advanced learners, this difference is minimal. In addition, advanced learners seem to outnumber elementary level learners in the total amount of the displayed functional forms. All in all, content forms for the two groups are more frequently

used than functional forms. This takes us to the issue of what types of content and functional forms are displayed more often in learners' productions. This is exhibited in the following sections.

Types of Content Forms

The types of the content forms displayed in participants' productions are presented in Figure 2. It shows how frequently elementary and advanced level learners display the following forms: *nouns, verbs, adjectives, and adverbs*. It appears that elementary level learners display higher amount of content forms than advanced level learners across content forms such as nouns and adjectives while advanced learners display a higher amount of content classes such as verbs and adverbs. However, nouns as a major content form category, is the most displayed content form in productions of the two groups. Adverbs are the least displayed content class for both groups.

Figure 2

*Content forms for elementary and advanced level groups.*
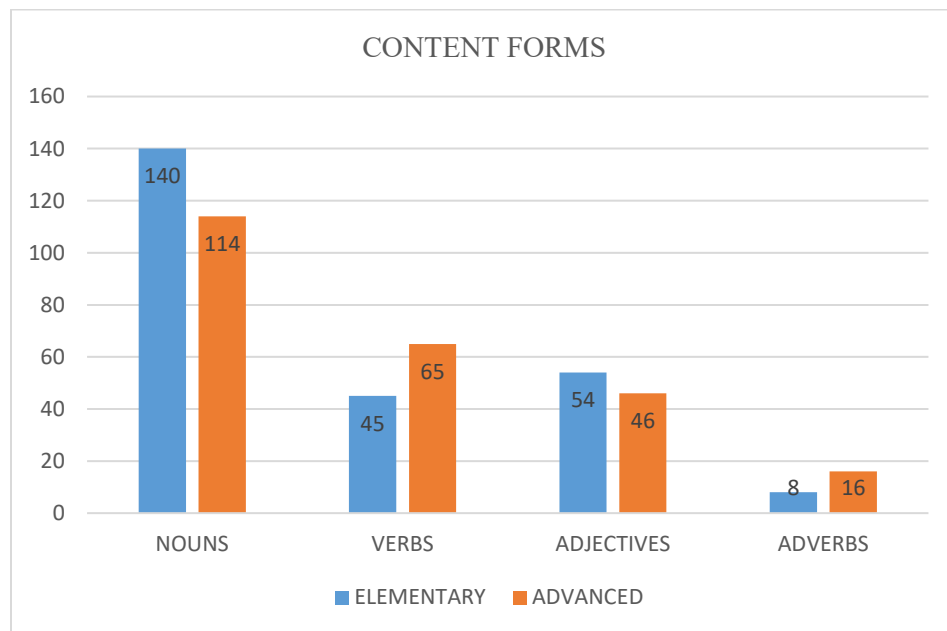
Types of Functional Forms

Types of the examined functional forms are more variant than types of the content forms. Figure 3 below demonstrates the results of types of functional forms displayed in participants' productions. The following functional forms were traced in the analysis of functional forms: *pronouns, articles, prepositions, conjunctions, auxiliaries, modals, qualifiers, and quantifiers.* While *tense* and *aspect* are major functional categories, we deal with them separately in the final section. As Figure 3 demonstrates, advanced level learners do better on functional forms than elementary level learners across all types of functional forms. However, the results of tense and aspect as functional categories are somehow different. This is shown in the following section.

Figure 3

Functional forms for elementary and advanced level groups.

**FUNCTIONAL FORMS**
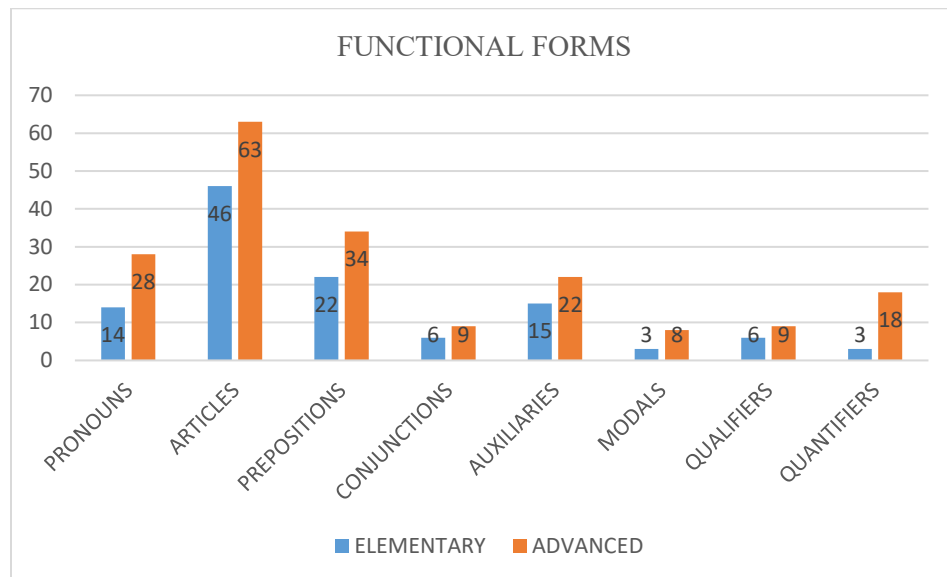
Tense and Aspect

Figure 4 shows how elementary and advanced learners demonstrate tense and aspect in their productions in response to the performance task. Two tenses and one aspect were traced in the learners' productions: *past tense, present tense, and present continuous aspect*.[5] These were the only attested forms of tense and aspect in participants" productions. No *perfect* or *future* forms were traced in all productions.

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[5] Note that the present tense is not counted in the overall calculation of functional forms because in many cases the third person singular present tense marker [–s] is absent due to learner error. For this reason, we classify a present tense form, whether it is with a third person singular marker or not, as only content form (i.e. verbs).

Figure 4

Tense and aspect for elementary and advanced level groups.

TENSE & ASPECT
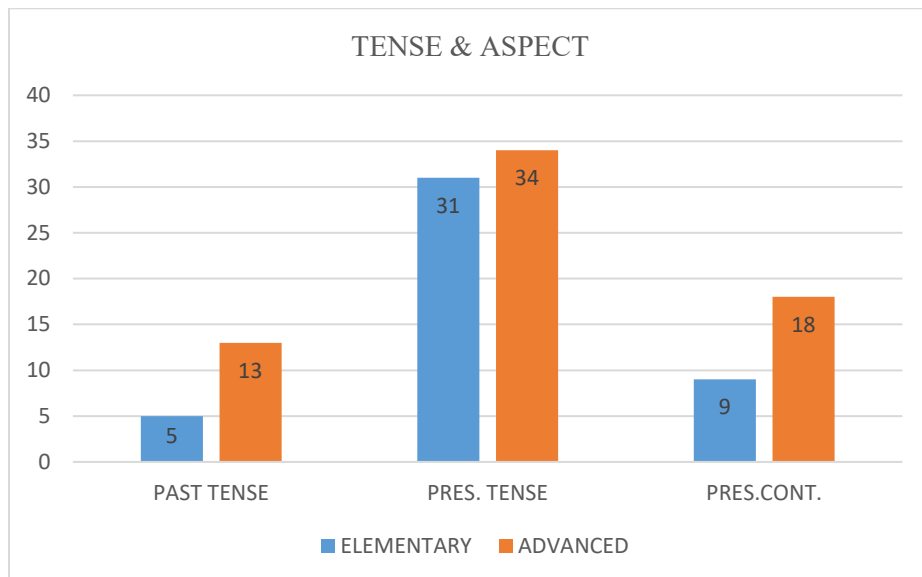
As Figure 4 demonstrates, elementary and advanced learners seem to be using the present tense far more frequently than the past tense. However, differences between the two groups appear to be salient in the matters of how they display the past tense and the present continuous aspect. Advanced learners display the past tense and the present continuous more often than elementary learners do. Discussion of the study's results is presented in the following.

Discussion

The current study sought to examine correlations between regulation and competence during language learning based on the hypothesis that high proficiency learners can develop self-regulation at advanced levels while low proficiency learners have difficulty developing self-regulation at elementary levels (i.e. object- or other- regulated). Self-regulation was hypothesized to be reflected in the competent or non-competent use of the content/functional categories as can be observed in language productions by the learners. The results of the study confirm that correlations between the two concepts (i.e. regulation and competence) can be found in the examined data. The findings of the current study expand on the previous literature by showing that self-regulation patterns relate to competence or proficiency levels, and that even foreign language learners seem to approach the content/functional dichotomy differently.

The results also show that frequency levels of content and functional forms in learners' productions appear to be different in the examined groups. While advanced learners balance between the two categories in their productions, elementary learners do not. For elementary learners, content forms are more prevalent than functional forms. This tells us that elementary level learners were object-regulated during the performance task. On the contrary, advanced level learners seemed to be self-regulated since functional and content forms were kept in balance in their productions. This is also supported by the overall usage of functional forms by the two groups.

In the examination of the overall frequency of content and functional forms for the two groups, two patterns were found to be related. The first pattern indicates that differences in

frequency levels of *content* forms between elementary and advanced learners are minimal. The only exception was found in verbs and adverbs frequency levels as these two classes were more frequently displayed by advanced learners. The second pattern denotes that frequency levels of functional forms are higher for advanced level learners than for elementary level learners across all functional categories. An explanation for the two patterns can be that content forms for language learners are easier and faster for access and use than functional forms. The limited display of content forms such as verbs and adverbs for elementary learners demonstrates that they depend mainly on non-inflected content forms for easier access and processing such as nouns and adjectives. It stands to reason that verbs and adverbs are the only content classes in which advanced learners hugely outweigh elementary learners as if verbs and adverbs were treated as functional forms by learners. In part, this might be related to the fact that verbs and adverbs are usually inflected with functional morphemes more than nouns and adjectives. Relating these findings to the current study, it seems that self-regulation development is affected by competence development. That is, while advanced and elementary learners seem to use content forms equally, self-regulated learners display more functional forms in their productions than object-regulated learners who focus mainly on what is available to them for production (i.e. the unmarked form).

Consistent with previous literature (e.g. Lantolf and Thorn, 2006), correlations between regulation level and language choice in terms of tense and aspect were found in the current study. In the present study's results, it is shown that advanced learners use the past tense more frequently than elementary learners usually do. Nonetheless, contrary to some previously reported results, advanced learners display the present continuous aspect more often than elementary learners do. Use of the past tense in contrast to the present continuous by learners was interpreted in previous studies as a higher sense of self-regulation over object- and other-regulation (e.g. Frawley and Lantolf, 1985). The findings of the current study expand upon the results of previous studies by showing that the present tense (aside from the continuous aspect) seems to be equally displayed by elementary and advanced learners, and it is the predominant tense in the overall productions by learners. Also, the current study's results contrast with previous results by showing that elementary level learners do not do better in the display of the present continuous compared to advanced learners who outweigh elementary learners in all functional categories including tense and aspect. A possible explanation is that the present tense for learners is far easier to access and process than other tenses and aspects, at least for the examined groups of learners in this study, in the sense that the present tense appear to be the unmarked structure. Our interpretation is that advanced learners display more variant uses of tenses and aspects in their productions as a result of higher competence level and more sense of self-regulation whereas elementary learners seem to be object-regulated and thus they rely more on the present tense to maintain the status quo (i.e. the way things are now) of the performance task.

Conclusion

The presented study has shown that regulation development in L2 acquisition could be linked to language competence (i.e. linguistic knowledge). It was shown that elementary learners of English as a foreign language rely more on content forms than on functional forms in their L2 productions. One reason for this could be that elementary learners are object-regulated. Advanced learners, on the other hand, achieved a balance between content and functional forms in their L2 productions, reflecting a state of self-regulation during L2 activities. It was also shown that L2 learners, at least in the examined groups of the presented study, generally rely on the present tense

more than other tenses during the designed L2 performance task. Other tenses and aspects, specifically the past tense and the present continuous, were associated with advanced learners in the current study. This was interpreted as regulation difficulty for elementary learners. Support for this view was found in the kind of content forms elementary learners appeared to display in their L2 productions, such as nouns and adjectives, while advanced learners did better in verbs and adverbs. This was attributed to the importance of non-inflected forms in general which seemed to take precedence over inflected forms for elementary learners. This was shown to be a type of self-regulation difficulty that could be linked to ease of access and processing of linguistic forms.

There were some limitations of the presented study. The first issue is that it does not collect data at two different points in time. Instead, the study focused on data collected from two different groups of learners. Another limitation of the current study is regarding the measurement of the participants' proficiency levels. Since it was impossible to conduct a language proficiency test, the study relied on the participants' level of language learning as either a beginner or advanced. Future studies should incorporate a proficiency test to detect accurate levels of the participants' language proficiency level, and it will be more informative to collect data at two different temporal points. Also, the study employed one picture as a stimulus. Future studies following the same methodology should incorporate different pictures as stimuli.

Notwithstanding these limitations, the findings presented in the current study have potential implications for much of the work on L2 learning and acquisition. In particular, the study gives an insight into how psychological development during L2 acquisition/learning is not apart from linguistic development of the learner. It maintains that development of linguistic knowledge and psychological development are closely connected. Future work needs to compare other aspects of psychological development of the L2 learner with other aspects of linguistic knowledge development.

Bio

Musa Alahmari, Ph.D., is an assistant professor of linguistics at King Khalid University, Faculty of Languages and Translation, Department of English. He has earned his PhD degree in Linguistics from Indiana University-Bloomington, USA. His research interests lie primarily in the fields of linguistics, sociolinguistics, and language acquisition. He lectures and offers courses in general linguistics, language acquisition, morphology, phonetics and phonology.

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