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## Using Iconicity in Two-Tier Grammar Test for Adult Learners: A Cognitive Linguistic Approach

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### Abstract

Learning a foreign language is quite challenging, especially for adults (mothers) at Tambak Lorok Semarang. Their mental space about how to arrange sentences in English cannot be separated from how they arrange sentences in Bahasa Indonesia. Thus, a test should be designed in order to facilitate the learners' grammar comprehension of the concept of arranging sentences in English well. The aims of this study are to investigate how the learners arrange sentences from Bahasa Indonesia to English and what their basic pattern is for the formation of the sentences. The second purpose is to design an appropriate test for them to measure their comprehension in terms of arranging sentences in the target language. Since the test has not been tested widely yet, the writer used 3 steps of the Research and Design Method by Borg and Gall (2003): Research and Information Collecting, Planning, and Developing a Preliminary Form of Product. There were ten questions in the two-tier grammar test. The writer used descriptive analysis to explain the result. The result presented that the learners arranged the sentences based on Bahasa Indonesia's grammar rules. For the designed test, the question on the first-tier used icons or pictures. The second tier contained the reasons why they chose the first tier.

**Keywords:** iconicity, two-tier test, grammar test, adult learners, cognitive linguistics approach

### Introduction

Discussing language cannot be separated from how people construct meaning through sentences that are arranged in their minds. Thus, they have to use their knowledge as what we call cognitive linguistics. Cognitive linguistics describes an interaction between language that is used and human cognition (Ungerer and Schmid, 2006). It is happening to learners who are learning English as their second or third language, especially adult learners.

In terms of learning a new language, the adult learners, in this study, are specified as mothers in Tambak Lorok Semarang, who have a higher motivation to learn English since they know that their village will be a fishing tourism village by the Semarang government and will struggle with their memory systems to process their understanding. The memories are taken from their mental space where they can represent and construct linguistic structures (Coulson and Oakley, 2000). In their mental space, they will make a deal with their knowledge of syntax. Michaelis (2006) explains that syntax, or construction grammar, is known as human language that consists of the construction of linguistic forms that are learned from meaning. Thus, the learners have to arrange words into sentences to convey their meanings. In Coulson and Oakley (2000), they state that in order to produce an output in Second Language Acquisition (SLA), the learners should be given an input. Then, they will cultivate the new language with their working memory to produce speech. Thus, they can produce a sentence in the target language. It can be concluded as input → working memory → output.

Based on the research that has been done by the writer on the mothers at Tambak Lorok Semarang, one of the parts of the cognitive linguistic approach that is appropriate to facilitate their input is iconicity. According to Ungerer and Schmid (2006), an icon can be categorized as a non-verbal imitation of an object. The writer can use a picture of a squid and show it to the learners, asking them to identify the name of the picture and tell them to make a short sentence related to the picture. Then, the writer can know how the learners arrange the sentences in the target language. Thus, a test should be constructed to make sure that the learners have already achieved the learning goal. To test grammar, the best choice is a multiple-choice test (Brown, 2004).

There are two objectives of this study. The first is to investigate how the mothers at Tambak Lorok Semarang arrange sentences from Bahasa Indonesia to English and what their basic pattern is for the formation of the sentences. The second is to present an appropriate test for them to measure their understanding in terms of arranging sentences in the target language.

The result of this study can be used for educational purposes. It is very useful for the mothers at Tambak Lorok Semarang to increase their understanding of how to arrange sentences so they can communicate with the tourists.

Through the two-tier grammar test, it can also be useful for the testers to know which parts of the learners' needs need to be improved.

Since multiple-choice has a chance for the learners to guess the answer without knowing the basic theory, a test that measures their deeper understanding should be constructed. Therefore, a test development about two-tier multiple-choice questions can be adapted. Mutlu and Sesen (2015) conducted research about the concept of two-tier multiple-choice. They explain that the first tier consists of a multiple-choice question, and the second tier contains the reasons why the student chose that answer, one of which is the expected answer. Then, this type of test is applied by Yolanda and Cately (2014), who made the test and did the observation. The result shows that the test helps them assess the students' misconceptions and resolve their troubles in the system for programming learning. In the same year, Poolsawad et al. (2015) and Yankovskayaa et al. (2015) conducted the same research, and the results explained that the test gives the learners specific information about which specific aspects like pronunciation, grammar, pronunciation, grammar, vocabulary, and sentence structure should be emphasized in the speaking learning process. All of the previous studies use questions that are arranged by words in the first tier. The novelty of this study is that the writer uses icons in the first tier of a two-tier grammar test for the mothers (adult learners) at Tambak Lorok Semarang.

In spite of some studies related to the diagnostic test having been observed, this study must be conducted to investigate the basic conceptualization of the mothers at Tambak Lorok Semarang in terms of arranging the words into a sentence from Bahasa Indonesia to English appropriately and the role of the two-tier grammar test that is designed to facilitate it. The answers that are provided in the second tier will be key in determining whether or not the mothers really understand the concept of arranging the sentences into English. The classification of their concepts will be categorized into understanding and misunderstanding.

### Methodology

There were six adult learners, especially the mothers at Tambak Lorok Semarang. Their age ranged from around 35 to 57 years old. Each of them had experience arranging sentences using some topics like the names of verbs and nouns that are related to fishing activities in English. For example, *I have a squid*.

To design the test, the writer adapted three steps from Borg et al. (2003). In the earlier step, the writer searched for information on October 27, 2019 through the *Kuliah Kerja Nyata* (KKN) program (a teaching practice program from Diponegoro University) about how the mothers arranged the words from Bahasa Indonesia into English. In the second step, the writer arranges the plans. It was about the particular topic of the test, the number of questions, and how to measure and assess the test. Since the test has not been tested yet, the next step is called "developing a preliminary form of the product." It was about preparing appropriate pictures for a question in the test.

The writer used purposive sampling based on Ary et al. (2010) to gain the data. The writer determined 10 data points and took 6 participants as basic sources to design the two-tier grammar test. Then, the descriptive analysis technique is used to describe and analyze the discussion in detail. The test should be measured later so the testers know whether or not the adult learners have already achieved the goal of learning grammar. According to Arikunto (2010), the result should be classified according to some criteria. The criteria were divided into two categories: understanding and misunderstanding, based on the score that they got. First, Atzori et al. (2017) defines "how people can use their concepts to deal with objects." On the other hand, Trillo and Lenn (2011) explain that misunderstanding is a condition when a person has a different perception than necessary to understand something properly. A score must be considered to classify their understanding (see appendix B).

### Findings and Discussion

In order to answer the first question, the writer collected information about the sentences that were written in English by the learners. There were 10 data points, and each of the sentences contained vocabulary about nouns or verbs that related to their daily activity. The sentences are sorted and presented as follows.

Table 1: The Sentences Produced by learners in Bahasa and English

No	Sentence in Bahasa Indonesia	Sentence in English
1.	Saya pergi ke pasar	My go market
2.	Saya membeli ikan ke pasar	My buy fish go the market
3.	Saya menjual jaring yang besar	I sell net big
4.	Saya membayar cumi-cumi yang kecil	I pay squid small
5.	Saya tinggal di Tambak Lorok	I home Tambak Lorok
6.	Suami saya pergi ke laut	Husband my go to sea

7.	Suami saya mengeringkan ikan	Husband I dry fish
8.	Suami saya punya sebuah kapal biru	Husband I have blue boat
9.	Suami saya seorang nelayan	My husband fisherman
10.	Suami saya menjual ikan di pasar	My husband sell fish to market

Based on the data, the learners arrange the English sentences using literal translations that they already have in their mental space if English has the same pattern as Bahasa Indonesia but just has a different name for the words. It means that they use Bahasa Indonesia's pattern of subject + predicate + object. For example, in data set number 3. The sentence in Bahasa Indonesia "*saya menjual jaring yang besar*" is translated as "*I sell net big*". In Bahasa Indonesia, the word *jaring besar* is accepted in the sentence and has a meaning like a net that has a large size. However, in English, the noun phrase "*net big*" is not accepted. Syntactically, we have to swap the phrase "big net" (write the adjective first and followed by the noun). In other words, Bahasa Indonesia has a sentence concept like *diterangkan (jaring) -menerangkan (besar)*, whereas English has the opposite rule.

Then, *jaring yang besar* (net big) or data number 3 and *cumi kecil* (squid small) or data number 4 are compared with data number 8. It happens when the learners already have the input about how to swap the words in English and they are trying to remember (usually adult learners use their short-term memory to memorize something) but it goes wrong. In trial number 8, they can produce the correct output. They can translate the noun phrase "*sebuah kapal biru*" into "blue boat."

The use of the possessive adjective is rated as a problem here. The learners use the possessive adjective *My* rather than "*I*" to present as a subject. This happens when they get input about the use of *My* in the introduction part. In the beginning session, they are invited to introduce themselves. The sentence "My name is Eva" is translated as "*nama saya Eva.*" It creates their mental space, which the writer believes has the same meaning as *saya* in Bahasa Indonesia. There are 2 data points (number 1 and 2) that are presented in this case.

Afterwards, the learners get an input that "*My*" is not appropriate if it is not followed by noun. Then the learners change the sentences into *husband I dry fish*. Here, they use their short-term memory in terms of swapping the words. The noun phrase is still "*husband I*", but they are trying to produce *I*. The second input is given to change the possessive adjective to be put in the first sentence. They can produce a good output, like "*husband I*" becoming "*my husband*".

The last problem can be found in the use of prepositions and articles in the sentences. In grammar, the role of the two aspects is important to making a sentence is acceptable and have the proper meaning. The first input is put article *the* before noun. Firstly, the learners make a sentence like "*market,*" then they make it again like "*the market*", but they forget to put *the* before the word *sea*. It happens when they think that *sea* is not a part of the noun and the rule of putting *the* is for the word *market* only. It also happens in the preposition, *which* is quite difficult to practice. When they get input, if they have to put the noun before the article *the* in the sentence, they forget to do that. They produce output by putting *to* without any articles after it. The learning goal of this program is to make the learners create sentences using predetermined words. Although the learners are not required to master English well, it is very useful for them to produce correct arrangements and meanings.

In order to answer the second question, the writer designed a test to assess the learners' understanding. It was about how to assess their understanding of a particular topic. This test consisted of two tiers where the questions on the first tier consisted of pictures, and the second tier was their reason for choosing the first tier. An example of the test is presented below (see appendix A for the full version)

### TWO-TIER GRAMMAR TEST FOR ADULTS AT TAMBAK LOROK SEMARANG

#### Direction

Look at the picture! Then, choose the correct answer by giving cross (X) on a, b, or c also 1, 2, or 3 for the reason why you choose it.

1.

- a. I have three squids  
b. I have three squid



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Alasan:

1. Jika jumlah benda dua atau lebih maka kata benda tersebut ditambahkan dengan akhiran –s.
2. Jika jumlah benda dua atau lebih maka kata benda tersebut tidak ditambahkan dengan akhiran –s.

Since assessment is an important part of the learning process, a test should be conducted. In this study, the writer designs a small test for grammar. There are 10 questions (see appendix A) provided in the test. This test is presented in a picture and followed by the answer choices in the form of a sentence. It has been tailored to adult learners learning foreign language. It will be easier for them to memorize something in the form of pictures. It is supported by Ungerer and Schmid (2006) that an icon can make learners interpret and understand something well. The pictures are taken from the nouns and verbs that are based on the words that they might use in their daily life as fisherman. The writer provides two optional answers to make them easy to choose.

The second tier is presented as their reason for choosing the first tier. It can be used to determine whether or not they have already grasped the material. It helps to reduce guessing, so that it can be more accurate to find difficulties. Their understanding can be assessed through the score that they get. The maximum score is 20 for the test. If they get more than an 11 score, it can be concluded that they understand the materials (see appendix B for the score guidelines). The test has not been tested yet, so the writer cannot make a conclusion about their understanding.

### Conclusion

Learning about language cannot be separated from learning how to convey its meaning. Every single thing in our mental space has an essential role in facilitating us in terms of creating and understanding something, including the process of learning a foreign language. The important components that are emphasized in the learning process are input, working memory, and output. As a teacher, it is important to give the right input in order to get the learners to produce a better version. In this study, working memory was defined as the memory that a person uses to accept something. It is divided into short-term and long-term memories. The problem is that, although the correct input is already given, the adult learners still answer incorrectly, and if they get it right, some of the components in the sentences are forgotten.

A test should be designed to measure their understanding and to identify their difficulties during the learning process. A two-tier grammar test using an icon is chosen as a solution to solve the problem. The first tier contains the icon for the question, and it is followed by optional answers. The second tier consists of the reasons why the learners choose their answer. Later, they will be categorized into "understanding" and "misunderstanding" based on their score. It can help both the teacher and the learners evaluate which parts need improvement.

### References

- Arikunto. (2010). *Prosedur penelitian: Suatu pendekatan praktek*. Rineka Cipta.
- Atzori, L., Antoniolera., & Morabito, G. (2017). Understanding the internet of things: Definition, potentials, and societal role of a fast-evolving paradigm. *Ad Hoc Network*: 56 (1), 122-140. <https://doi.org/10.1016/j.adhoc.2016.12.004>
- Ary, D., Jacobs, L.C., Sorensen, C., & Razafieh, A. (2010) *Introduction to research in education* (8th ed). Wadsworth Cengage Learning.
- Borg, W. R., Gall, J. P., & Gall, M. D. (2003) *Educational research: An introduction*. Long Man.
- Brown, D. (2004) *Language assessment: Principles and classroom practices*. Pearson Education.
- Coulson, S. & Oakley, T. (2000). Blending basic. *Journal Cognitive Linguistics*, 11 (4), 175-196. <https://doi.org/10.1515/cogl.2001.014>
- Michaelis, L. A. (2006). Construction grammar. *Encyclopedia of Language & Linguistics*, 73–84.
- Mutlu, A., & Sesen, B. A. (2015). Development of a two-tier diagnostic test to assess undergraduates' understanding of some chemistry concepts. *Social and Behavioral Sciences*, 174, 629–635. <https://doi.org/10.1016/j.sbspro.2015.01.593>
- Poolsawad, K., Kanjanawasee, S., & Wudthayagorn, J. (2015) Development of an english communicative competence diagnostic approach. *Social and Behavioral Sciences*, 191, 759–763. <https://doi.org/10.1016/j.sbspro.2015.04.462>
- Trillo, J.R., Lann, E. (2011). Do you misunderstand what I mean? Pragmatic strategies to avoid cognitive maladjustment. *Journal of English Studies* 9, 223-241. <https://doi.org/10.18172/JES.173>
- Ungerer, F. & Schmid, H. (2006) *An introduction to cognitive linguistics*. Pearson Education Limited.
- Yankovskaya, A., Dementyev, Y., & Yamshanov, A. (2015). Application of learning and testing intelligent system with cognitive component based on mixed diagnostics tests. *Procedia - Social and Behavioral Sciences*, 206, 254–261. <https://doi.org/10.1016/j.sbspro.2015.10.019>

**Appendices**  
**Appendix A**

**TWO-TIER GRAMMAR TEST**  
**FOR ADULTS AT TAMBAK LOROK SEMARANG**

**Direction**

Look at the picture! Then, choose the correct answer by giving cross (X) on a, b, or c also 1, 2, or 3 for the reason why you choose it.

1.



- a. I sell a **big fish**  
b. I sell a **fish big**

Alasan:

1. Kata benda dalam bahasa Inggris harus dibalik.
2. Kata benda dalam bahasa Inggris tidak harus dibalik.

2.



- a. I catch a fish  
b. I catches a fish

Alasan:

1. Subjek I (saya) diikuti oleh kata kerja berimbuhan s
2. Subjek I (saya) tidak diikuti oleh kata kerja berimbuhan s

3.



- a. I am a fisherman  
b. I is a fisherman

Alasan:

1. Subjek I (saya) harus diikuti oleh kata kerja bantu *am*
2. Subjek I (saya) tidak boleh diikuti kata kerja bantu *am*

4.



- c. I have three squids  
d. I have three squid

Alasan:

3. Jika jumlah benda dua atau lebih maka kata benda tersebut ditambahkan dengan akhiran *-s*
4. Jika jumlah benda dua atau lebih maka kata benda tersebut tidak ditambahkan dengan akhiran *-s*

5.



- a. It are a blue boat
- b. It is a blue boat

Alasan:

1. Subjek *it* (mengacu kepada subjek benda) harus diikuti oleh kata kerja bantu *is*
2. Subjek *it* (mengacu kepada subjek benda) tidak diikuti oleh kata kerja bantu *is*

6.



- a. I have a shrimp
- b. I have a shrimps

Alasan:

1. Ketika ada artikel *a* maka diikuti oleh satu kata benda.
2. Ketika ada artike *a* maka dapat diikuti oleh lebih dari satu kata benda.

7.

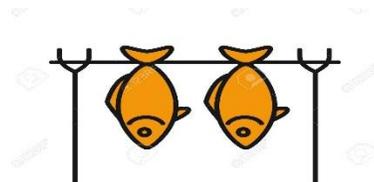


- a. He uses a big net to catch the fish
- b. He use a big net to catch the fish

Alasan:

1. Jika menggunakan subjek *He* maka kata kerja setelahnya harus mendapat akhiran *-s*.
2. Jika menggunakan subjek *He* maka kata kerja setelahnya tidak harus mendapat akhiran *-s*.

8.



- a. I am drying two fish
- b. I is drying two fish

Alasan:

1. Subjek *I* (saya) dipasangkan dengan kata bantu *am*
2. Subjek *I* (saya) seharusnya dipasangkan dengan kata bantu *is*

9.



- a. She has a kilo of salted fish
- b. She have a kilo of salted fish

Alasan:

1. Penggunaan kata *has* yang berarti memiliki digunakan untuk subjek he, she, it
2. Penggunaan kata *have* berarti memiliki digunakan untuk subjek he, she, it

10.



- a. My husband goes to sea.
- b. My husband go to sea.

Alasan:

1. Subjek *My Husband* digambarkan sebagai subjek tunggal dan memerlukan tambahan akhiran *-s* pada kata kerja.
2. Subjek *My Husband* digambarkan sebagai subjek tunggal dan tidak memerlukan tambahan akhiran *-s* pada kata kerja.

## Appendix B

### SCORE GUIDELINE

Criteria Every Number	Score	Categories
If the first tier is right and the second tier is right	2	Understanding
If the first tier is right and the second tier is false	1	Understanding
If the first tier is false and the second tier is true	1	Misunderstanding
If the first tier is false and the second tier is false	1	Misunderstanding
Maximum score	20	
11-20		Understanding
1-10		Misunderstanding