T.C.
ÇUKUROVA UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
DEPARTMENT OF ENGLISH LANGUAGE TEACHING

DEVELOPMENT OF ARGUMENT STRUCTURE IN THE EARLY PHASES OF LANGUAGE ACQUISITON

Bengü YAPICI

MASTER OF ARTS

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ÖZET

DİL EDİNİMİNİN İLK AŞAMALARINDA ÜYE YAPISININ GELİŞİMİ

Bengü YAPICI

Yüksek Lisans Tezi, İngiliz Dili Eğitimi Anabilim Dalı
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Tomasello (1992) küçük çocukların başlangıçta eylem ve eylem üye yapılarını birim birim sözcüksel yapılar olarak öğrendiklerini ve ancak sonraları öğrenmiş oldukları yapıları bir eylemden diğer eyleme genellemeye başladıklarını öne sürmüştür. Tomasello'ya göre dilde soyut bir eylem kategorisi, çocukların farklı eylemlere ve onların üye yapılarına daha fazla aşina olmalarıyla ortaya çıkmaktadır. Tomasello'nun bu fikirlerini göz önünde bulundurarak, bu çalışmada üye yapısının ortaya çıkışı iki gelişimsel aşama: OSU (Ortalama Sözce Uzunluğu) aşama I ve II boyunca, dil edinimlerinin ilk dönemlerinde olan beş kız çocuğundan toplanan veri üzerinde incelenmiştir. Öncelikle eylemlerin etrafında beliren üye yapısı biçimleri belirlenmiş, sonrasında ise üye yapısının dil ediminin ilk aşamalarında, belirli fiiller etrafında sözcüksel temelli olarak ortaya çıkıp çkmadığı sorusu araştırılmıştır. Sonuç olarak, ilk üye yapısı bilgisinin belirli eylemler etrafında geliştiğine dair bazı belirtiler bulunmuştur. Eylemler ilk olarak EYLEYEN --- / EYLENEN --- biçimlerinde ortaya çıkmış, sonrasında ise eylemlerle birlikte EYLEYEN EYLENEN --- / EYLEYEN EYLENEN YÖNELME --- biçimlerinde üye bileşimleri gözlenmiştir. Bu sonuçlar üye yapısı ediniminin sıfır açık üye kullanımından çoklu üye kullanımına doğru birikerek çoğalan bir biçimde geliştiğini göstermiştir.

Anahtar Kelimeler: eylem edinimi, üye yapısı, Eylem Adası Hipotezi

ABSTRACT

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Bengü YAPICI

Master Thesis, English Language Teaching Department
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Tomasello (1992) suggests that young children initially learn verbs and their arguments as lexical constructions, on an item-by-item basis, and only later begin to generalize the patterns they have learned for one verb to another. As to Tomasello, an abstract 'verb' category develops, as children become more familiar with different verbs and their argument structure. Taking into consideration Tomasello's position, in this study, development of argument structure was examined on the data gathered from five female children who were at the early phases of their language acquisitions, within two developmental stages: MLU (Mean Length of Utterance) Stage I and II. Firstly, argument structure frames developing around verbs were characterized and following this, the question if argument structure develops around individual verbs in a lexically specific way in the early phases of language development was investigated. The results showed some evidence for verb–specific knowledge of early argument structure. Verbs first appeared in ACT --- / OBJ--- frames, then combinations of arguments along with the verbs in ACT OBJ --- / ACT OBJ GL --- frames were observed. These findings revealed that acquisition of argument structure was cumulative: It starts with no overt arguments and ends up with multiple arguments.

Keywords: Verb acquisition, argument structure, Verb Island Hypotesis

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LIST OF ABBREVIATIONS

1sg : First person singular
1pl : First person plural
2sg : Second person singular
3sg : Third person singular
3pl : Third person plural
ABL : Ablative
ABILITY : Ability
ACC : Accusative
ACT : Actor
AOR : Aorist
CAUS : Causative
COM : Commutative
DAT : Dative
FUT : Future
GEN : Genitive
IMP : Imperative
GL : Goal
INST : Instrument
L1 : First language
L2 : Second language
LOC : Locative
MLU : Mean length of utterance
NEG : Negative
OBJ : Object
OPT : Optative
PASS : Passive
PAST : Past
PL : Plural
POSS : Possessive
PROG : Progressive
REC : Recipient
REC : Reciprocal

SRC **:** Source

SOV **:** Subject-object-verb

UG **:** Universal grammar

VO **:** Verb-object

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CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Researchers of language acquisition have long been interested in how children acquire the meanings of verbs (Pinker, 1989; Gleitman, 1990; Naigles, 1990, Bloom, 1991; Tomasello, 1992; Ingham, 1992). Verbs as lexical items, typically emerging during the second year of life play a major role in grammatical development and mark a critical point in children's transition to adult-like grammatical competence. Thus, understanding the process of verb learning is crucial to any theory of language acquisition.

One of the main concerns of the recent studies on verbs has been the development of argument structure. Proposals have ranged from nativist approaches to usage based approaches. The nativist theories of language acquisition propose that children are equipped with innate knowledge of language (e.g., Chomsky, 1981; Pinker, 1989; Grimshaw, 1992). However the extent of this knowledge is not agreed upon among all the researchers in this group. The innateness theory first proposed by Chomsky (1981) states that children do not have to learn or construct abstract syntactic structures, but rather they already possess them as part of their innate language faculty. The general principles and elements common to all human languages are encoded in human brain in the form of a Universal Grammar (UG). Children's syntax is rule-governed and develops fast. Following this view, young children are thought to have access to syntactic categories, including both lexical categories such as nouns and verbs and functional categories from early on. In other words, grammatical categories are expected to be operative when the child starts to produce sentences.

The Semantic Bootstrapping Hypothesis proposed by Pinker (1984, 1989) is a nativist account specialized for verb argument structure acquisition. Pinker (1989) suggests that children come equipped with an innately given set of semantic verb classes and a set of thematic linking rules that might facilitate learning the syntax of verbs. Each semantic role is associated with its own linking rule (e.g., Theme is linked to Subject if that syntactic function has not already been assigned, otherwise to Object). Since a verb's semantic structure and the mapping of its arguments are in perfect

correspondence, a child with innate linking rules can predict correct mappings once he knows what a verb means. Thus, this view predicts certain semantic overgeneralizations, including misclassification of verbs with respect to the semantic class to which they belong.

The usage-based accounts of language acquisition, on the other hand, challenge the nativist view (Tomasello 1992, 2000, 2003; Lieven et al 1997, Pine and Lieven 1993). The major claim of such accounts is that early syntactic development is characteristic of item-based learning and takes place gradually and in piecemeal fashion, driven by the input data the child is exposed to. According to the usage based accounts of argument structure acquisition, children learn the regularities from the input alone, without guidance in the form of principle, so they initially learn verbs and their arguments as unanalysed lexical constructions, and only later begin to categorize verbs into productive verb classes (Lieven et al 1997; Tomasello, 2003).

One important theory providing a starting point for this study as a conceptual framework is Tomasello's Verb Island Hypothesis. Tomasello (1992) claims that early verbs develop along different paths and they operate as "individual islands of organization" (p. 257). Young children do not yet possess verbs as a general abstract grammatical category, but rather they are picking up verbs one by one individually. Children are conservative learners: they construct new combinations out of previously used materials, only in the way they hear them used. So, young children's productivity with the use of verbs is limited and newly learned structures seldom 'transfer across verbs.' Early multi-word combinations are simple, mostly derived on the basis of general cognitive processes such as symbolic integration (Tomasello, 1992)

A third, emergentist position is intermediate between these two. Bowerman (1990) proposed that children may begin to classify verbs from the beginning of language acquisition, but that verb classes are constructed through positive evidence from the ambient language. According to Bowerman (1990) typical mappings between thematic roles and syntactic functions are not innate, but rather learned on the basis of linguistic experience with a particular target language. Bowerman (1990) also argues that constructions of predicate meaning are not innate, but rather based on observation of adult usage of predicates over time. Thus, the first few verbs are acquired based on input, but once children have established a preliminary set of verbs, they pay attention to language typology, and use it to constrain the acquisition of verb meaning and to speed it.

1.2. Statement of the Problem

Verbs form one of the universal major word classes. They denote events and states, and these events and states have participants. As Lidz (2006) states the number and status of these participants are reflected in syntax in the number and grammatical function of the noun phrases that appear with verbs. Participants can be encoded by arguments and verbs differ in terms of what arguments they can or must occur with. Consequently, a fundamental property of verbs is that they take arguments that realize these participants (e.g. a jumping event is not a jumping event unless there is someone who jumps). Verb argument structure is a complex aspect of language for a child to master, as it requires learning the relations of arguments to a verb and how those arguments are mapped into valid expressions of the language.

There are a number of different views on how the verb argument structure is acquired. One perspective which is followed in this study is that argument structure patterns are initially learned on a verb-by-verb basis then, through a process of categorization and generalization over the input.

Taking into consideration Turkish as a structurally different language from English, such as capturing thematic roles via nominal case morphology and allowing for frequent null arguments, this study attempts to characterize argument frames developing around verbs and investigates if argument structure develops around individual verbs in a lexically specific way in the early phases of language development.

1.3. The Aim of the Study

This study attempts to investigate the acquisition of verb argument structure in young Turkish–speaking children. The purpose of this study is mainly two fold: To characterize argument frames developing around verbs and investigate if argument structure develops around individual verbs in a lexically specific way in the early phases of language development.

1.4. Research Questions

This study aims to seek answers to the following questions:

1. What are the argument frames developing around verbs in MLU Stage I and Stage II?

2. Do verbs first appear in simple structures?

3. Do children generalize knowledge about argument structure across verbs?

1.5. Limitations

This study is only limited to the data representing the first two stages of MLU (Brown, 1973), Stage I (1.0 – 1.99) and Stage II (2.0 – 2. 49). Hence, the results of the study are limited to the comparisons of the data for these developmental stages.

1.6. Operational Definitions

Verb: A verb was defined in the adult sense of the word. This definition is slightly departs from Tomasello's (1992) definition "any word whose conceptualization was a process and whose use was as a predicate" (p.35) in the sense that it includes predicates such as off, on, over, up and down.

Argument: Argument was defined as per Tomasello (1992) to mean constructions developing around the verb.

Mean Length of Utterance: A measure of linguistic productivity in children. It is traditionally calculated by collecting 100 utterances spoken by a child and dividing the number of morphemes by the number of utterances. A higher MLU is taken to indicate a higher level of language proficiency.

CHAPTER TWO

REVIEW OF LITERATURE

2.1. An Overview into the Approaches of Language Acquisition

The field of first language acquisition broadly consists of two theoretical traditions that differ how they attempt to explain the development of language faculty with special reference to the assumptions made by each approach. Theories grouped under the heading nativist view of language acquisition take a formal approach to language and its acquisition. It is a more adult-centered approach deriving from Chomsky's theory of generative grammar. According to nativist view, language acquisition occupies its own separate module in the brain and has its own unique mechanisms (Chomsky, 1981). In general, these theories presuppose that children are endowed with considerable explicit, linguistic knowledge prior to their entry into the linguistic system. Children are born with an innate mechanism, the Language Acquisition Device, designated for language acquisition. This mechanism consists of principles and parameters of UG.

With regard to language acquisition, Tomasello (2006) summarizes the assumption of Chomskian generative grammar as below:

> Chomskiyan generative grammar begins with the assumption that children possess innately a universal grammar abstract enough to structure any language of the world. Acquisition then consists of two processes:
>
> **1.** Acquiring all the words, idioms, and quirky constructions of the particular language being learned (by "normal" processes of learning).
>
> **2.** Linking the particular language being learned, that is, its core structures, to the abstract universal grammar (p. 257).

In the contrast of the nativist view of language acquisition stands the group of theories called usage based linguistics, the central assumption of which is that language structure emerges from language use (Goldberg, 1995; Tomasello, 2003). According to usage based theories, language structure exists in the environment, and children attend to salient objects, events and actions around them and construct language. Children's hypothesis about data relevant to language are derived from and constrained by the

social environment or by their inherent cognitive capabilities, rather than by specifically linguistic knowledge (Uziel-Karl, 2001).

Proponents of this account claim that early syntactic development is characteristic of item-based learning and takes place gradually and in piecemeal fashion, driven by the input data the child is exposed to. Language acquisition is supposed to be guided by general cognitive principles, rather than innate language-specific principles (Tomasello 1992, 2000; Lieven et al. 1997; Pine and Lieven 1993). In this respect Tomasello (2006) states that in the usage based theory there is no such thing as UG, so the theoretical problem of linking it to a particular language does not exist. He clarifies the usage based assumptions as below:

> It is a single- process theory of language acquisition in the sense that children are thought to acquire the more regular and rule based constructions of a language in the same way they acquire the more arbitrary and idiosyncratic constructions: they acquire them. And as in the learning of all complex cognitive activities, they then construct abstract categories and schemas out of the concrete things they have learned. Thus, in this view, children's earliest acquisitions are concrete pieces of languages (p.258).

2.2. Theories on the Acquisition of Verbs

Children's transition from the initial state to adult-like knowledge of language is a central question in the study of acquisition. In the case of verb acquisition the question is how children move from the initial state of no verbs and no arguments to varied verb vocabulary and to mastery of verb argument structure. One main approach to the initial state is continuity hypothesis of which proponents assume that children possess knowledge of grammatical categories from the onset of linguistic development (Pinker, 1984; Valian, 1986). According to continuity hypothesis, adult grammars are natural developments of early child grammars, since the principles the child possesses remain the same throughout acquisition (Uziel-Karl, 2001). So, the implication of this hypothesis to verb and verb argument structure acquisition is that adult and child grammars are alike with respect to knowledge of verbs and verb argument structure in the sense that both share the same structure (syntactic trees), and utilize the same principles (e.g., the thematic hierarchy) throughout acquisition. More specifically on verb acquisition, continuity hypothesis give rise to two major views, as semantic and

syntactic bootstrapping. Among these, the Semantic Bootstrapping hypothesis postulates that there is a strong correlation between a verb's semantic properties and its syntactic properties and children can exploit this pattern to predict form from meaning. They can guess that a transitive verb's agent argument is mapped onto the subject role and patient (acted upon) argument is mapped onto the object role (Gropen, Pinker, Hollander, Goldberg, and Wilson, 1989). The Syntactic Bootstrapping hypothesis on the other hand, postulates that there is a relationship between the meaning of a word and the syntactic structure in which it occurs and that children's hypotheses about novel word meaning is guided by this principles (Gleitman, 1990; Landau & Gleitman, 1985). On this view, some basic knowledge about syntax may help children identify the meanings of novel words. This hypothesis has received support from adult experiments (Gillette, Gleitman, Gleitman, & Lederer, 1999), as well as from toddlers (Fisher, Hall, Rakowitz, & Gleitman, 1994; Lidz, Gleitman, & Gleitman, 2003) and infants (Fisher, 2002; Naigles & Kako, 1993). In all of these studies, the number and type of syntactic arguments provide information that is used by children to identify the meaning of a novel verb.

When it comes to lexically based views, Tomasello takes a position in contrast to approaches mentioned above. On the major issue, concerning abstractness of grammatical knowledge, Tomasello's (2000) position is that children do not have innate abstract grammatical categories. He suggests that young children initially learn verbs and their arguments as lexical constructions, on an item-by-item basis, and only later begin to generalize the patterns they have learned for one verb to another. In this view, there are no general labels such as Agent and Theme, but rather generalized conceptions of verb-specific roles such as 'kicker' and 'the thing being kicked.' Children's conservative use of newly learned verbs is explored in several experimental studies with different methodologies; such as weird word order studies that children hear novel verbs used in weird word orders and then are encouraged to use them with new characters (e.g. Abbot-Smith, Lieven, and Tomasello, 2001; Akhtar, 1999), nonce verb comprehension studies in which children hear and learn a novel verb in different constructions (typically, transitive construction) and then are encouraged to use the verb in the presented construction (e.g. Akhtar and Tomasello, 1997; Dodson and Tomasello, 1998; Tomasello and Brooks, 1998; Brooks and Tomasello, 1999) and lastly preferential looking studies in which children hear a sentence and are simultaneously exposed to two videos with different ongoing actions, only one of which is matches the

sentence (e.g. Tomasello and Abbot-Smith, 2002). In short, the results gathered from these different experimental methodologies are taken as evidence to the assumption that young children's syntactic constructions become abstract gradually, in a piecemeal fashion (Tomasello and Akhtar, 2003).

Gradual acquisition like this along with the limited verb based patterns also observed by Pine and Lieven (1993). Pine, Lieven, and Rowland (1998) suggest that children are conservative in their acquisition of constructions and children add only slowly to the forms that can co-occur with each verb, and they take a long time to build up a repertoire in which the same construction can occur with several different verbs. They seem to work from each specific verb to the range of forms each occurs with, building up groups of constructions that are compatible in meaning with each verb. And although they produce some verbs very frequently early on, they typically produce them in only one or two of the constructions actually possible with that verb in adult speech.

According to Goldberg (1995) this sequence of development suggests that children learn construction types in relation to specific lexical items. For example, they learn for each particular verb which construction it can occur in, on the basis of compability between the meanings of the verb and the construction.

Clark (2003) expands Goldberg's notions with an example on children's use of verbs in different constructions. He states that as children are exposed to a greater range of verbs and the constructions they occur with, they discover which verbs convey the action in transitive action versus caused motion events and which are used for intransitive motion. Intransitive motion, for instance, demands some verbs of motion and an argument to identify the entity that is moving (e.g. the dog is running away), while transitive actions require a transitive verb and two arguments, one denoting the agent of the action and the one the object affected (e.g. the boy broke the cup). Many of the earliest combinations children produce are limited in scope: they contain an agent mentioned only for a small set of actions, locations mentioned for only a few objects, and so on.

Ninio (1999) on the other hand, investigated the first verb combinings; such as verbs combined with noun objects in a verb-object (VO) pattern and verb combining in a subject-verb-object (SVO) pattern. And he finds out that the more verbs children already know to combine in a certain pattern, the faster they learn new ones. As a result, the knowledge gained by learning to generate the word-combination with these first verbs is thought to be transferred to other verbs and to facilitate their acquisition in the

same positional pattern. Ninio called these first verbs as pathbreaking verbs. This case is also observed by Bowerman (1978 in Ninio, 1999) in her daughter Eva's VO combinations. For a month she produced VO combinations only with the verb 'want', but in the next two months she produced the same type of combination with at least 7 different verbs which suggest that 'want' is a pathbreaking verb, easing the spread of verb-object combination to other verbs. So children might learn each verb first in one construction and then gradually add others.

In this section recent views on the acquisition of verbs will be presented under the headings of three major views in a more detailed way under the headings below: semantic bootstrapping 2.1.1, syntactic bootstrapping 2.1.2 and as a lexically based view on the contrast of other two views, verb island hypothesis 2.1.3.

2.2.1. Semantic Bootstrapping

Pinker's (1984, 1989) innatist theory of semantic bootstrapping suggests that children have access to a set of semantic verb classes and a set of thematic linking rules that map the verb semantic roles to sentence structure and constrain the syntactic properties of verbs. Pinker (1994) argues that children innately have access to semantically transparent notions such as person, thing, action, agent, and patient. These are elements of the semantic representation of the sentences that children hear and they form the inductive basis for deriving the sentences syntactic counterparts. In this account, the predicate-argument structures of verbs, as determined by their lexical semantics, projects onto the syntactic structure in accordance with a set of innate universal "linking rules" which associate particular arguments with particular syntactic positions as specified in the lexical entry of any verb. For Pinker (1989), a verb's argument structure is directly dependent on the semantic structure of the verb, with argument structure alternations resulting from semantic operations. The arguments themselves are only specified as variables, with no semantic labels. A large part of a verb's meaning is defined by setting parameters for features such as [+/-movement], [+/-actor], [+/-liquid] to yield parameterization of idiosyncratic lexical information. On this basis, children will interpret all verbs that share the same feature setting as allowing the same argument structure. Knowledge of syntactic functions like subject or direct object is assumed to be innate, and children rely on typical correspondences between semantics and syntax to determine which elements of the input strings instantiate

various syntactic functions. For example, children look for constituents that specify agents in order to learn the position and other properties of subjects, since children's innate linking rules specify that agents are most likely to be subjects.

This view predicts the use of certain environmental contextual cues. Gropen et al (1991) state that young children at the outset of language acquisition might use linking regularities and verb meaning to identify examples of formal syntactic structures and relations in parental speech and hence, to trigger syntactic rule learning for their particular language. For example, if the patient argument of a verb comes after the verb in an input sentence, the child can deduce that it is a VO language even if the child had no way of knowing prior to that point what counted as an object in that language. So Pinker's (1984) suggestion that children's acquisition of syntactic roles such as subject and direct object is mediated by innate syntax-semantics correspondence rules becomes evident in the case of the facilitation of the direct-object role acquisition. The first VO combination expresses a semantic relation and this should trigger the innate correspondence rules linking the semantic relation to the syntactic verb-direct object relation. Once, the innate concept is triggered children should be in the possession of an abstract categorical rule for the expression of verbs with their syntactic direct-objects, and it is expected that the spread of the relevant construct to other candidate verbs would be very fast.

2.2.1.1. Problem of Semantic Bootstrapping

Pinker's "semantic bootstrapping" account has been criticized on several counts. Gleitman (1990), for example, attacks the hypothesis that children first fix the meaning of a verb by observing its real-world contingencies. She notes that "salience"and what is expressed in a speech act are not so easily recoverable as required by semantic bootstrapping, since many verbs refer to overlapping situations

Bowerman (1990) argues against Pinker's reliance on correspondences between semantic and syntactic categories. She uses crosslinguistic evidence to show that linguists do not fully agree on what constitutes the canonical mapping between thematic and syntactic functions, and that linking may not be universal. Also, the timing of acquisition of different kinds of verbs and the accuracy with which their arguments are mapped is inconsistent with what should be expected under the assumption that knowledge of linking is innate. Children may particularly have problems in mapping

thematic roles onto syntactic positions with just those verbs for which mapping should be the easiest if guided by innate linking rules, that is, in cases when the arguments are prototypical agents and patients. In addition, there are important crosslinguistic differences in the argument structure of the predicates that children may hear in a given context. In sum, several major assumptions of the "semantic bootstrapping" account have been criticized especially the claim that the linking mechanism responsible for mapping argument structure to syntactic positions is innate or universal.

Bloom (1994) points out that the kind of mapping that semantic bootstrapping posits from semantically transparent notions to syntactic notions has no counterparts in the adult language; that is, this mapping is not part of the mature competence, but is specifically posited to solve the problem of acquisition.

2.2.2. Syntactic Bootstrapping

The syntactic bootstrapping hypothesis proposes that children use the syntactic frame surrounding a verb as a cue to that verb's meaning (Landau & Gleitman, 1985; Gleitman, 1990; Naigles, Gleitman & Gleitman, 1993; Fisher, Hall, Rakowitz & Gleitman, 1994). Children exploit certain regularities between verb meaning and sentence structure to narrow down the possible meanings of specific verbs. So children are thought to rely heavily on early knowledge of argument structure to help them acquire the meaning of specific verbs associated with that structure. Specifically, it is claimed that a verb's subcategorization frames suggest to the child what the meaning of the verb may be in isolation. This enables children to choose between the several interpretations allowed by observation. As Lidz (2006) states the systematic relationships between verb meaning and syntactic structure are used as additional information and children can find a reliable mapping between syntax and lexical semantics, so they make use of this mapping in learning verb meanings.

Guasti (2002) exemplifies this phenomenon on transitive and intransitive verbs. She states that verbs have an argument structure that specifies the number of their arguments. Transitive verbs like 'break' take two arguments; intransitive verbs like 'laugh' take one argument. Arguments define participants in the event described by the verb and these arguments can be distinguished in terms of the role they play in that event. This is so called thematic roles: agent, patient, theme, goal and so on. Moreover, each argument has a grammatical function (subject, object, etc) in a sentence. To sum

up Syntactic Bootstrapping Hypothesis rests on the assumption that there is a correlation between syntax and semantics and especially syntax cues the verb meaning.

The syntactic bootstrapping hypothesis finds support in several results. It is first inspired by Brown's (1957) idea that children can use morphosyntactic cues in determining whether a word is a noun or a verb. Brown presented children pictures and used nonsence words inserted in different syntactic context to describe them. For example, he asked 'show me a sib' (noun syntax), or 'show me sibbing' (verb syntax). In the former case children generally pointed to the picture showing a concrete object; in the later to the picture showing an action. Since then other researchers have proved that children make different hypothesis about the meaning of words depending on the syntactic environments.

Especially on verb meaning, several experiments have tested the hypothesis that syntax cues verb meaning. Most of these studies have focused on the syntax – semantics correlation between the transitive verb frame and the causative meaning, also the intransitive verb frame and noncausative meaning. Naigles and her colleagues (Naigles, 1990; Naigles, Fowler and Helm, 1992) examined the claim that children's choice of referent is a function of the syntactic structure in which the verb appears. In Naigles's (1990) preferential-looking experiment, children of age 2 to 3 were shown two pictures of actions, presented with an utterance with a nonce verb, and told to "find" the novel action in the pair of scenes. Naigles (1990) found that children who heard an intransitive utterance (The bunny and duck are blicking) were more likely to look at a picture of two characters independently performing an action (the bunny and duck each twirling their arms, for example), while those who heard a similar transitive form (The bunny is blicking the duck) were more likely to look at a picture of one character (the bunny) performing an action on the other (the duck). This result demonstrates that the children have learned a reliable association between a syntactic form (such as the transitive) and a coarse semantics for the expressed event (i.e., one participant causally affecting another), and are able to determine the scene that is more compatible with an utterance according to this acquired knowledge.

Naigles (1996) showed that 2;2 to 2;6 year old children can appreciate the presence of multiple frames and make conjectures about the meaning of novel verbs that depend on the frames in which these verbs are heard. In another study, Naigles and Hoff-Ginsberg (1995) found that most verbs are used in multiple syntactic frames by mothers in child-directed speech and children themselves more frequently used those

verbs that mothers employed in different syntactic frames. On the issue of multiple syntactic frames, Landu and Gleitman (1985) proposes that children may learn aspects of verb meaning not from a single frame but from a set of argument structures associated with a given verb. However, it gives an idea about how children use syntactic context to cue verb meaning; syntactic structures are a projection of lexical properties. Therefore, by observing the structural environment in which a novel verb is embedded (e.g. transitive or intransitive), one can one can guess certain aspects of its meaning.

For instance, in a forced-choice pointing task, Fernandes et al (2006) have shown that toddlers in the third year of life can map a single scene (involving a novel causative actionpaired with anovel verb) onto two distinct syntactic frames (transitive and intransitive) which suggest that even before toddlers begin generalizing argument structure in their own speech, they have some representation of conceptual/semantic categories, syntactic categories, and asystem that links the two. All these findings are compatible with the presupposition of syntactic bootstrapping hypothesis that children have ability to parse a sentence into a predicate and its arguments. This, in turn, implies that there are regularities between verb-syntax and verb semantics, and children are sensitive to these regularities and use them to make conjectures about meaning.

2.2.2.1. Problem of Syntactic Bootstrapping

The syntactic bootstrapping account has been subject to criticism. For example, Pinker (1994) argues that Gleitman's empirical arguments all devolve on experiments where children are exposed to a single verb-frame. Such limited context gives children only rough information about the semantics of the particular verb in that frame (such as number and type of arguments), and tells them nothing about the content of the verb root across frames.

Syntactic bootstrapping requires that a verb appear with all its overt arguments in order for the child to figure out its meaning. Languages that allow argument ellipsis may thus create a problem for this theory. Rispoli (1995) uses evidence from Japanese to argue that syntactic bootstrapping cannot play much of a role in early verb learning, since Japanese allows core arguments to be omitted. Similarly, Bowerman (1997) argues that in Korean the arguments of a verb are not always explicit so, children might find it difficult to infer anything about a verb's argument structure.

2.2.3. Verb Island Hypothesis

Tomasello outlines a position in contrast to that proposed in generative accounts of grammatical development, which ascribe adultlike syntactic categories to the child at the beginning of word combination. According to Tomasello (2003) Children use cognitive and socio-cognitive processes such as imitation (reproducing the language adults produce for the same communicative function), analogy, and structure mapping (detecting both structural and functional similarities in utterances independent of the specific words involved) to gradually categorize the relational-syntactic structure of their various item-based constructions, and therefore become productive with their language in more adult-like ways. Such constructions vary in abstraction. A relatively concrete construction would involve the concept of noun & verb, e.g the past tense construction (X VERB-ed), the ongoing action construction (X's VERB-ing), or the future intention construction (I'm gonna VERB) – where the X slot is filled with a noun \ pronoun-. Tomasello (2006) summarizes his position from a usage-based perspective as below;

> Word combinations, pivot schemas, and item-based constructions are things that children construct out of the language they hear around them using general cognitive and social-cognitive skills. It is thus important to establish that at the necessary points in development, children have the skills they need to comprehend, learn, and produce each of these three types of early constructions (p. 20).

Tomasello gathers his findings particularly through systematic observations on his daughter's language development. His findings from the case study of his daughter indicated that syntactic structure developed around individual verbs in a lexically specific way in what became known as the Verb Island Hypothesis. According to this hypothesis verbs had a special role to play. They acted like "individual islands of organization" (Tomasello, 1992, 257).

Tomasello (1992 in Clark, 2003) suggests that children's early verb uses are limited to one particular noun. This noun may pick out the role of the agent, of the object affected or of the location of the action in question. And this noun may occur in a fixed position just before or just after a verb. Such verb island uses may then be elaborated in two ways: First, children may go on to combine the same verb with different nouns, so a verb like 'hold' might occur with several agent nouns, and a verb

like ‘find’ might occur with several object nouns and second they may start adding to the arguments they produce a verb with just one argument but, as they elaborate their utterances, they may use verbs with two arguments; for example, an agent and an object being affected. The next step is to combine each verb with other contractions. This is what Tomasello’s position (1992) suggests as young children do not possess verbs as a general abstract grammatical category but rather, they are picking up verbs one by one individually. Since children are conservative learners: they construct new combinations out of previously used materials, only in the way they hear them used. So, young children’s productivity with the use of verbs is limited and newly learned structures seldom transfer across verbs.

Major evidence in support of the Verb Island Hypothesis comes from Tomasello’s (1992) diary study of early verbs of his daughter. He found that his daughter was conservative in how she used her verbs. Most of the verbs she produced were used in only one verb–argument construction type (e.g. ‘Mommy break’ is one type, ‘break cup’is another). She gradually extended her uses of each verb as she added different arguments Furthermore; he found that the verbs developed grammatical structure in quite individual ways. These findings led Tomasello to conclude that young children do not come to the task of combining words with ‘abstract categories and schemas’. Instead their earliest combinations ‘revolve around concrete items and structures’ (Tomasello, 2000: 215). For example, children do not start out with an abstract ‘verb’ category or an abstract ‘transitive’ or ‘intransitive’ construction. Rather they learn the argument structure of individual verbs on a case-by-case basis. They learn, for example, that the verb hit can have a hitter, a thing hit, and a thing hit with argument.

2.2.3.1. Problem of Verb Island Hypothesis

According to Tomasello (2006) children’s early linguistic constructions appear to be lexically specific and so at first are learned one by one. Only later in development do children’s constructions become more abstract and category-based. This growing abstractness leads to argument especially in terms of the degree of abstractness.

One problem for this hypothesis concerns learnability. Clark (1998) suggests that, from as young as age two, children could be viewed as working on constructions inside words as much as on constructions made up of words.

Behrens (1998) on the other hand, argues that construction grammar account fails to fully spell out how the child moves from concrete constructions to more abstract ones. She notes that toddlers do not direct their attention equally to all parts of an event, but rather, devote most of their attention to the agent. Also, 12-month-old children treat events similarly when they involve the participation of similar objects. As Weist, Pawlack & Carapella (2004) states Tomasello does not present an explicit hypothesis regarding what exactly the child knows when they know argument structure, syntactic relations and clause structure.

Finally, there are problems concerning language typology. Bavin (1998) argues that languages encode grammatical categories in language-specific ways, and so different developmental paths can be expected across languages, depending on the particular constructions available and the accessibility of these constructions. For example, in a language that allows argument ellipsis, children might not have enough available data to detect the argument structure of a given verb.

2.3. Acquisition of Verbs in Turkish

Acquisition of Turkish verbs is analyzed from different perspectives in the previous studies. Aksu-Koç & Slobin (1985) investigates the development of the inflectional and derivational verbal morphology, Ekmekçi (1982), Çapan (1988) analyze the development of verbal inflections, Sofu (1995) studies the acquisition of lexicon and focuses on verbs as a lexical class, Altınkamış-Türkay (2005) investigates children's early lexicon in terms of noun / verb dominance, Aksu-Koç (1984) highlights the role of transitivity in acquisition thus, analyses verbs on the basis of transitivity parameter. More specifically on verb argument structure acquisition, Ketrez (1999) studies early verbs hence, defines stages for the emergence of verb category and analyses the emergence of argument structure in the light of Grimshaw's (1992) prominence theory, Göksun et al. (2008) investigates applicability of syntactic bootstrapping hypothesis in verb learning for Turkish.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Database

The study is based on naturalistic longitudinal data collected on three week intervals from five monolingual, firstborn Turkish speaking children. All of the children are female (Özge, Zeynep, Ceren, Şansım, Ezgi). Each child was recorded for approximately one and a half hour in a single session over a period of approximately 15 months (between ages 1.0 - 2.5). The corpus from which my data was extracted was recorded and transcribed by Altınkamış-Türkay (2005) for her Ph. D. study.

This database has some advantages. The interactions are natural since they are recorded in a setting familiar to child (home) with their mother and at times with other members of the family and allowed a variety of contexts for the children to express themselves. The intervals are sufficiently short not to miss significant developmental changes in the children's language, yet extended enough to allow such changes to take place.

The transcriptions of the video-recordings were completed by Altınkamış-Türkay (2005). All transcription related matters were based on CHILDES project (Child Language Data Exchange System) (Mac Whinney, 1991). The symbols utilized were chosen from CHAT Manual (Codes for the Human Analysis of Transcript). The recordings were transcribed orthographically using the CHAT system from the CHILDES project.

3.2. Research Design

Only the data from Stage I (MLU, 1.0 – 1.99) (Brown, 1973) and Stage II (MLU, 2.0 – 2. 49) were used in this research and all of the analysis involved comparisons between Stage I and Stage II data. Comparisons that are made based on the data for each developmental stage. The data concerning this study is presented in Table 3.1 as the age, MLU, and number of recorded sessions at Stage I and Stage II for all the children. The MLU and age ranges refer to the first and last recording for each stage.

Table 3.1. Age, MLU, and number of recorded sessions at Stage I and Stage II

Children	Stage I	Stage II
Özge		
Age	01; 04. 24 – 02; 01.08	02; 03. 05 – 02; 04. 14
MLU	1.0 – 1.82	2.54 – 2.21
Tape session no	1 – 13	14 - 15
Zeynep		
Age	01; 04.19 – 02; 03.12	02; 04. 09 – 02; 05.00
MLU	1.0 – 1. 86	2.02 – 2.89
Tape session no	1 – 13	14 - 15
Ceren		
Age	01; 04. 06 – 01; 11. 00	01; 11. 23 – 02; 03. 26
MLU	1.0 – 1.87	2.23 – 2.07
Tape session no	1 – 10	11 - 15
Şansım		
Age	01; 03. 03 – 01; 09. 11	01; 10. 10 – 01; 11. 05
MLU	1.0 – 1. 95	2.1 – 2.33
Tape session no	1 – 9	10 - 11
Ezgi		
Age	01, 01. 20 – 02; 12. 00	02; 01. 09 – 02; 02. 00
MLU	1.0 – 2. 33	2.82 – 2.66
Tape session no	10 – 11	15 - 16

3.3. Children's Speech Corpora

The corpus for each child was searched for utterances that included verbs at Stage I and II, and these were extracted from the transcripts and collected into separate files. Excluded were incomplete or unclear utterances, self-repetitions and routines (songs, counting sequences). Also, a verb was defined in the adult sense of the word.

Once these files had been organized, they were further divided into three categories of verbs per child:

(1) Stage I New Verbs: all verbs acquired at Stage I;

(2) Stage II Old Verbs: verbs that had first appeared at Stage I and then reappeared at Stage II; and

(3) Stage II New Verbs: verbs that had only first appeared at Stage II.

Excluded from these categories were copula constructions, double-verb constructions (e.g. want to go) and formulaic expressions (e.g. thanks, thank you, excuse me, bless you).

These three additional categories were then organized per child, but this time they only included first uses of Old and New Verbs at Stage I and II.

3.4. Coding

In order to evaluate the predictions concerning the number of arguments per verb, all first uses of Old and New Verb types were coded for the number of arguments they appeared with. Argument was defined, as per Tomasello (1992) to mean constructions developing around the verb. Then all arguments in utterances that contained a lexical verb are coded for their thematic roles. The thematic categories used for this purpose were adapted from several sources (Jackendoff 1990, Radford 1990, Tomasello, 1992). But mainly the one that Tomasello compromises is used; which is Actor (to include agent and experiencer), Object (to include patient and theme), Instrumental, Locative, and Recipient. The included ones to Tomasello's categories are Source, Goal and Comitative. Table 3.2 lists the categories used in the present study.

Table 3.2. Thematic roles

Thematic Role	**Explanation**	**Example**
Agent	Initiator, doer of action	John cooked a meal
Experiencer	The individual who feels or perceives a situation	John loves Mary
Patient	Entity which undergoes an action	The water warmed up
Theme	Entity that is moved or located somewhere	John gave Marry a book
Goal	Entity towards which motion takes place	John drove to Manchester
Location	Place where something is	John remained at home
Source	Entity from which motion takes place	John came from London
Recipient	Subtype of goal which occurs with verbs denoting change of possession	John gave Mary a book
Comitative	Entity that accompanies	John danced with Mary
Instrument	Object with which an action is performed	John opened the door with a key

All these categories were used in the study and refer to noun phrases (NP) required by the verb.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1. Stage I and Stage II New and Old Verbs

Since all of the analysis involved comparisons between Stage I and Stage II data, in this section to provide an overall look, numbers of the verbs which appeared in two stages are presented.

Table 4.1 presents the number of New Verbs at Stage I and New and Old Verbs at Stage II for the children in this study. If one adds the number of Stage I New Verbs and Stage II New Verbs, one gets the total number of verbs per child.

Table 4.1. Number of verbs for Stage I new verbs and Stage II new and old verbs

Children	Stage I New Verbs	Stage II New Verbs	Stage II Old Verbs
Özge	39	12	13
Zeynep	42	9	15
Ceren	47	24	23
Şansım	47	16	18
Ezgi	36	14	10

The table shows that contrary to what one might expect, the number of Old Verbs in Stage II is always lower than New Verbs in Stage I. This is because not all the verbs that first appeared in Stage I reappear in the Stage II data.

4.2. Argument Frame Analysis

In order to identify the argument frames developing around verbs in MLU Stage I and II, the verbs are organized into three tables for each child as Stage I New Verbs and Stage II New and Old Verbs. Then, the verbs are presented according to their argument frames and to the number of arguments they first appeared with (one, two, or three). Also argument frames of verbs which appeared without an overt argument are presented as another category in accordance with their transitivity properties.

In table 4.2 the argument frames that were found along with an example utterance from the data are presented in accordance with their argument numbers.

Table 4.2. Argument frames

1. Argument frames with one argument	
ACT ---	Ben oynuycam
--- ACT	Gitti o
OBJ ---	Topu getir
--- OBJ	Çıkart terliği
2. Argument frames with two arguments	
ACT OBJ ---	Anne kitap okuyor
ACT --- OBJ	Ben yapacam çanta
OBJ --- ACT	Elini çek sen
GL --- ACT	Nereye gidiyor bunlar
(ACT) GL ---	Arabaya bindi
(ACT) --- GL	Koydum oraya
ACT SRC ---	Sen arkadan geleceksin
ACT --- SRC	Polis geliyor ordan
(ACT) --- SRC	Çıktık ordan
(OBJ) SRC ---	Burdan düşüyor
(ACT) INST ---	Kaşıkla oynuyor
INST OBJ ---	Bununla baba yap
ACT COM ---	Amber birisiyle oynuyor
(ACT) COM ---	Osmanla uyuycaz
ACT LOC ---	Bebek burda uzanmış
ACT REC ---	Bebek sana gülüyor
3. Argument frames with three arguments	
(ACT) OBJ GL ---	Bunları nereye koyacam
(ACT) OBJ --- GL	Bunu takacam buraya
(ACT) OBJ REC ---	Bunları bana getirdin
(ACT) REC OBJ ---	Bana top getirdin
4. Argument frames with four arguments	
(ACT) REC OBJ --- LOC	Adama düğme yaptım burda

The results for the argument analysis show that verbs with one argument appeared in 4 different argument frames; verbs with two arguments appeared in 16 different argument frames; verbs with three arguments appeared in 4 different argument frames and lastly, just one occasion of verb with four argument appeared in (ACT) REC OBJ --- LOC argument frame.

When the argument frames of verbs with one argument is observed, it is seen that verbs first appeared in ACT --- / OBJ--- argument frames in a varied order of these arguments. These verbs are relatively earlier verbs of Stage I. As one can predict, earliest verbs first appeared in uninflected form as one word utterances without argument, as verbs start to appear with verbal morphology they start to have arguments. For example, when verbs bears person marker they inevitably have ACT argument. Also, with transitive verbs the objects that undergoes the action is referred in OBJ argument.

Even at one argument stage, the results revealed some structural characteristics of Turkish. The canonical word order in Turkish is SOV; however, it also makes use of flexible word order because of the existence of case markers attached to nouns to denote the role of the noun phrase. Children in this study also make use of flexible word order characteristics of Turkish. As an example, children in this study use both ACT---- (ben oynuycam) and ----ACT (gitti o) structures.

Göksun et al (2008) clarifies the reason for this structural property as below:

> Many languages from a variety of language families mark thematic relations such as agent, patient, recipient, source and goal as case inflections on the relevant nominals of the sentence. In such languages, word order is not required to indicate thematic relations, and so varies more or less freely (p.294)

When it comes to the argument frames of verbs with two arguments, it is seen that arguments are start to occur in combinations. Children first started to combine ACT, OBJ arguments first. Then, new arguments such as; GL, LC, SRC, REC, INST, COM started to appear with different combinations. The results for argument frames with two argument showed some similarities to Ninio's model of syntactic development (1999, 2005) which suggest that the first verbs learned in VO and in SVO structures serve as 'pathbreaking verbs', paving the way for new verbs to be learned in those structures. The more verbs a child acquires in a given structure, the easier for that child

to learn new verbs in that same structure. Children in this study are also observed to use their verbs first with ACT, OBJ arguments then, combinations of ACT OBJ arguments. Following this, children start to combine GL, LOC, SRC REC, INST, COM arguments mostly to ACT argument then to the OBJ argument. In addition, as in one argument verbs, children also make use of flexible word order property in two argument verbs. As a result, both the entering of new arguments and their flexible combinations lead to a rise in the number of argument frames in verbs with two arguments. This case is elaborated in an experimental study; Slobin and Bever (1982) in the study of canonical sentence schemas, presents occurrence of different word orders in both adult speech directed to children and in children's speech and they identify five different word orders in Turkish adults' speech. Similarly, they find out that children also make use of these word orders parallel to that of their caregivers. This sentence comprehension experiment also proved that children rely on the accusative inflections rather than word order to identify agent and patient. From the youngest age group tested (2;0) it is found that children acted out reversible transitive sentences in six different orders of subject, verb and object. This exemplifies that, variations in word order leads to occurrence of a wide variety of argument frame types in the process of verb acquisition.

We see the same variety in the use of two argument verbs in this study. To illustrate; children use ACT --- OBJ (Anne kitap okuyor), ACT --- OBJ (Ben yapacam çanta) frames.

Verbs with three arguments on the other hand, appeared in combinations of ACT OBJ GL and ACT OBJ REC arguments in different orders as previous arguments. Keren-Portnoy (2006) investigates six Hebrew acquiring children's syntactic development and focuses on the syntax of clauses constructed on verbs. She posits that syntactic development entails facilitation from verb to verb. This leads to acquisition of new structures which is slow at first but which accelerates as learning proceeds. The implication for this study here is that the verbs especially at stage I appeared in limited argument frames but, they gave rise to appearance of new argument frames as the mastery of children's use on the verbs developed in transition to the Stage II. As a result, arguments surrounding a verb rise in number and occur in different frames.

There is only one example with four arguments. This is natural due to the developmental stage our children in.

Another structural property of Turkish that appeared in the data is nominal ellipsis. Turkish allows frequent nominal ellipsis. That is, subject and object noun

phrases can be deleted in a sentence but verb is the essential part (Altınkamış-Türkay, 2005). For example in the sample utterance child says ‘götür’, ‘take it away’ without mentioning what is to be taken away. This case is also named as argument ellipsis. As Lee & Naigles (2005 in Göksun et all, 2008) states argument ellipsis languages permit pervasive omission of the surface expression of the participants. That is, in many languages (e.g. Inuktitut, Japanese, Mandarin, Turkish) subjects, objects, sources and goals can all be elided in situations where discourse–pragmatic factors allow recovery of or inference about the referents. But in terms of morphological structure, Turkish presents a different situation. As Göksun et al (2008) states while Turkish allows NP ellipsis, child learners of Turkish are given a grammatical system in which thematic role assignment is based mostly on nominal case-marking. Thus in the case of verb acquisition we might say that Turkish learners have less reason to pay attention to the number of arguments in a sentence than other language learners.

In Table 4.3 argument frames of the verbs underlying an overt argument are presented as transitive and intransitive. In all these examples we have referred to the context to decide on the nature of the argument.

Table 4.3. Argument frames of the verbs without an overt argument

Intransitive		**Transitive**	
(ACT) ---	(baba) Gitti	(OBJ) ---	(üçgen lego) Düşürdüm
(ACT) ---	(sivrisinek) Öldü	(OBJ) ---	(topu) Yakaladım
(ACT)---	(bebek) Üşüdü	(OBJ)---	(mama) Yiycem

We see that children make use of argument ellipsis in both transitive and intransitive construstions.

(1) Mth : Annecim bak bu üçgen
‘Look my dear, this is triangle’

Mth : Çevir elinde çevir
‘Turn it in your hand, turn it’

Ezg : **Düş-ür-dü-m**
Fall-CAUS-PAST-1sg
‘I dropped it’

Zey : **Öl-dü**
Die-PAST-3sg
'It died'

Mth : Öldü ama bir tane daha var sivrisinek.
'It died but there is one more mosquito'

As seen in the examples above the child can say *düş-ür- dü-m* 'fall-acc-past-1sg' without uttering what to be dropped. Since making inference about the referent form the discourse is possible, the object can be elided. But the underlying reason for this aspect is the case that Turkish children rely on the grammatical system of thematic role assignment which is based mostly on nominal case-marking and as a result, Turkish allows argument ellipsis. Similarly in the second example, the child says *öl-dü* 'die-past' without mentioning who to die. This case is acceptable for Turkish, as person and number of subjects are marked on the verb, subject pronouns can be deleted frequently.

4.3. Multi Argument Analysis

Our second research question is "Do verbs first appear in simple structures?" In order to find an answer to this question we investigated multi argument frames.

Verb island hypothesis concerns the argument structure and the way that it builds around individual verbs. The central claim of this hypothesis is that verbs first appear in simple structures and show individual developmental trajectories. As to Tomasello (1992) syntactic structure builds gradually from simple to complex, therefore, one can predict that few verbs will first appear in multi-argument structures. The results for the multi-argument analysis are presented in Table 4.4.

Table 4.4. Number of first uses of verbs with more than one argument in Stage I & II

Children	**Number of verbs first used/ multi arg.**
Özge	51 / 8
Zeynep	51 / 5
Ceren	71 / 9
Şansım	63 / 8
Ezgi	50 / 4

Below are given some sample utterances for the verbs that first appeared with more than one argument with overt argument in children's speech corpora.

(2) **ACT GL ---** **Bebek san-a gül-üyor (**Özg)
Baby you-DAT smile at-PROG-3sg
'The baby smiles at you'

ACT INST --- **Bebek kaşık-la oynu-yor** (Özg)
Baby spoon-INST play-PROG-3sg
'The baby is playing with spoon'

OBJ --- ACT **el-in-i çek sen** (Özg)
Hand-POSS-2sg-ACC take you
'You, take your hand

ACT OBJ --- **Anne kitap oku-yor** (Cer)
Mother book read-PROG-3sg
'The mother is reading book'

ACT --- SRC **Abi şarkı söyl-üyor** (Cer)
Brother song sing-PROG-3sg
'The brother is singing song'

INST OBJ--- **Bu-nunla baba yap** (Ezg)
This-INST father make-IMP
'Draw father with this'

The case that the number of first uses of verbs with more than one argument is low might indicate that the results are initially consistent with verb island hypothesis. But when the acquisition of morphological structure of Turkish is regarded, for the researcher to decide the number of arguments becomes problematic in some cases. As Slobin (1985) emphasizes even at early stages fairly elaborated strings of verbal affixes are produced by Turkish children. When the category of verb emerged, children start to assign subjects to the verbs which appear in the form of subject verb agreement and the arguments occur appropriately with the correct case marking. As a result, it is accepted that the emergence of argument structures starts at the same time with the development of verb category. Thus, as Ketrez (1999) mentions any verb produced is assigned an adult-like argument structure and she exemplifies this case as below;

> When the child produces the verb *aç* 'open' it will be accepted to be an example for a two place predicate that has an agent argument who perform the action and the theme which is affected in the action. Thus, any verb

produced at this stage is considered to be an example of the type of argument structures that it possesses in adult speech (87).

Secondly, when one takes into consideration the property of argument ellipsis, different results can be predicted. As mentioned before thanks to the pro-drop parameter and grammatical system of thematic role assignment which is based mostly on nominal case-marking, Turkish allows argument ellipsis. Thus subjects, objects, sources and goals can all be elided in situations where discourse–pragmatic factors allow inference about the referents (Göksun et al, 2008).

Below are given the sample utterances of the verbs that first appear with argument ellipsis. The dropped arguments are given in parenthesis.

(3)

(ACT) OBJ ---	**Parmağ-ım-ı sıkış-tır-dı-m** (Özg) Finger-POSS-1sg-ACCpinch-CAUS-PAST-1sg 'I pinched my finger'
(ACT) GL ---	**El-in-e sür** (Özg) Hand-POSS-2sg-DAT cream-IMP 'Cream your hand'
ACT (OBJ) ---	**Ben yi-yce-m** (Zey) I eta-FUT-1sg 'I will eat (it)
(ACT) OBJ ---	**Bu-nu iç-eceğ-iz** (Zey) This-ACC drink-FUT-1pl 'We are going to drink it'
(ACT) OBJ ---	**Bebeğ-i götür-eceğ-im** (Şan) Baby-ACC take away-FUT-1sg 'I will take the baby away'
(ACT) GL ---	**Park-a git-miş-ler** (Şan) Park-DAT go-REC-3pl 'They are reported to go to the park'
(ACT) OBJ ---	**Bu-ndan ar-ıyor-um** (Zey) This-ABL look for-PROG-1sg 'I am looking for this'
(ACT) (OBJ) GL ---	**(bisküviy-i) iç-i-ne bat-ır-dı-m** (Özg) (Biscuit-ACC)in-POSS-3sg.sink-CAUS-PAST- 1sg 'I sink the biscuit in it'

Mth: Makarna yiyecek misin?
'Will you eat macaroni?'

Cer: **Yi-yce-m** **(ACT) (OBJ) ---**
Eat-FUT-1sg
'I will eat (it)'

Mth: Önlüğünü taktın mı?
'did you put on your bib?'

Şan: **Tak-ma-dı-m** **(ACT) (OBJ) ---**
Put on-NEG-PAST-1sg
'I didn't put on it'

Mth: Ne yapıyorsun burda?
'What are you doing here?'

Cer: **Kay-ıyor-um** **(ACT) (LOC) ---**
Slide-PROG-1sg
'I am sliding'

Mth: Denizde oynadın mı?
'Did you have fun in the sea?'

Şan**: Oyna-dı-m** **(ACT) (LOC) ---**
Have fun-PAST-1sg
'I had fun'

Mth: Baba ne yapıyor?
'What is the father doing?'

Zey: **Ben-i tut-uyor** **(ACT) OBJ ---**
I-ACC hold-PAST-3sg
'He is holding me'

Mth: Kitabı yerine koyalım
Let's put the book in its place'

Zey**: Bura-ya getir** **(OBJ) GL ---**
Here-DAT bring-IMP
'Bring it here'

The results show that children make use of argument ellipsis. In these structures, the overt expression of the arguments are determined by the pragmatic conditions. Thus, we might say that the children express the argument when they want to stress them or when they want to draw attention to them. Children's speech provides no evidence for a difficulty in producing the argument structures of the verbs.

4.4. Stage II Old Verbs vs Stage II New Verbs Analysis

Our third research question is 'Do children generalize knowledge about argument structure across verbs?'

If verbs show individual developmental trajectories, as Tomasello (1992) proposes, then structure should be more complex around verbs that the child has known for a longer period of time. To test this, Stage II data was used. Verbs that had been acquired at Stage I and then reappeared at Stage II (Old Verbs) were compared with the verbs that had just been acquired at Stage II (New Verbs). To understand if utterances with Old Verbs at Stage II have more complex structures than utterances with New Verbs at Stage II number of arguments per utterance are calculated and variety of argument frames that verbs first appeared with are presented. Results for Old versus New Verbs at Stage II are presented in Table 4.5.

Table 4.5. Number of arguments / utterance and argument frames for old vs new verbs at Stage II

Analyses	**Stage II New Verbs**	**Stage II Old Verbs**
Arguments / Utterance (First uses at St. II)	33 / 61	47 / 69
Argument frames (First uses at St. II)	ACT --- OBJ --- ACT OBJ --- ACT REC --- OBJ --- ACT (ACT) OBJ --- (ACT) --- OBJ (ACT) INST--- (ACT) (OBJ) GL ---	ACT --- --- ACT --- OBJ LOC --- ACT OBJ --- ACT --- SRC GL --- ACT (ACT) OBJ --- (ACT) GL --- (ACT) SRC --- (ACT) REC --- (ACT) COM --- (ACT) OBJ REC --- (ACT) OBJ --- GL

We see that children use 9 different argument frames with new verbs at Stage II.

(4) **ACT---** **Ben kes-e-mi-yor-um** (Cer)
I cut-ABILITY-NEG-1sg
'I can't cut (it)

OBJ --- **Yemek dök-ül-dü** (Ezg)
Food pour-PASS-PAST-3sg
'The food was poured'

ACT OBJ --- **Anne kitap oku-yor** (Cer)
Mother book read-PROG-3sg
'The mother is reading book'

ACT REC --- **Bebek san-a gü-lüyor** (Özg)
Baby you-DAT smile-PROG-3sg
'The baby is smiling at you'

OBJ --- ACT **El-in-i çek sen** (Özg)
Hand-POSS-2sg-ACC take you-IMP
'You, take your hand'

(ACT) OBJ --- **Parmağ-ım-ı sıkış-tır-dı-m** (Özg)
Finger-POSS-1sg-ACC pinch-CAUS-PAST-1sg
'I pinched my finger'

(ACT) --- OBJ **Boz-du-m çanta-yı** (Ezg)
Break-PAST-1sg bag-ACC
'I broke the bag'

(ACT) INST --- **Kaşık-la oynu-yor** (Özg)
Spoon-INS play-PROG-3sg
'She is playing with the spoon'

(ACT) (OBJ) GL---(Biscuits)İç-i-ne bat-ır-dı-m (Özg)
In-POSS-3sg-DAT sink-CAUS-PAST-1sg
'I sank (it) in it'

Children use 14 different argument frames with old verbs at Stage II.

(5) **ACT ---** **Ben yap-ma-dı-m** (Ezg)
I do-NEG-PAST-1sg
'I didn't do (it)'

--- ACT **Otur sen** (ŞAN)
Sit-IMP you
'You sit'

--- OBJ **Al bu-nu** (Zey)
Take-IMP this-ACC
'Take it'

LOC --- **Or-da oyna** (Cer)
There-LOC play-IMP
'Play over there'

ACT OBJ --- **Bebek ruj sür-müş** (Özg)
Baby lips stick put on-REC
'The baby is putting on lips stick'

ACT --- SRC	**Polis gel-iyor or-dan** (Cer) Police come-PROG there-ABL 'The policeman is coming over there'
GL --- ACT	**Nere-ye gid-iyor bunlar** (Cer) Where-DAT go-PROG they 'Where are they going?'
(ACT) OBJ ---	**El-im-i tut-tu** (Şan) Hand-POSS-1sg-ACC hold-PAST-3sg 'He held my hand'
(ACT) GL ---	**Balkon-a çık-a-lım** (Özg) Balcony-DAT go-OPT-1pl 'Let's go to the balcony'
(OBJ) SRC ---	**Or-dan düş-er** (Cer) There-ABL fall-AOR-3sg 'It falls from there'
(ACT) REC ---	**Ban-a al-mış** (Ezg) I-DAT buy-REC-3sg She has bought (it) for me'
(ACT) COM ---	**Osman-la uyu-yaca-z** (Şan) Osman-COM sleep-FUT-1pl 'We sleep with Osman'
(ACT) OBJ REC ---	**Bu-nlar-ı ban-a getir-di-n** (Ezg) This-PLR-ACC I-DAT bring-PAST-2sg 'You brought these to me'
(ACT) OBJ --- GL	**Bu-nu tak-aca-m bura-ya** (Zey) This-ACC fit-FUT-1sg here-DAT 'I will fit it here'

Table 4.5 exhibits number of the arguments and argument frames per utterance for the first appearance of the verbs at Stage II. Total number of the New Verbs first appeared at Stage II is 61 and the number of arguments appeared with these verbs is 33. The result for the Old Verbs at Stage II is 47 arguments for 69 first uses of verbs. The analysis for the number of arguments per utterance shows that utterances with Old Verbs have more arguments than utterances with New Verbs at Stage II, which is what the Verb Island hypothesis predicts.

The results for the argument frames point out that variety of argument frames for Stage II Old Verbs is higher than the Stage II New Verbs. In our data we have observed 8 different argument frames for Stage II New Verbs and 14 different argument frames for Stage II Old Verbs. This might be related to the length of time that children have known the relevant verb; that is Stage II Old Verbs which were acquired at Stage I

and then reappeared at Stage II. This case is explained by Naigles and Lehrer (2002) by a mechanism invoking children's attention to word frequency; it has also been called Entrenchment (Braine & Brooks, 1995; Tomasello, 2000). The idea is that the more frequently a verb is heard, the better it will be learned, semantically, and the more settled or ('entrenched') it will be in its attested argument structure. Thus, frequent hear,ings of a verb will enhance its semantics and entrench its syntax, so, over time serve to inhibitits use in unattested argument structures.Therefore, the result for the argument frame analysis seems to be consistent with verb island hypothesis which is a lexically specific view of early grammatical knowledge. But, when language specific characteristics of Turkish are taken into consideration we can say that the variety in argument frames for Old Verbs derives from the flexible word order property of Turkish. Children seem to prefer canonical word order for New Verbs at Stage II, and this doesn't mean that children can not generalize knowledge across verbs. As Aksu-Koç & Slobin (1985) states Turkish children as young as two years old acquire morphological structures and have a productive control on them. And as a language that designates grammatical relations through nominal morphology in a regular and transparent case-marking system, Turkish.shows a relationship between the accusative case-marking and the argument use (Göksun et al, 2008). Thus, the presence of the accusative case morphology on a noun phrase is a strong signal for the status of undergoer in relation to the action indicated in the verb, and therefore for the verb to include semantics that are appropriate for the presence of both an actor and an undergoer. Even very young children have been shown to be sensitive to this grammatical role of the accusative marker in Turkish; it is one of the earliest emerging morphemes and is used productively often before age two (Ekmekçi, 1982; Aksu-Koc¸ & Slobin, 1985).

4.5. Verbs appearing in both Stage I and Stage II

In order to find an answer to the third research question, a further analysis is needed. To understand if children generalize knowledge about argument structure, Stage I New Verbs and Stage II Old Verbs are compared. The number of the compared verbs is limited to the verbs that appeared again at Stage II. To characterize these verbs' developmental trajectory we looked into their argument frames at their first appearance in Stage I and II. So Stage II Old Verbs are searched for their argument frames when

they first appear as Stage I New Verbs then as Stage II Old Verbs. The results are compared in terms of number of arguments and variety of argument frames.

The Verb Island Hypothesis states that children's knowledge about verb argument structure is entirely verb-specific and children can not generalize knowledge across the verbs in the early phases of the language acquisition. To test this prediction, argument frames types that Stage II Old Verbs first appear in both stages are described. In order to provide a specific look, analyses were conducted for each child separately. Results for analysis of verbs appearing in both stages are given below for each child from the tables 4.6 to 4.8. In addition, to make a clear comparison between the argument frame types of two stages, argument frames that are common for all children are given in table 4.9 as summary of argument frames.

Table 4.6.. Verbs appearing in both Stage I and Stage II analysis for Özge

Stage I New Verbs	**Stage II Old Verbs**
1. --- Koy	(ACT) (OBJ) --- Koyma
2. --- Otur	ACT --- Anne otursun
3. --- Bak	ACT (GL)--- Ben de bakacam
4. --- Ağlama	ACT --- Bebek ağlıyor
5. (ACT) --- Düştüm	(OBJ) --- Düştü
6. (OBJ) --- Bitti	(OBJ) --- Bitti
7. ACT --- Sen say	(ACT) OBJ---Kartları sayalım mı?
8. (ACT) (OBJ)--- Gördüm	(ACT) (OBJ) --- Gördüm
9. (ACT) (OBJ)--- Attım	(ACT)(OBJ)GL ---Aşağıya atacam
10. (ACT) (OBJ)--- Kapat	(ACT) (OBJ) --- Kapatıyor
11. (ACT) OBJ --- Mama yiyor	(ACT) OBJ --- Mama yiyor
12. (ACT) OBJ --- Su içerim	(ACT) OBJ --- Süt içiyor
13. (ACT) GL --- Eline sür	ACT OBJ --- Bebek ruj sürmüş
Argument Frames for Stage I New Verbs	**Argument Frames for Stage II Old Verbs**
ACT ---	ACT---
OBJ ---	OBJ ---
ACT OBJ ---	ACT OBJ ---
ACT GL ---	ACT GL ---
	ACT OBJ GL ---

It is seen that within the 13 verbs at Stage I, Özge uses 3 verbs with zero argument, 3 verbs with one argument and 7 verbs with two arguments. Table 4.6 reveals that at stage I the use of overt argument is less than as it is at stage two. As a result, the underlying arguments are understood from the context.

It is identified that verbs with zero argument appeared as repetition of mother's utterance and they emerged in command form without inflections.

(6) Mth: Annecim hadi koy
'Honey, put it'

Özg: **Koy**
Put
'Put'

Mth: Tamam, otur annecim
'Okey honey, sit'

Özg: **Otur**
Sit
'Sit'

Within the 3 utterances with one argument only one verb appeared with an overt argument the other 2 verbs' arguments are traced from the context. On the other hand, it is seen that verbs with one argument bear person and tense markers.

(7) Özg: **Sen say** **ACT---**
You count-IMP
'You count'

Mth: Düşme yavaş
'Slow down, don't fall'

Özg: **Düş-tü-m** **(ACT) ---**
Fall-PAST-1sg
'I fell'

When it comes to verbs with two arguments it seen that 3 utterances out of 6 occur with overt argument. Verbs are marked for tense and person, command form is also identified.

(8) Mth. Hani gemi nerde gemi?
'Where is the ship?'

Mth:Gördün mü?
'Did you see it?'

Özg: **Gör-dü-m** **(ACT) (OBJ) ---**
See-PAST-1sg
'I saw it'

Özg: **Su iç-er-im** **(ACT) OBJ ---**
Water drink-AOR-1sg
'I drink water'

Özg: **El-in-e sür** **(ACT) GL ---**
Hand-POSS-2sg-DAT cream-IMP
'Cream your hand'

Table 4.6 demonstrates that at Stage II out of 13 utterances Özge uses 4 verbs with one argument, 8 verbs with two arguments and 1 verb with three arguments. At this stage zero argument use is not identified which is expected due to the developmental stage that the child is in. Verbs are not uttered in limited context; as repetition or responses to specific situations. As a result, overt argument uses are more common than as it is at Stage I. Argument ellipsis, on the other hand, occurs when discourse factors allows. Also verbs emerge in inflections, they appear with verbal morphology.

With all argument types (one, two and three), arguments appear overtly or they are gathered from the context .

(9) Özg: **Anne otur-sun** **ACT ---**
Mother sit-OPT-3sg
'The mother will sit'

MOT: Bu sarı renk çok güzelmiş
'This yellow color is very beautiful'

ÖZG: **Düş-tü** **(OBJ) ---**
Fell-PAST
'It fell'

Özg: **Bebek ruj sür-müş** **ACT OBJ ---**
Baby lips stick put on-REC-3sg
'The baby is putting on lips stick'

Mot: Bebek çok güzel
'The baby is very beautiful'

Özg: **Ben de bak-aca-m** **ACT (GL) ---**
I too look-FUT-1sg
I will look at it, too'

Table 4.7. Verbs appearing in both Stage I and Stage II analysis for Zeynep

Stage I New Verbs	**Stage II Old Verbs**
1. --- Bak	(ACT) (GL)--- Bakayım
2. --- Dur	(ACT)--- Dursun
3. (OBJ)--- Oldu	(OBJ)--- Oldu
4. (ACT)--- Gitti	ACT --- Sen de git
5. ACT --- Hav hav geldi	(ACT) GL --- Yanına gelecem
6. (ACT) (OBJ)--- Sevdim	(ACT)(OBJ)--- Sevmedim
7. (ACT) (OBJ)--- Gördüm	(ACT)(OBJ)--- Gördüm
8. (ACT)(OBJ)--- Attım	(ACT) OBJ --- Bunu bir atayım
9. ACT (OBJ)--- Ben yaparım	(ACT)OBJ --- Şapka yap
10. ACT(OBJ) --- Ben yiycem	(ACT)(OBJ)--- Yedim
11. (ACT)OBJ --- Bunu içeceğiz	ACT (OBJ)--- Ben içecem
12. (ACT)OBJ--- Bunu tak	(ACT)OBJ --- GL Bunu takacam buraya
13. (ACT) OBJ--- Bunu al	(ACT)--- OBJ Al bunu
14. (ACT)--- OBJ Bulalım onu	(ACT)(OBJ)LOC --- Nerede bulalım?
15. (ACT)(OBJ)GL---Buraya koyalım	(ACT)GL --- Oraya koy
Argument Frames for Stage I New Verbs	**Argument Frames for Stage II Old Verbs**
ACT ---	ACT ---
OBJ ---	OBJ ---
ACT OBJ ---	ACT OBJ ---
ACT --- OBJ	ACT --- OBJ
ACT OBJ GL ---	ACT GL ---
	ACT LOC ---
	ACT OBJ LOC---
	ACT OBJ --- GL

The results for Stage I New Verbs vs Stage II Old Verbs Analysis for Zeynep show that within the15 utterances at Stage I, Zeynep uses 2 verbs with zero argument, 6 verbs with one argument, 6 verbs with two arguments and 1 verb with three arguments.

Verbs with zero argument at Stage I appeared as repetition of mother's utterances with no inflection.

(10) Mot: Bak civcivlere
'Look at the chicks'

Zey: **Bak**
Look
'Look'

Mot: Sen mi bakacaksın suya?
'Will you look at the water?'

Mot: Dur
'Wait'

Zey: **Dur**
Wait
'Wait'

Stage I verbs with one argument are marked with past tense marker. In the verb *ol-du*, 'fit-past' not only the action but also the object that undergoes the action is referred. Also only with the verb gel-di, 'come-past' argument is used overtly.

(11) Mth: Zeynep yuvarlak yapıyor
'Zeynep is making circle'

Mth. Yardım edeyim mi sana?
'Will I help you?'

Zey: **Ben yap-ar-ım**
I do-AOR-1sg
'I do (it)'

Mth: Peki sen yap
'Ok, you do it'

Zey: **Ol-du** **(OBJ) ---**
Fit-PAST
'It fit'

Zey: **Hav hav gel-di** **ACT ---**
Dog come-PAST
'The dog came'

Some verbs with two arguments at Stage I emerged in command form, and some others appeared in verbal morphology. The verbs without an overt argument are uttered as responses to mother's questions and when subject-verb agreement is taken into consideration, it is found that agreement markers are produced at proper context.

(12) Zey: **Bu-nu tak** **(ACT) OBJ ---**
This-ACC fit-IMP
'Fit it'

Zey: **Bu-nu iç-eceğ-iz** **(ACT) OBJ ---**
This-ACC drink-FUT-1pl
'We are going to drink it'

Mot: Sen gemi gördün mü?

Zey: **Gör-dü-m** **(ACT) (OBJ) ---**
See-PAST-1sg
'I saw it'

Only one verb appeared with three arguments at Stage I; koy, 'put'.

(13) Mot: Saçımıza toka takalım
'Let's put a ribbon to your hair'

Zey: **Bura-ya koy-a-lım** **(ACT) (OBJ) GL ---**
Here-DAT put-opt-1pl
'Let's put it here'

When the uses of the same 15 verbs at Stage II are characterized, it is seen that no verb is used with zero argument; arguments appeared to grow in number and variety, (e.g. appearance of locative) within 15 verbs only 4 verbs emerged in one argument, the others are in two arguments except for 1 verb with three arguments.

Verbs with one argument appeared as response to mother's utterance except the one with an overt argument.

(14) Mth: Bakalım eşek olacak mı?
'Let's see if it becomes a donkey'

Mth: Dene bakalım
'Go ahead'

Zey: **Ol-du** **(OBJ) ---**
Fit-PAST
'It fit'

Zey: **Sen de git** **ACT ---**
You too go-IMP
'You go, too'

It is observed that with two argument verbs, argument ellipsis is used more. The child doesn't use the argument when it is used overtly in mother's utterance.

(15) Mth: Kelebek var
'There is a butterfly'

Zey: **Bak-a-yım** **(ACT) (GL) ---**
Look-OPT-1sg
'Let me look'

Mth: Sen mamanı yedin mi?
'Did you eat your meal?'

Zey: **Ye-di-m** **(ACT) (OBJ) ---**
Eat-PAST-1sg
I ate (it)

Only two verbs appeared with three arguments, one of which is the first appearance of locative .

(16) Mth: Takacak yeri olanı arıyorum
'I'm looking for the one to fit'

Zey: **Nere-de bul-a-lım?** **(ACT) (OBJ)LOC ---**
Where-LOC find-OPT-1pl
'Where shall we find it'

Mth: Arıyoruz ama bulamıyoruz işte
'We are looking for (it) but couldn't find it

Zey: **Bu-nu tak-aca-m bura-ya** **(ACT) OBJ--- GL**
This-ACC fit-FUT-1sg here-DAT
'I'm going to fit it here'

Table 4.8. Verbs appearing in both Stage I and Stage II Analysis for Ceren

Stage I New Verbs	**Stage II Old Verbs**
1. --- Gel	ACT --- SRC Polis geliyor ordan
2. --- Yapma	(ACT)(OBJ)--- Yapalım
3. --- Bak	(ACT)(OBJ)--- Bakayım
4. --- At	(ACT)OBJ --- Topu atayım
5. (OBJ) --- Oldu	(OBJ)--- Oldu
6. (OBJ) --- Bitti	(OBJ)--- Bitti
7. (OBJ)--- Düştü	(OBJ)SRC --- Ordan düşer
8. (ACT) --- İnecem	(ACT)--- İnecem
9. (ACT) --- Oturdum	(ACT)--- Otur
10. ACT --- Abi ağlıyor	ACT --- Eren ağlıyor
11. ACT --- Zeynep gidecek	GL --- ACT Nereye gidiyor bunlar?
12. (ACT)(OBJ) --- Ver	(ACT (OBJ)--- Ver
13. (ACT)(OBJ) --- Kaldır	(ACT)OBJ --- Şunu da kaldır
14. (ACT) (OBJ)--- Topladım	(ACT)OBJ --- Saçımı toplamadı
15. (ACT) (OBJ)--- Gördüm	(ACT)(OBJ)--- Görüyorum
16. (ACT) --- OBJ Aç bunu	(ACT)(OBJ)--- Açtım
17. (ACT) --- OBJ Al bunu	(ACT)(OBJ)--- Aldım
18. (ACT) OBJ --- Çikolata yiycem	(ACT)OBJ --- Cips yiyelim
19. (ACT) OBJ --- Su içecem	ACT OBJ --- Teyze su içiyor
20. (ACT) OBJ --- Top oynadık	(ACT)LOC --- Orda oyna
21. ACT OBJ --- Abi şarkı söylüyor	(ACT) OBJ --- Ne söylüyorsun?
22. (ACT)(SRC)--- Korktum	(ACT) (SRC)--- Korktum
23. (ACT) (OBJ) GL--- Buraya koydum	(ACT) OBJ GL--- Bunları nereye koyacağım?
Argument Frames for Stage I New Verbs	**Argument Frames for Stage II Old Verbs**
ACT --- OBJ --- ACT OBJ --- ACT --- OBJ ACT SRC --- ACT OBJ GL ---	ACT --- OBJ --- ACT OBJ --- ACT LOC --- ACT SRC --- ACT --- SRC OBJ SRC --- GL --- ACT ACT OBJ GL ---

Table 4.8 demonstrates that at Stage I, Ceren uses 4 verbs with zero argument, 7 verbs with one argument, 11 verbs with two arguments and one verb with three arguments. First arguments to appear are as ACT and OBJ. Then combinations of arguments and use of overt argument start to appear.

Verbs with zero argument are the first recorded verbs; they are uttered in the very early phases of Stage I. As a result, these verbs appeared as imitations of mother's utterances and occur in command forms hence, do not require tense, aspect, modality e.g. markers.

(17) Mot: Gel pisi pisi gel
'Come kitty come'

Cer: **Gel**
Come
'Come'
Mth: Yapma mı diyormuş?
'Is she telling don't do ?'
Cer: **Yap-ma.**
Do-NEG
'Don't do'

Stage I verbs with one argument on the other hand, appeared with appropriate verbal morphology. For example, person marker lead to appearance of ACT argument with the verbs bearing it.

(18) Cer: **Otur-du-m** **(ACT) ---**
Sit-PAST-1sg
'I sat down'

Within 7 verbs of one argument only two verbs appeared with overt argument thus, for the rest the underlying arguments are followed from the context.

(19) Cer: **Zeynep gid-ecek** **ACT ---**
Zeynep go-FUT-3sg
'Zeynep will go'

Cer: **Abi ağlı-yor** **ACT ---**
Brother cry-PROG-3SG
'Brother is crying'

Mth: Bundan iki tane vardı
'There was two more of it'

Cer: **Düş-tü** **(OBJ) ---**
Fall-PAST-3sg
It fell

At Stage I, all verbs with two arguments occur in ACT OBJ --- form, in two cases they occur in different order as ACT --- OBJ. Only one verb occurred in different argument frame, which is, ACT SRC ---. Verbs occur either with overt arguments or dropped arguments.

(20) Cer: **Çikolata yi-yce-m** **(ACT) OBJ ---**
Chocolate eat-FUT-1sg
'I am going to eat chocolate'

Cer: **Aç bu-nu** **(ACT) --- OBJ**
Open-IMP this-ACC
'Open it'

Mth: Merhaba mı yaptın sen palyaçoya?
'Did you say hello to the clown?'

Mth: Korktun mu önce?
'Did you afraid of it first?'

Cer: **Kork-tu-m** **(ACT) (SRC) ---**
Afraid-PAST-1sg
'I was afraid (of it)'

Only one verb at Stage I appeared with three arguments, *koy-du-m*, 'put-past-1sg'. The underlying argument is understood from the context.

(21) Mth. Bu çok soğuk
'It is too cold'

Mth: Minicik iç yeter hayatım
'Drink little my dear'

Cer: **Bura-ya koy-du-m** **(ACT) (OBJ) GL ---**
Here-DAT put-PAST-1sg
'I put (it) here'

Mth: Oraya koyma,düşer
'Don't put over there, it falls'

When comparisons are made between the verb uses at Stage I and II, it is observed that at Stage II, number of arguments per utterance and number of different argument frames are more than as it is at Stage I. Argument frames of ACT LOC---, ACT --- SRC, OBJ --- SRC, GL --- ACT appeared first at Stage II.

(22) Cer. **Or-da oyna** **ACT LOC ---**
There-LOC play-IMP
'Play over there'

Cer: **Polis gel-iyor or-dan** **ACT --- SRC**
Policeman come-PROG-3sg there-ABL
'Policeman is coming over there'

Cer: **Or-dan düş-er** **(OBJ) SRC ---**
There-ABL fall-AOR-3sg
'It falls from there'

Cer: **Nere-ye gid-iyor bunlar?** **GL --- ACT**
Where-DAT go-PROG they
'Where are they going?'

Table 4.9. Verbs appearing in both Stage I and Stage II Analysis for Şansım

Stage I New Verbs	**Stage II Old Verbs**
1. --- bak	(ACT) (GL)--- Bak
2. --- Gel	ACT --- Amber geldi
3. --- Al	(ACT)(OBJ)--- Aldı
4. --- Otur	--- ACT Otur sen
5. --- Kapat	(ACT)(OBJ)--- Kapat
6. (ACT) --- Yapacam	ACT OBJ --- Bu ne yapıyor?
7. ACT--- Abi ağlıyor	(ACT)--- Ağlama
8. ACT --- Çocuk oynuyor	(ACT)LOC --- Denizde oynadım
9. (OBJ)--- Bitti	(OBJ) --- Bitti
10. (ACT)(OBJ)--- Çıkart	(ACT)--- OBJ Çıkart bunu
11. (ACT)(OBJ)--- Yemiycem	ACT --- Sen de ye
12. (ACT)OBJ --- Bunu aç	(ACT)--- OBJ aç onu
13. (ACT)OBJ --- Bebeği ver	(ACT)OBJ --- Onu ver
14. (ACT)OBJ --- Bilezik takıyor	(ACT)OBJ --- Önlüğümü takmadım
15. ACT (OBJ)--- Anne tuttu	(ACT)OBJ --- Elimi tutu
16. (ACT)GL --- Parka gitmişler	ACT --- Dede gitti
17. (ACT)LOC --- Parkta uyurlar	(ACT)COM --- Osmanla uyuycaz
18. (OBJ)SRC --- Burdan düşer	(OBJ)--- Düştü
Argument Frames for Stage I New Verbs	**Argument Frames for Stage II Old Verbs**
ACT ---	ACT ---
OBJ ---	--- ACT
ACT OBJ ---	OBJ ---
ACT GL ---	ACT OBJ ---
ACT LOC ---	ACT --- OBJ
OBJ SRC ---	ACT GL ---
	ACT LOC ---
	ACT COM---

Table 4.9 reveals that Within the 18 verbs appeared at Stage I Şansım uses 5 verbs with zero argument, 4 verbs with one argument and 9 verbs with two arguments. When it comes to the argument frame types, it is seen that ACT OBJ --- frame is used most; GL, LOC and SRC appeared just once.

Verbs with zero argument emerged in uninflected form in single word utterances. As it is predicted they are the earliest verbs of Stage I. Thus they are uttered in limited context.

(23) Mth: Ay iki tane oldu ineğimiz, bak
'Oh look, we have two more cows'

Şan: **Bak**
Look
'Look'

Mth: Fil nerde?
'Where is the elephant?'

Şan: **Gel**
Come
'Come'

Mth: Evet gel yapıyor
'Yes, it is doing come'

Transition from zero argument to one argument is characterized by the appearance of tense and person marker.

(24) Mth: Elimizle seviyoruz ayağımızla değil
'We love it with our hands not with our foot'

Mth: Bak ben sana böyle cici yapıyorum
'Look I love you like this'

Mth: Sen de bebeği böyle cici yap
'You love the baby like this too'

Şan: **Yap-aca-m** **(ACT) ---**
Do-FUT-1sg
'I will do (it)

Şan: **Çocuk oyn-uyor** **ACT ---**
The child play-PROG-3sg
'The child is playing (it)'

Verbs with two arguments at Stage I. mostly appeared in ACT OBJ --- argument frame. It is due to the person markers that verbs bear and the transitivity property of verbs. Person marker leads to appearance of ACT, on the other hand transitive verbs requires an object which leads to appearance of OBJ argument. Also GL, LOC and SRC arguments appeared once.

(25) Mth: Yemeyecek misin makarna?
'Didn't you eat macaroni?'

Şan: **Ye-mi-yce-m** **(ACT) (OBJ) ---**
Eat-NEG-FUT-1sg
'I won't eat (it)'

Şan: **Bilezik tak-ıyor** **(ACT) OBJ ---**
Bracelet wear-prog-3sg
'She is wearing bracelet'

Şan: **Park-a git-miş-ler** **(ACT) GL ---**
Park-DAT go-REC-3pl
'They went to the park'

Şan: **Park-ta uyu-r-lar** **(ACT) LOC ---**
Park-LOC sleep-AOR-3pl
'They sleep in the park'

Şan**: Bur-dan düş-er** **(OBJ) SRC ---**
Here-ABL fall-AOR-3sg
'It falls from here'

When the same 18 verbs of Stage I are followed at Stage II, it is found that these verbs have more arguments surrounding them. Also at Stage II, flexible word order property of Turkish is observed. The child uses arguments either in ACT --- / OBJ--- (before verb) or ---ACT /---OBJ (after verb) form which leads to appearance of different argument frames. Besides commitative argument first appeared at this stage in the ACT COM --- frame.

(26) Şan: **Amber gel-di** **ACT ---**
Amber come-PAST
'Amber came'

Şan: **Otur sen** **--- ACT**
Sit down-IMP 2sg
'You sit down'

Şan: **O-nu ver** **(ACT) OBJ ---**
It-ACC give-IMP
'Give it'

Şan**: Aç o-nu** **(ACT) --- OBJ**
Open-IMP it-ACC
'Open it'

Şan**: Osman-la uyu-yaca-z** **(ACT) COM ---**
Osman-COM sleep-FUT-1pl
'We are going to sleep with Osman'

Table 4.10. Verbs appearing in both Stage I and Stage II Analysis for Ezgi

Stage I New Verbs	**Stage II Old Verbs**
1. --- Tak	ACT --- Ben taktım
2. --- Düş	OBJ --- Bu düştü
3. --- Giy	ACT OBJ --- Biz cici giydik
4. --- Bak	(ACT) GL --- Çatala bak
5. (OBJ)--- Bitti	(OBJ)--- Bitti
6. (OBJ)--- Al	(ACT)REC --- Bana almış
7. (OBJ)--- Olmuyor	(OBJ)--- Olmadı
8. ACT --- Baba geldi	--- ACT Geldi anne
9. ACT (OBJ)--- Açtım	(ACT)OBJ --- Bunu da aç
10. (ACT)OBJ --- Topu getir	(ACT) OBJ REC --- Bunu sana getirdim
Argument Frames for Stage I New Verbs	**Argument Frames for Stage II Old Verbs**
ACT ---	ACT ---
OBJ ---	--- ACT
ACT OBJ ---	OBJ ---
	ACT OBJ ---
	(ACT)GL ---
	ACT REC---
	ACT OBJ REC---

It is seen that within the 10 verbs at Stage I, Ezgi uses 4 verbs with zero arguments, 4 verbs with one argument and 2 verbs with two arguments. Only ACT and OBJ arguments are observed at this stage.

Verbs with zero argument emerged in command form without inflections as repetition of mother's utterance. Also it is observed that at this stage (earliest verbs of stage I) verbs do not appear with full verbal morphology. For instance, when subject – verb agreement is taken into consideration it is identified that these first verbs do not have agreement markers. In the verb *düş* 'fall' markers are not produced, although it is obligatory and the child produces ungrammatical sentence as seen in the second example below:

(27) Mth: Hadi başına şapka kızımın
'Here is a hat for my daughter'

Mth: Tak bunu kızım, tak
'Wear it honey, wear'
Ezg: **Tak**
Wear-IMP
'Wear'

Mth: Ezgi kafana ne oldu annem?
'Ezgi, what happened to your head my dear?'

Ezg: Dan (She points her head)

Mth: Düştün mü?
'Did you fall down?'

Ezg: **Düş**
Fall

Verbs with one argument and two arguments are observed to have tense and person markers. In some transitive verbs arguments are not used overtly thus, can be followed from the context.

(28) Ezg: **Bit-ti (Child song)** **(OBJ) ---**
Finish-PAST
'It finished'

Mth: Bir daha dinleyelim annem
'Let's listen one more my dear'

Ezg: **Aç-tı-m (Cd)** **(ACT) (OBJ) ---**
Open-PAST-1sg
'I opened it'

Mth: Ne yapayım ben bunu?
'What shall I do this'

In some utterances arguments are used overtly. The reason might be drawing attention to that argument.

(29) Ezg: **Baba gel-di** **ACT ---**
Father come-PAST-3sg
'Father came'

Ezg: **Top-u getir** **(ACT) OBJ ---**
Ball-ACC bring-IMP
'Bring the ball'

At Stage I only three argument frames are observed. On the other hand, at Stage II seven argument frames are observed which indicates that the child is extending both the number of arguments per utterance and the variety of argument frames. New

arguments to be appeared at Stage II are goal and recipient. Also only one verb *Getir-di-m* 'bring-past-1sg' appeared with three arguments.

(30) Ezg: **Çatal-a bak** **(ACT) GL ---**
Fork-DAT look at-IMP
'Look at the fork'

Ezg: **Bun-u san-a getir-di-m** **(ACT) OBJ REC ---**
This-ACC you-DAT bring-PAST-1sg
'I brought it to you'

One additional table is presented to provide an overall look to the results gathered from each child as a whole. In table 4.11 all argument frames appeared with Stage I New and Stage II Old Verbs are presented.

Table 4.11. Summary of Verbs Appearing in both Stage I and Stage II Analysis for all children

Stage I New Verbs	**Stage II Old Verbs**
ACT ---	ACT ---
OBJ ---	--- ACT
ACT OBJ ---	OBJ ---
ACT --- OBJ	ACT OBJ ---
ACT GL ---	ACT --- OBJ
ACT LOC ---	ACT GL ---
ACT SRC ---	GL ACT ---
OBJ SRC ---	ACT LOC ---
ACT OBJ GL ---	ACT SRC ---
	ACT COM ---
	OBJ SRC ---
	ACT OBJ GL ---
	ACT OBJ --- GL
	ACT OBJ LOC ---
	ACT OBJ REC ---

The results for the Table 4.12 demonstrate that argument frame types for Stage I New Verbs are less than the argument frame types for Stage II Old Verbs. With Stage I New Verbs, children make use of 9 different argument frames and with Stage II Old

Verbs they use 14 different argument frames. If one looks at the results in terms of argument numbers that verbs appeared, it is seen that at Stage I out of the 9 argument frames, 2 of them is with one argument, 6 of them is with two arguments and 1 of them is with three arguments. At Stage II, out of 15 argument frames 3 of them is with one argument, 8 of them is with two arguments and 4 of them is with three arguments. When taken as a whole, the results suggest that acquisition of argument structure is cumulative: It starts with no overt arguments and ends up with multiple arguments. Children start with bare verbs and soon begin to use combinations for verbs. Next, early verb combinations are replaced by productive combinations. Finally, verbs extend the number of arguments to two and more. On the other hand, the results do not seem to support a radical lexicalist modal as Tomasello's (1992) Verb Island hypothesis, according to which at this period of development each verb develops its syntactic combinatory patterns independently of other verbs, Rather, as we see, there is a generalization from one verb to another in the process of learning a new combinatorial rule. Such facilitation must be based on some more general knowledge beyond the verb specific individual positioning pattern. These results raise the possibility that each argument frame type teaches the child something general about the pattern itself that can transfer across the verbs for the same combinatorial format.

CHAPTER FIVE

CONCLUSION

5.1. Introduction

This study mainly focuses on early phases of the development of verb argument structure in young Turkish speaking children. It presents argument frames developing around verbs in comparison between the first two phases of MLU. Next it investigates if argument structure develops around individual verbs in a lexically specific way or not in the early phases of language acquisition.

5.2. Evaluation of the Research Questions

1. What are the argument frames developing around verbs in MLU stage 1 and stage 2?

It was found that even the canonical word order of Turkish is SOV, children make use of flexible word order characteristics of Turkish. As a result even at one argument stage, occurrences of a wide variety of argument frame types are observed. When the developmental phases are regarded it was also observed that children start with bare verbs, and then begin to use combinations for verbs. There is also a parallelism between the emergence of verb category and argument structure. Children start with no overt arguments and end up with multiple arguments.

2. Do verbs first appear in simple structures?

This question tested the central claim of verb island hypothesis that verbs first appear in simple structures and show individual developmental trajectories. The results are initially consistent with verb island hypothesis, as the number of the verbs appeared in multi arguments is lower than the single argument. But when the property of argument ellipsis is regarded, different results are gathered. It is observed in the data that children express the argument overtly when they want to stress them or when they want to draw attention to them. So when children make use of argument dropping, the verbs do not appear in surface form with multi argument. But children's speech provides no evidence for a difficulty in the mastery of multi argument uses.

3. Do children generalize knowledge about argument structure across verbs?

Tomasello (2000) proposes that young children do not come to the task of combining words with 'abstract categories and schemas'. Instead their earliest combinations 'revolve around concrete items and structures' (p.215).

According to the findings of the present study, the children in the study appeared to know more about Old Verbs at Stage II than New Verbs at Stage II, as the number of arguments per utterance is higher for old verbs. This can be evidence for verb–specific knowledge of early argument structure. But argument frame types showed that different verbs are used in different argument frames productively. So we might say that children also make use of verb general knowledge. On the other hand the results for the analysis of verbs appearing in both Stage I and Stage II supported Tomasello's (1992) lexically specific acquisition strategy. The earliest verbs of Stage I emerged in uninflected form with zero arguments. At this stage verbs occurred in limited constructions, but the same verbs appeared in variety of constructions at Stage II, for example, they were marked with different tense aspect markers and with different subjects. Then, transition from zero argument to one argument and then multiple arguments is observed. This transition is characterized by the appearance of verbal morphology which has a direct influence on the emergence of argument structure.

5.3. Implications for ELT

Verb argument structure involves the relationship between a given verb and the arguments with which it can appear. For instance, while intransitive verbs need appear with only a single argument, transitive verbs need apear with two arguments, such as subject and direct object and still some others need appear with three arguments, as subject, direct object and oblique object and part of the relationship also involves the overall meaning of the sentence. To sum, knowledge of verb argument structure guides the appropriate usage of verbs.

Alishahi (2008) exemplifies how knowledge of argument structure plays a role in verb use in English as below:

-The number and type of the arguments that a verb takes (e.g., The man built the house but not The man built or The house built the man),

-The semantic roles that the arguments receive in the event described by the verb (e.g., She (Agent) broke the window (Theme) and The window (Theme) broke, but not She (Agent) broke).

-The syntactic realization of the verb and its arguments in a sentence (e.g.,I filled the glass with water but not I filled water into the glass)

In this regard, verbs pose particular challenges to children due to the complexity of their possible uses and the interacting semantic and syntactic factors that determine both the general patterns and the exceptions. Similarly, second language (L2) learners face these challenges in terms of learning the appropriate usage in target language and avoiding the negative transfer from first language (L1). For this reason, to highlight language specific characteristics of both L1 and L2, especially different syntactic patterns, would be beneficial for learners.

5.4. Suggestions for Further Studies

This study dealt with the development of argument structure and the description of argument frames appeared along with the acquired verbs. This study is based on the assumption that argument structure patterns are initially learned on a verb-by-verb basis then through the process of categorization and generalization over the input at the early phases of language acquisition. As a result, when searching for the argument frames, early phases of the language development are taken into consideration that is MLU Stage I and Stage II. For further research, other developmental stages in which children are thought to use abstract grammatical knowledge and make generalizations over the acquired structures can be investigated.

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