

## Correlation between EFL Students' Language Aptitude and their English Proficiency

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### Abstract

This study is designed to investigate the correlation between EFL students' language aptitude and their English proficiency. The data were collected from sixty-five students in the end of their eighth semester at the English department in faculty of teacher training in UIN Raden Fatah Palembang. The students took a foreign language aptitude test (both explicit and implicit LLAMA tests) and an English proficiency test (TOEFL). The collected data was analyzed using Pearson-Product Moment correlation test. It reveals that Pearson correlation between LLAMA explicit scores and TOEFL scores is significant at 0.676,  $P < 0.01$  (2-tailed), so the correlation between LLAMA explicit scores and TOEFL scores is considered moderate. In addition, the correlation between LLAMA implicit scores and TOEFL scores is significant at 0.422,  $P < 0.01$  (2-tailed), therefore, the correlation between LLAMA implicit scores and TOEFL scores is considered low. The moderate degree of significance of correlation between explicit language aptitude and TOEFL score shows that the explicit language aptitude is the better predictor of language proficiency compared to implicit language aptitude. The literature seems to support the notion that the higher LLAMA explicit score, the better the students will achieve in learning a foreign language. The literature also supports the idea that implicit language aptitude is a more complicated cognitive task than explicit language aptitude.

**Keywords:** Language aptitude, language proficiency, LLAMA

### Introduction

One of the main tools of measurement that examine and judge the ability of a candidate to understand and use English language in academic situations is TOEFL. TOEFL is a standardized test that measures a test-takers' mastery of the English language. In relation with language proficiency, it can be claimed

that TOEFL reflects the level of language proficiency (Syahrial & Syafryadin, 2020). The Educational Testing Service (2016) confirmed that relation "The TOEFL test provides a trustworthy indication of a test taker's English-language proficiency in each of the four skills of listening, speaking, reading and writing". In other words, poor TOEFL scores mean poor level of language proficiency.

Since TOEFL test is one of the proficiency tests, it is often used in as an assessment tool. The reliance on TOEFL for various testing purposes of English proficiency have reached such a point that most universities and colleges both overseas and domestic adopt this standardized test as a part of graduation requirements, especially to get the certificate and transcript.

As to increase the standard of education to international level, universities impose the importance mastery of English as an international language because English is not only used to communicate with foreigners (Syafryadin, 2019; Syafryadin, 2020; Syafryadin, et al. 2020), but also continuing study and carrier. As a result, most academic institutions are asking for specific TOEFL or other equivalent tests as proof of good language proficiency level. TOEFL is considered one of the most popular authentic proficiency tests all over the world, including Indonesia, to serve that purpose.

In 2010 after elaborated discussion, San Diego County Office of Education defined language proficiency by stating that "Perhaps the simplest definition of language proficiency is simply a measure of what someone knows and can do (listen, speak, read, or write) in a particular language" (page, 7). Hulstijn (2011) elaborately defines language proficiency as "the extent to which an individual possesses the linguistic cognition necessary to function in a given communicative situation, in a given modality (listening, speaking, reading or writing)" (p. 242).

Having been paying particular attention to some essential literature on foreign language proficiency, the researcher discovered that there is a gap which needs to be filled. The gap is that numerous local researchers have a tendency for a focus on students' affective individual differences such as

motivation or anxiety. On the other side of the literature, there are very few studies that have been conducted in Indonesia which examine cognitive aspect of individual differences which plays a vital role in language proficiency. One particular cognitive aspect being referred to is the language aptitude.

Additional result from reviewing relevant literature on the few language aptitude studies in Indonesia context is that no literature has yet to be found investigating language aptitude profiles in implicit and explicit cognitive context. This has led the researcher to design this study to examine the relationship between cognitive aptitude profiles and TOEFL scores as authentic indicator of language proficiency and to explore students' views on their language aptitude and TOEFL scores.

Researchers have attempted to understand language aptitude as one of the Individual Differences (ID). The notion of aptitude learning is distinguished as an innate and a relatively stable talent to learn language. Also, aptitude or skills to learn foreign or second language is defined as the capability to pick up languages either in naturalistic or instructed exposure easily and successfully. This individual difference varies from one person to another. It is considered as privilege for any people who want to learn any given language. Language aptitude is a unique entity in itself and is independent of other differences such as the motivation, intelligence, attitudes toward the language, personality, and anxiety.

A growing body of studies has investigated the aspect of Second Language Acquisition (SLA) in its relation to the research of Individual Differences (IDs) in order to recognize the underlying qualities pertinent to the attainment of a second language (L2). The individual factors related to second language learning can be divided into various categories: affective factors (e.g., motivation, attitude, and personality) and cognitive factors (e.g., intelligence, aptitude). A considerable volume of IDs research has examined the impact of affective factors. Far less research has investigated the impact of cognitive variables on second language acquisition.

According to Skehan (2002), studies on second/foreign-language (L2) aptitude has by some means weaken over thirty years back. He hypothesized that research on aptitude had produced only slight attention as a consequence of its supposed insignificance to L2 acquisition in communication perspective. In the past, Skehan (1998) had suggested that the concept of L2 aptitude has been out of favor because of its inherent supposition that a unique talent exists in learning language which differs from learning other skills. He went further to suggest that language aptitude is constant for a period of time. In other words, aptitude is not influenced considerably by the upbringing context after the early years. He also claimed that L2 aptitude is comprised of several subcomponents which are fundamental for learning language.

Scholars who studied both first and second language acquisition have investigated and confirmed the relationship between language proficiency and cognitive aptitude. This has generated more research conducted in both instructed and naturalistic settings. The easiest example of learning a language in a natural setting could be found in our society is when a baby gradually learns his or her first language to first say random syllables, then a word or two, then one phrase after another, finally sentence by sentence. Whereas for second language, the school environment, place of work, and the streets play a vital role as natural settings in both adult and children when it comes to learn the second language. The most obvious instance of an instructional setting is in the classroom, where the teacher presents language lessons to students.

The aptitude battery that evaluates weaknesses and strengths in different subcomponents would be of great diagnostic value in matching optimal learning environment to different learners. Aptitude-treatment interaction studies will benefit the most from this kind of study. Moreover, a study of different cognitive profiles in different populations of young adult L2 learners in both implicit and explicit language learning is especially

appealing. Therefore, examining relationship between cognitive aptitude profiles and language proficiency is exceptionally indispensable.

Aptitude is a measure of one's natural talent in a given area. In other words, it's one's potential ability to learn new skills or information. This means that two people who practice a skill for the same amount of time could achieve different level of success. This is due, in part, to inherited genetic factors. Different people have higher aptitudes in different areas. One of these areas is learning a language which brings us to the study of how aptitude affects second language acquisition which is an important topic in the field of linguistics.

J.B. Carroll, with his explanation on cognitive psychology theory, is well known for his early contribution to aptitude study which took place in 1989. He came up with the four-component view of aptitude. For this, he claimed that second language acquisition aptitude could be divided into four skills.

First, phonemic coding capability and ability. This has to do with ability to hear the differences between foreign sounds and of course to remember when it is needed. This is important for learning a language because you need to learn how to distinguish and pronounce words. Second, Grammatical sensitivity. This is the ability to understand what function a word or phrase has in a sentence. This does not mean that you have to know terms like gerund or participle. Rather, you need to understand that different types of words have different functions. Third, Inductive language learning ability. This has to do with the skills and ability to make generalizations about the target language. This skill allows one to learn without as much explicit instruction. This is the key in terms of acquiring a second language because it's not feasible to explicitly memorize every aspect of a foreign language. Fourth, Memory and learning. This is the ability to remember aspects of language such as vocabulary. A strong aptitude for memory allows one to easily memorize new words.

Granena (2013) indicated that because of the larger quantity of input that the learner has to put into practice and the demands to find out patterns and make generalizations merely from L2 exposure, the aptitude could be

even more right and proper in implicit than in explicit second language acquisition.

In 2005, Meara established the LLAMA tests that are user friendly, free, and language-neutrality. This particular aptitude test that is based on standardized MLAT tests simply integrates four distinct elements which include the following: (1) grammatical inference (LLAMA\_F), (2) vocabulary learning (LLAMA\_B), (3) phonetic (implicit) memory (LLAMA\_D) and sound-symbol correspondence (LLAMA\_E). There are numerous materials that are used to design exploratory aptitude assessment for second or foreign language learning. After some time, the design for the test has been totally different from the original which they were based, that is the work of Carroll and Sapon. Therefore, L2 has been gaining more popularity in most of recent research on language acquisition (Granena, et al, 2015). Likewise, Granena (2012) illustrated that three subsets of the LLAMA considered similar fundamental aptitude and this can be deduced as analytic ability.

In the area of L2 learning, implicit learning is hypothesized to occur when L2 learners acquire abstract phonological, morphological, syntactic, or other rules in the absence of awareness and without intention to do so. Explicit learning, in contrast, is accompanied by awareness and, often, though not always, intention. A final consideration is that researchers often use the terms implicit/unconscious or explicit/conscious synonymously (Rebuschat, 2015).

Additionally, Kaufman et al., (2010) asserted that implicit learning is usually characterized by being "associative, non-conscious, automatic, and unintentional" and differ from so called explicit learning, which is "conscious, deliberate, and reflective." They also stated that it is connected with executive operation and working memory.

Granena (2013 & 2015) has provided evidence to suggest that one subtest from LLAMA created by Meara in 2005, the sound recognition sub-test, is based on implicit learning.

The impact of this analysis is that the sort of questions and research designs that aptitude measures could be involved in over the coming years

could be very different to the past. Aptitude could become an important variable within more complex research designs which are probing these fundamental issues of explicit-implicit tensions. Such research designs will change how foreign language aptitude is perceived more widely within applied linguistics.

## **Research Methodology**

The aim of this study is to find the relationship between the language aptitude profiles that include the implicit and explicit language aptitude for university students in Indonesia and their language proficiency. The quantitative method using correlation design will show the relationship between cognitive aptitude profiles and TOEFL scores.

The data was collected in English department in faculty of teacher training UIN Raden Fatah Palembang, Indonesia in September 2018. The sample, selected through a non-random sampling method called purposive sampling, consists of 65 students who were in their eighth semester, aged between 19 to 21 years old at the time of the study.

The paper-and-pencil TOEFL test and a set of LLAMA tests which are (1) grammatical inference (LLAMA\_F), (2) vocabulary learning (LLAMA\_B), (3) phonetic (implicit) memory (LLAMA\_D) and sound-symbol correspondence (LLAMA\_E), were administered for data collection. The data was processed using SPSS (Statistical Package for the Social Sciences) version 21 to find out the correlation between each variable. Pearson correlation is used first to find the correlation between TOEFL scores and LLAMA explicit scores. Next, a Pearson correlation is also found between TOEFL scores and LLAMA implicit scores.

## **Findings and Discussion**

### **Findings**

Firstly, it was found that there are 67.6% of students who scored high on their explicit language aptitude, and only 6.15% of the students who scored high on the implicit language aptitude.

The four profile categories on the basis of their implicit and explicit language aptitude, which are low implicit low explicit, high implicit low explicit, low implicit high explicit, and lastly high implicit high explicit, were also shown in table 4.1

Table 1

Language Aptitude Profiles

	Low Implicit	High implicit
Low explicit	21	0
High explicit	40	4

There are only 4 students who have high explicit high implicit aptitude profile. Forty students have high explicit low implicit aptitude profiles. On the other hand, twenty one students have a low aptitude profile in both implicit and explicit. No student has high implicit and low explicit aptitude profile. It can be seen that the majority of the students have high explicit language aptitude and low implicit language aptitude.

Then, the data analyses indicated that there was statistically significant correlation between the mean differences of participants' performance in the foreign language aptitude test and their TOEFL scores as shown in Table 2 and Table 3.

Table 2

Pearson correlation between TOEFL scores and LLAMA explicit scores

**Correlations**

		TOEFL scores	LLAMAexplicitScores
TOEFL scores	Pearson Correlation	1	.676**

	Sig. (2-tailed)		.000
	N	65	65
LLAMAexplicitScores	Pearson Correlation	.676**	1
	Sig. (2-tailed)	.000	
	N	65	65

Table 3

Pearson correlation between TOEFL scores and LLAMA implicit scores

### Correlations

		TOEFL scores	LLAMA Implicit Scores
TOEFL scores	Pearson Correlation	1	.422**
	Sig. (2-tailed)		.000
	N	65	65
LLAMA Implicit Scores	Pearson Correlation	.422**	1
	Sig. (2-tailed)	.000	
	N	65	65

The foreign language aptitude total scores on both implicit and explicit were significantly correlated with TOEFL scores. The Pearson correlation between LLAMA explicit scores and TOEFL scores is significant at 0.676,  $P < 0.01$  (2-tailed). This degree of correlation is considered moderate (Garcia, 2010, p. 9). It reveals that correlation between LLAMA implicit scores and TOEFL scores is significant at 0.422,  $P < 0.01$  (2-tailed), therefore, the correlation between LLAMA implicit scores and TOEFL scores is considered low.

## **Discussion**

The Pearson correlation between LLAMA explicit scores and TOEFL scores is significant at 0.676,  $P < 0.01$  (2-tailed). This degree of correlation is considered moderate. This result can be interpreted in different points of view.

First, as can be confirmed by the literature, the higher aptitude leads to a better achievement in language proficiency which is measured in this study by TOEFL test. Second, it can be argued that since language proficiency depends on learners' types (the harder you study, the better you achieve), the explicit language aptitude is another scale for different types of students unlike the implicit language aptitude which deals with something has nothing to do with learners' types.

On the other hand, it can be discussed that the moderate degree of significance between explicit language aptitude and TOEFL score shows both variables are not walking hand by hand. In other words, explicit is not the best predictor of language proficiency. Another point of view, TOEFL test is not created based on the idea behind LLAMA explicit test. This also gives us another explanation why the correlation is moderate. However, the literature seems to support the notion that the higher LLAMA explicit score, the better the students will achieve in second foreign language. In line with this study's finding, the notion found in literature is supported in this study (e.g., Robinson, 2005; Erlam, 2005; Harley & Hart, 1997).

The Pearson correlation between LLAMA implicit scores and TOEFL scores is significant at 0.422,  $P < 0.01$  (2-tailed). This degree of correlation is considered low. From the above discussion about explicit language aptitude, it is clear that implicit language aptitude has a lower degree of correlation with TOEFL score compared to explicit language aptitude. This lower degree of correlation with TOEFL score can be interpreted in different points of view.

First, the literature supports the idea that implicit language aptitude is more complicated cognitive task than explicit language aptitude. Second,

since implicit mainly measures the sound recognition, it seems difficult for the test takers to recognize sounds they are not familiar with, unlike explicit which mainly measures vocabulary measure, sound-symbol correspondence, and grammatical inference. Third, when it comes to sound recognition, auditory system and memory come into action, more reliance on memory, which means the test takers should employ more cognitive skills to accomplish the task successfully. In other words, memorizing many new things at the same time requires more brain areas to be activated and work side by side. In another point of view, implicit is not a good predictor of language proficiency since the idea behind is not the same with the idea behind TOEFL. However, the literature supports that students with higher implicit ability are better learners (e.g. Granena, 2013). In line with this study finding, it seems that this study is not supporting the literature notion (higher implicit, better learner). On the contrary, the finding support the notion that implicit is not a good indicator of language proficiency.

## **Conclusion**

To conclude, there are two relationships found in this section, which are significant. However, the relationship between LLAMA explicit scores and TOEFL scores is considered moderate, and the relationship between LLAMA implicit scores and TOEFL scores is considered low.

Having conducted the LLAMA test for Indonesian participants, 65 tertiary students from an Indonesian university participated in the study which used a test design which was intended to overcome some of the limitations of typical aptitude testing designs. An assessment design, conducted only to students who have had taken TOEFL test and have joined TOEFL preparation class, was used to examine the relationships between the foreign language aptitude and the English proficiency.

The findings of the correlation analysis revealed that the language aptitude test had a modest power in predicting English success. The implementation of language aptitude test would require institutions and

lecturers to categorize and separate students into different classrooms based on their language aptitude prior to the TOEFL preparation class. This is because the use of language aptitude tests will demand a shift from conventional ways of TOEFL preparation class in which all students with different language aptitudes are in.

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