

## An Analysis of Vocabulary Acquisition of a 24-month Iranian Child

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### Abstract

This study deals with an Iranian child's first language acquisition and is going to measure the words development of the child as a case study through counting the words he produced on the period of 7 days before his second birthday. A child, 24 months old, will be studied through transcripts and audio over the course of a week. The materials used for this study were one voice recorder for recording the child's audio and paper and pencil for the observer to write down produced words by the child. The strategies used in order to handle the study were transcription and observation in order to count the words easier and also more accurate. Results of the study revealed that this child is able to produce more than other children in previous studies had been done by other researchers up to now. Another aspect of result revealed that the child produced one word instead of other for example use an animal name for calling more than one.

**Keywords:** first language, acquisition, vocabulary, child

### FIRST LANGUAGE ACQUISITION

There are three types of perspectives on first language acquisition, the first one is behavioristic perspective which Lightbown and Spada (2006) mentioned that with *positive reinforcement* from the environment. The researchers experienced that when children make an attempt to repeat other people's utterances, they often obtained responses from its surrounding through encouragement or an effort to keep the communication going. This behavior expanded and became a habit encompassing knowledge of correct language use. Shortcomings of this perspective was mentioned by Lundahl (2009) who believes that the significant importance of the environment which this perspective, behavioristic, relies highly on. Children tend to choose what they prefer to imitate or practice from the exposure of English that they are surrounded by in their everyday lives, input. Furthermore, another gap in this theory mentioned by Lightbown and Spada (2006) they believed that children can put together combinations of words that they have not yet heard being uttered.

The second one is innatist perspective, the innatists would argue that there is no need for any kind of specific tutor sessions; the biological process will deal with the major

parts in the process of the acquisition (Chomsky 1959 & Lightbown and Spada 2006). The innatists believe that every child is provided with a universal grammar which encourages their ability to discover their own mistakes within time. This kind of grammar is an idea of a general set of principles which could be applied as universal to all languages. Thereby, this could provide a counter argument to the behavioristic view which believes that children are *tabula rasa*, 'empty vessels' waiting to be filled with language (Lightbown and Spada 2006). Chomsky's theory is often associated with the critical period hypothesis (CPH) that describes that a certain skill or knowledge is learnt at a certain time according to our genetic process schedule. If these qualities are not acquired at this specific time it will be difficult or even impossible to acquire them later (Janni Thuresson, 2011).

The third one is interactional/developmental perspective. Piaget and Vygotsky are acknowledged as prominent figures of interactional/developmental perspective who emphasis on the cognitive development as a part of the language acquisition. Learning by doing, goes without saying however to clarify; it implies to learn by practicing, imitating, making attempts to speak etc. The two main influences for the child's processing seem to be the interplay and the environment (Lightbown & Spada 2006). Researcher found that the child with the deaf parents appeared to be learning sign language, being a language as well, very well through observing his parents. (Sachs, Bard & Johnson 1981)

L1 children mostly acquire language in different settings with different exposure to language than L2 learners and they are at different stages of mental and social maturity (Cook 1969). Krashen (1982) hypothesized that the process of *learning* a second language is distinguished from *acquisition*, with the latter being a subconscious process of gradual development of ability through use in natural communicative situations with other speakers. Lightbown and Spada (2001) observe that acquisition occurs during the formative years of one's life - usually commencing in early childhood before age three - and that it is learned as part of growing up among people who speak it fluently.

### **Different Stages in First Language Acquisition**

Foster-Cohen (2009) mentioned that a child subsequently develops from uttering words and phrases to interacting with its surroundings by formulating their own intended meanings to communicate, on the other hand Yule (1996) mentioned that linguistic competence grow as the body's organs develop, so language development occurs moment by moment.

- **Pre-language stage (0-6 months);** the language production begins with the pre-language stage where the child makes a lot of 'cooing' and 'babbling'. This phase often takes place between the ages of approximately three and ten months (Janni Thuresson,2011). At the age of ten and eleven months the child may begin to make its first attempts to stand up. At this stage extensive examples of 'sound play' and imitations can occur. At this point it is possible for the child to use its voice in different ways in order to show emotions or emphasis (Yule , 1996).

- **Babbling stage (6-8 months);** babbling is the sounds which infants produce as consonant-vowel combinations, Steinberg (Yule, 2003: 147).
- **The holophrastic stage (9-18 months);** the most common word classes to appear first seem to be nouns (ca.60%), verbs (ca.20%), adverbs and adjectives (Crystal 1997). To give an example, the child could use the word *Sarah* to emphasize that Sarah's bed is empty. Although, the child is in possession of the lexical items *Sarah* and *bed* in their mental lexicon, it is not ready to produce a more complicated combination with these (Yule, 1996).
- **Two-word stage (18-24 months);** the two-word stage could appear at the ages between eighteen and twenty months when the child's vocabulary has grown beyond about fifty words. Now the process of paring single words together appear such as *baby chair*, *mommy eat* and *cat bad*. These utterances can still be interpreted in different ways and thereby the communication between the parent and child also increases (Yule, 1996).
- **Telegraphic speech stage (24-30 months);** before the child turns three it is likely to pass through the telegraphic stage. This progress appears to define the increase of words that are linked together in an utterance which is similar to a sentence and uses the right order of the elements (Yule, 1996). The characteristics for this stage lie within the word-forms used instead of the amount of words. Nevertheless, it should not be forgotten that during this stage the vocabulary goes through a major enlargement up until around the age of three, when the child's storage contains more than hundreds of words. The pronunciation has by then also improved with a step closer to the resemblance of adult language (Yule 1996). Furthermore, children begin to use more than one clause in their sentences and when they reach the age of four it is common to speed up the discovery of grammatical errors to sort them out. As the child grows older it will also advance more by using a higher level of vocabulary, an increased consciousness of the correct grammar, understanding underlying meaning etc. (Yule, 1996).
- **Later multiword stage (30+months)**

According to Bolinger (2002: 283) at this stage is fastest increase in vocabulary with many new additions every day; no babbling at all; utterances have communicative intent. There is a great variation among children, seems to understand everything said within hearing and directed to them.

## DIFFERENT AREAS OF LANGUAGE

- **Semantics;** Semantics deals with the issue of using the right word/s in the right context in order for the utterance to make sense. When analyzing the area of semantics the focus lies on what can be characterized with the word, phrase or sentence and not what can be associated. For example *needle* can be described with thin, sharp, steel instrument and it could also be connected with pain which

is a personal association. Semantics could be said to help one in the sense of noticing oddness in the language. Sentences such as *the hamburger ate the pig* might ring a bell as odd. The syntax is perfectly fine nevertheless semantically speaking it is strange (Yule 1996). Another remarkable aspect in semantics is the way that lexical relations in terms of hyponymy are affected. Yule defines this concept as “When the meaning of one form is included in the meaning of another [...] and some typical example pairs are daffodil – flower, dog- animal, poodle – dog, carrot – vegetable” (Yule 1996:119). Children also tend to use words for a smaller category than it is used by the adult language, this is called under extension. Children may apply the word *dog* only for the family’s dog or they could use the word *shoes* for only their own shoes. Finally, one last common feature is mismatch. This concept implies the act of using a word wrong, such as referring a *telephone* as a *tractor* (Crystal 1997). Another common phenomenon of this area is overgeneralization which implies that a newly acquired language feature is used in too generally and to a large extent. One could provide an example as the rule of adding –s to create plural. Once children possess this knowledge they will express it through words such as *boys* and *cats*, they could also attach it to other words such as *foots* and *mans*. Additionally, it is common that children acknowledge some of the irregular forms of plural, during a while, at this age and hence they tend to combine these two rules in the construction of words such as *mens* and *feets*. This can be experience through the usage of the past tense as well where one can hear utterances like *walked* as well as *walkeded* (Yule 1996). Antonymous relations (separating words of opposite meaning) are also paid attention to as the child tends to require this function in a later stage somewhere after the age of five. This can be seen in the following example: If one were to ask the questions: which tree has more apples? And which tree has less? It is more probable for the children to give the bigger tree as their response in both questions. This could depend on that children could have a hard time to tell these two trees apart (Yule 1996).

- **Phonology;** Phonology is defined as the sound pattern of languages in terms of articulation and speech organs involved which can diversify for each language. All humans are provided with different vocal tracts, hence the large variations of all sounds in a language. Note that the sound differs through physical production (meaning the body size, sex etc) and speech sound (meaning the different tones of the voice such as screaming, whispering etc). Thereby, there can be several ways of pronouncing the word ‘me’ nevertheless people often comprehend these versions as the same word instead of a different word (Yule 1996). The first recognized sounds of a baby are the basic biological noises such as crying and fussing that can be expressed in the urge of food or discontent. People will also hear the baby breathing, eating, excreting, swallowing, sucking, coughing and burping, which all have their characteristic sound (Crystal 1997). The English alphabet consists of a number of letters and each one of these is representatives for phonemes. A phoneme can be defined as each different sound in the phonetic alphabet or all representatives for the sounds that combine all our different

words. In the child's language acquisition the first to appear are the phones and one can thereby introduce the concept of a phone and a phone tree. A phone, are all the different sounds of a phoneme. If one uses the sound [t] as an example there are the different phones such as [th], [D] [ ] etc which each represent a phone (Yule 1996). Then, a phone tree is a tool that can be used in documenting the progress of numbers of phones uttered. As one might suspect, this will generally grow as the child develops, hence the symbol of a tree (Crystal 1997). The child starts out with one or two phones and then adds to this tree until the collections of phones are complete. This view of the development shows the connections of the phones as they might occur in different time periods (Crystal 1997).

- **Syntax;** Syntax is the organization and structure of a sentence's components. The concept was found in the Greek language where the word *syntax* stands for "a setting out together" or an "arrangement" (Yule 1996:100). As the child reaches the age of 18 months it tends to put these single words together into a two-word sentence. People may consider this phase as when the 'real' grammar development begins. Certain sentences are possible to analyze grammatically or semantically while others are not (Crystal 1997). On the discourse of syntax one can analyze these utterances by splitting them into smaller units. Nevertheless, it is important to define these concepts, used in practicing this analyzing, in order to avoid confusions. A word could be described as the letter between the empty spaces in a text and these words can be divided into classes such as noun, verb, adverb, adjective, conjunction, interjection, numeral, pronoun and preposition. One could also put them, as Crystal suggests below, into clauses; subject, verb, adverbial, object and predicate (Estling Vannestål 2005 & 1997). A sentence has at least one or two clauses where the first word has a capital letter and the last word finishes off with a dot, question mark or exclamation mark (Estling Vannestål 2005). As the child develops and grows older, the language improves and the child will have to connect the right forms of words with each other in order to produce the intended utterance. This can be done through a system that Yule refers to as the traditional categories which divides sentences into different boxes for example voice, number, gender, tense and person (Yule 1996). In other languages, for example Spanish and German, they use the grammatical gender which is more common. Spanish has two gender forms while German has three and both languages use different articles for each gender which differs from English where the same article is used for all genders (*the*). This system is nevertheless not biologically based since girl is labeled to be a neuter (*das Mädchen*) and a book is labeled to be masculine in French (*le livre*) (Yule 1996).
- **Morphology;** Morphology observes the internal structure of words on the basis of their constituent units of meaning, morphemes. The concept, morpheme, can be described as the "minimal unit of meaning or grammatical function" (Yule 1996:75). If one extracts examples found in Ella's (the child used in this research) transcripts one can find words such as *paying* and *means*. Each of these

two words contains a lasting element or a stem, pay and mean. Additionally, each word has a different ending, suffix, *-ing* and *-s*. When counting morphemes one acknowledges the stem as one morpheme and the suffix as another. Hence, these two morphemes can be divided into two types; free and bound morphemes. The free ones are elements which can stand alone while the bound on the other hand cannot (Yule 1996).

## **METHOD**

This study was an empirical study which had been done based on observation with an open mind instead of having an idea to be proven right or wrong. Furthermore, the study was going to measure the observations not to measure previous studies by other researchers.

### **Participant**

This study is such a case study which identified the vocabulary acquisition of an Iranian child at two years of age in the process of first language acquisition. He was acquiring Persian language as his first language. He was the only child of the family and both his mother and father were educated people. He never participated in any classroom so his mother and father and sometimes his grandparents were responsible for keeping him. His social environment was fulfilled with his father, mother, grandparents, aunts, uncles, and his cousins. According to his personal characteristics he is a cute and lovely child and also a kindly one who people around him spend a lot of time to talk with him and encourage him to speak more and more. It should be mentioned that his eyes and his ears and also his vocal tracts are healthy and he was born completely healthy based on different doctors' checkups.

### **Instruments**

In order to handle the study different types of instruments like voice recorder, paper and pencil and one person as 24 hour observer (me as his mother), further more; observation and transcription were used as strategies.

#### ***Voice Recorder***

One voice recorder was used for capturing the audio of child, in order to have the opportunity for repeating and having more accurate study. Audios captured by the voice recorder were about 6 to 12 minutes. All tracks were captured by me as his mother and also each audio track were a conversation between me and my son which were used for measuring his speech.

#### ***Observer***

One person was chosen to be with him and documented all vocabulary used by him in the written form (I was the observer as his mother). This technique had been used in order to count the words easily and especially with more accuracy.

### ***Paper and Pencil***

Paper and pencil were used by the observer in order not to lose the time for typing or any other activities such as turning on the laptop or cellphone or any other digital tools, and writing down the vocabulary (not phrases or sentences just vocabulary in the phrases or sentences separately) as soon as hearing.

### ***Transcripts***

Transcripts had been chosen in order to change the audios to written format in order to count them easier and also more accurate. This study was going to measure the number of words but not to measure phrases, sentences, etc. so it is clear that just the vocabulary which used by the child are measured but nothing else.

### **Procedure**

This study had been done on an Iranian child (his name was Arash) as a case study at two years of age in order to identify his vocabulary acquisition as the process of first language acquisition. In the current study the mother tongue was Persian language, but the child had the chance of learning English language from the beginning of his life through talking with his mother as she was TEFL PhD Candidate and knows English language as a foreign language, furthermore, it should be mentioned that watching English cartoons was helpful for him to improve his English language ability, moreover; he had learned some German vocabularies through different didactic audios used by his mother and he acquired them indirectly. Arash acquired all different words just based on acquisition and no one thought him any Persian, English or German word. He acquired them like any other children all over the world who acquire their first language without having a teacher or tutor.

Arash was living in an educated family as the only child. His father was electronic engineer and his mother was TEFL PhD candidate and a university lecturer. He had the chance of improving listening just through TV and audio songs which was played at home or somewhere else, moreover; the chance for improving both listening and speaking were provided through correlation with people around him such as parents, grandparents, aunts, uncles and cousins. As he was a cute, lovely and a kindly child people around him spent a lot of time to play and talk to him and sometimes engaged him to speak more and more and it was such a chance for him to improve his listening and speaking of his first language through these communications.

All medical checkups reported that he was completely healthy and it had been mentioned here in order to focus that his ears, eyes and also his vocal tracts are healthy and he was able to see for example he could watch TV and in this way he could acquire some parts of his first language, furthermore, He could hear well and improve his listening ability and also he could have production which all are important for language acquisition.

Each child knows some words at two years of age, but some of them are at the comprehension level without production. It means the child can understand what the speaker mean and he knows the meaning of words so if the speaker ask a question he would be able to answer the question by answering yes or no or some other short answers based on his words and sometimes based on his body language, but he never used that words during his own speech at that age. In this situation the child is at the level of comprehension about those words. It means just comprehension without any production. But also it is possible about some other words to be both comprehended and produced. It means the child knows one word and he use that word during speaking or at the level of production. It shows that this word is one level beyond the word in previous level because both comprehension and production are conjugated here. In the current study the researcher is going to measure those words which are produced and passed the level of comprehension and reached to production level. So words which are produced by the child are listed by the observer and some other words are transcripts based on audio tracks.

The observer of the study was his mother and also the one who had done the study. She was responsible for preparing a list of words which were produced by the child during a period of 7 days before his second birthday. She used a paper and pencil for writing down the words. But in some situation his voice was recorded by her in order to transcripts in a suitable time. Next the words which were listed based on both observation and transcription were checked by people around him in order to notice if any other words should be added to the list or not. As soon as the words list completed the words separated into different categories for example nouns, verbs, numbers, colors etc. separated into different groups and preparing for counting.

## RESULTS

After observation and transcription of the words a list of words was prepared next the words categorized in different groups in order to be used for the study. Result of the words counting is clear in table 1.

**Table 1.** Number of words

	Numbers	Colors	Drinks, Foods, fruits and Snacks	Animals	Peoples Names or Titles	Place Name	Objects Name	Different parts of body	Activities (verbs)	Other words	Total words number
Persian Words	18	-	30	14	36	13	66	8	84	65	336
English Words	16	4	25	22	13	6	33	-	26	34	179
German Words	10	1	-	2	-	-	-	-	-	-	13
Total words number	44	5	55	38	49	19	99	8	110	99	526



**Table 2.** How the word had been used by the child

Words used instead of other words	How the word had been used by the child
1 Dog	He used the word dog for both dog and other animals he didn't know their names.
2 Sheep	He used the word sheep for both sheep and sometimes a cute dog
3 Turtle	He used the word turtle for both turtle and frog
4 Rabbit	He used the word rabbit for both rabbit and cat
5 Cousin's name	He used his cousin's name in order to call him and another child who didn't know his or her name

It is clear in the chart that the total number of words which were produced by Arash as the case study were 526 words which contains of 179 English words, 13 German words and 334 Persian words which was the most important part of study and the study had been done in order to count the number of Persian words in order to measure the ability of first language acquisition of the child.

The ability of the child in Persian language showed that he could count from one to 16 and he knew the number 350 and one more number in his mother tongue. As it is clear he knew 16 numbers which are repeated one by one after each other and two other unrelated numbers which were not related to previous numbers.

Arash knew 30 words as the name of different foods, snacks and drinks all together in his mother tongue. The words were milk, ice cream, cake, food, soup, bread, water, tea, watermelon, jelly, grape, apple, potato, popcorn, etc. and it should be mentioned that he was able to call them as soon as he needed each of them.

He was able to call the names of 14 animals in his mother tongue those are dog, cat, ant, duck, rooster, hen, sheep, cow, panda, etc. It is of great importance to emphasize that the word sheep was used for both the animal sheep and any other animals he didn't know the name.

He knew 36 peoples name or their titles in Persian language. The words were mammy, daddy, grandma, grandpa, aunt, uncle, brother, baby and also their names. More over; he sometimes repeated the name of some different characters of the cartoons he had seen before. And again it is of great importance to emphasize that he used a name (his cousin's name) for another child who didn't know his or her name.

Arash was able to call the name of 13 places in Persian language as same as park, shop, parking etc. furthermore he was able to name some different parts of a house like yard, room, bath etc.

He produced some words like head, hand, foot, hair, eye, mouth, tongue and teeth which all of them showed that he knew some parts of body. But it should be mentioned that sometimes he used the word foot instead of knee or leg and about the word "hand" it was the same he use the word hand instead of elbow.

The biggest group of the words based on his production was related to the verbs which were used by the child. He was able to produce 84 different words in his first language, furthermore, he was able to use these verbs based on its pronoun, not all the pronouns but most of them.

The child production shows that he was able to use some other words in different situations as same as hi, yes, no, hot, cold, wet, excuse me, please, bravo, thank you, very, again, here, there, nice, mine etc. and he used them in a correct situation.

## **DISCUSSION**

It is of great importance to emphasize that the study of one child especially the one who knew one additional language as English just can be helpful to provide an example of how the language acquisition could take place during a period of time because the process of language learning can differ a great deal from child to child.

Table one had shown that the child had been produced 334 words in Persian which is more than 200 words which was mentioned by Crystal (1997) as Crystal stated that when child came to the time between 18 and 24 months, as was the period of the increase in this experiment, the vocabulary seemed to store as many as 200 words. Another study revealed that when an infant/toddler reaches approximately 24 months of age they are producing at least 50 words and up to 300 words expressively (Chapman, 2000; Miller, 1981; Gordon-Brannan & Weiss, 2007). Based on the result of this study although the child produced 334 words in Persian language but his total range of word production was 526 which is higher than the results mentioned by Chapman, 2000; Miller, 1981; Gordon-Brannan & Weiss, 2007.

In the current study the results revealed that although the child produced some words in the correct situation, but sometime he used one word instead of another word specially those words which belongs to the same group for example he used the word sheep instead of dog. For example he used the word dog for a big dog and the word sheep for a small and cute dog. It should be mentioned that both "dog" and "sheep" were produced by the child. Furthermore, he knew and produced the word "turtle" but not the word "frog" and he used the word turtle for both of them. These results are the same as what Goldin-Meadowan and her colleagues (1977) found that 1- to 2-year-old children often seemed to have different repertoires for the two modes. In a comprehension test of vocabulary, they noted that a child would appear to understand the word dog, for example, just as an adult would, and respond appropriately upon hearing it (by pointing to the right picture on a page full Of animals, picking up an appropriate toy, and so on). But when the same child was asked to name a picture of a dog, he would only say wuf-wuf, at this stage, such children seemed to understand the adult meaning of dog but produced only a "child word," or no word at all (see also Rescorla 1980). Based on Bowerman opinion they also produce some words or phrases they seem not to fully understand. A child may say bye bye only when other people leave a particular room, but fail to say it in other appropriate contexts, or say hi, initially

picked up from an adult making finger puppets speak, only when the child has something covering her hand (Bowerman 1976).

Sometimes the child's production is not equal to the exact word usually uses for that thing so as Moore (1896), Thomson and Chapman (1977) found that children aged 1; 9 to 2; 3 (1 year 9 months to 2 years 3 months) who overextended words like *doggie* to pick out all kinds of four-legged animals or *ball* to pick out all kinds of spherical objects in production, consistently chose only appropriate referents for the same words in comprehension. Thomson and Chapman concluded that the children's production was probably limited because they had difficulty in retrieving the right words, words that may in fact have been known to them. The reliance on overextensions in production, then, marked a lag in production compared to comprehension. Or in another study Karrassoff-Smith (1977) found that young French-speaking children usually: interpreted same (meme) in phrases like *the same duck* to mean "same kind" rather than "same one." Only later did they arrive at the "same one" interpretation. Another group of slightly older children, asked to describe the same situations used in the comprehension task, consistently reserved such expressions as *the same duck* (*le meme canard*) for "same one," and created separate forms to express the notion "same kind" (e.g. the ungrammatical *le meme de canard* "the same of duck" or *un de meme de canard* "one of same of duck"). Thus, the earlier preferred interpretation of phrases like *the same duck*, (*le meme canard*, taken as meaning "same kind") did not match the forms produced to express that meaning. To sum up it should be mentioned that in production, children rely on rather different strategies. Rather than having to infer another's intention, they themselves begin with a particular intention they wish to convey. They then have to find the right words, and with them the relevant articulatory programs (Kiparsky & Menn 1977, Vihman 1981). If they fail to find the right words, they fall back on one of several alternatives. They may go to general purpose forms and, for picking out objects, produce demonstratives like *this* or *that*, or general purpose nouns like *thing*. And for picking out actions, they may produce general purpose verbs like *do* or *go* (Clark 1983).

## CONCLUSION

The purpose of this study has been to focus on the process of first language acquisition through counting produced words in order to provide an example of vocabulary production of a child on 24 months age. Moreover, results of the study revealed that this child is able to produce more than other children in previous studies had been done by other researchers. Furthermore, based on another aspect the results of the study had been cleared that the child used some words instead of other words in order to communicate and try to say what he wanted to talk about.

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