# An Analysis of Interferences
# on English for Medical Purpose Speaking Activity

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***Abstract***. One of impacts that can be observed on language difference during learning English is interference. Indonesian medical students have problem with speaking; what they said does not reflects what was in their mind. This descriptive analysis study identified the interference on medical students while doing speaking activity in the class. Four students were chosen randomly as the subjects to give their diagnosis verbally. Their speaking was recorded, transcribed and coded. The analysis was done on basis of four types of interference by categorizing language transfer into four types: phonological, grammatical, lexical and orthographical. Result showed that among four language transfers or interferences, phonological and grammatical interferences were prominent. As addition generalization and fossilization can be observed. Students did less English pronunciation practice in the class meanwhile Indonesian language has very different way on pronouncing a word. Some medical terms such as LDL and hypertension were uttered in Indonesian language within giving diagnosis in English. Teachers at Medical Class should introduce medical terms in English together with the pronunciation. The pronunciation recital should be scheduled before speaking activity.

***Keywords:*** *EMP, Fossilization, Fluency, Generalization, Giving Diagnosis, Language Interference, Medical English*

## INTRODUCTION

Mastery of a language can be measured by the use of the language. A person cannot be said having good competence in a language before proving by speaking it. In this case, speaking ability becomes an indicator of English achievement. Preceding the assumption, Malahayati University of Lampung, through Language Laboratory, trains medical English students to be able to communicate in English. They are obligated to follow English for Medical Purposes (EMP) for two levels after finishing General English classes (GE) for four semesters.

In order to be able to master spoken English, medical students should learn how to pronounce and utter sentences correctly. It is important during giving elaboration about a disease or informing diagnosis in order to avoid miscommunication and misperception. One situation that is crucial to give comprehensive speaking in medical class is giving diagnosis. During speaking a health practitioner or doctor should combine many types of tenses and medical terms in one conversation. Past tense is used when they need to tell history of patients. They need to speak in present tense when they give information what the disease is. All aspects of disease must be informed in present because it relates to general statement and symptoms. Future tense comes when they tell probability of recovery.

In addition to grammar, giving diagnosis to patients also requires good diction and pronunciation. A doctor needs to choose proper words in telling sickness condition of patient because in some cases words are very sensitive for patients' stress and emotion. Even, utilizing good and proper words belong to ethic codes of health practitioners. When they can arrange words, doctors should be able to pronounce words correctly. It is because some medical terms or common words in English have sound similarities. Incorrect pronunciation sometimes hinders the communication.

Those aspects have been taught by the English teacher for Medical Purposes. However, problems occur frequently. These errors must be caused by some factors. One of the problems that cause speaking error is language transfer. Thus, the objective of this study was to identify and describe language transfer that occurred among medical students during giving diagnosis activity.

## DISCUSSION

### 1. Language Interference

English is viewed as Foreign Language (FL) in Indonesia. However, the process of teaching learning is done massively. Indonesian students are obligate to learn English since elementary to senior high school. When they are accepted as a student in Malahayati University, they must take additional English class for four

semesters; in particular Medical students must follow two levels of EMP (English for Medical Purposes).

Even though students have passed long time process for learning English, they still tend to create errors during learning activity. It is because when a student of foreign language (L2) learns the new language, he applies existing knowledge gotten from his mother tongue. His grammatical, form, structure and phonological production are influenced by his first language (L1). The L1 knowledge that affects L2 process in second language acquisition (SLA) is known as linguistic interference.

As explained by Krashen (1995) that linguistic transfer may occur due to habit of L1 people especially when they do not have native command of L2. Indonesian language has wide range difference with English in the form of grammatical, structure, and pronunciation. Particularly in speaking, the phonological aspects are totally different. In English, what is written and its pronunciation are mostly different. In contrast, in Indonesian language the pronunciation follows the orthography of the words. For example, the word 'cut' is pronounced as /kʌt/in English while in Indonesian language it is pronounced as /kʊt/.

Ellis (2015) argues that linguistic interference as the attempt of L1 learners to put forth rules of their mother tongue in the learning process of L2. He believes that forcing L1 rules to L2 learning process tends to create errors. Like the example given above, the word 'cut' most students in Indonesia whose knowledge about English is minimum will pronounce it /kʊt/this error occurs because they apply their knowledge on Indonesian pronunciation into English.

As addition, the influence of L1 brought into L2 not merely happens on FL learner, bilingual speakers whose mother tongues are two language may have this problem too (Matthews, 2007). Assuming bilingual person who lives in two languages still produce errors during production process, it is acceptable for FL learners to create errors during their learning process.

In linguistics, interference is similar with language transfer. It refers to the transfer of language features from L1 to L2 during production process. The transfer of language feature is caused by the limitation of L1 speaker about native level command of target language. Translating the word into target language can be seen as an instance, for this case is Aloe Vera which is in Indonesian language called 'Lidah Buaya'. The word 'Lidah Buaya' is lexically translated into English becoming 'Crocodile Tongue'. It is very common a case like this happens in English learning process in Indonesia because learners do not have sufficient native level command.

Language transfer is divided into two types, they are positive and negative. Positive transfer happens when a learner knows his L1 and the knowledge of his L1 can be applicable in L2. Positive transfer can help learners easily understand the target language for instance, in Indonesian language the structure of sentence should consist of subject and predicate. When learning about English, the learner will get similar structure of sentence in English; subject and predicate. Background knowledge of subject and predicate form in Indonesian language can ease English learner apply his knowledge about subject and predicate formation in English.

On the other hand, negative transfer refers to knowledge of L1 which complicates learning process of L2 and causes error production. This negative transfer is mostly called interference. The example of interference is pronunciation of word 'She' which is pronounced by Indonesian as /si:/ because phonetic/ʃ/does not exist in Indonesian language. In this case L2 learners need more time to train their tongue to pronounce word 'She' comprehensively.

Selinker (2009) states that learning difficulties, especially interference, happen when L1 and L2 have significant distance. The more distance between those languages the more chance for interference. Such phenomena occur between Indonesian language and English which features are different widely. While English and German have some similarities in some features will ease German learner to understand English.

Furthermore, Berthold et.al. (1991) classify interference into four categories; they are grammatical, lexical, orthographic and phonological interferences. If an L1 influence L2 in terms: determiners and pronoun uses, word order, mood and tenses, the interference belongs to grammatical category. Lexical interference can be seen as process of borrowing words from L1 and changing them to sound natural in L2. The third category happens when L1 spelling changes L2 spelling. The last one is identified when sound including rhyme and intonation from L1 influence L2 sound.

In his research, Sarfraz et.al (2016) states grammatical interference may cause creation of new words. He emphasizes that exposure of technology and internet becomes a prominent factor. Further in his prediction, converting L1 features may bring appearance of new language. Arnett and Wagers (2017) sees interference as a dispensation of linguistic difficulty. It is a way how an L1 learner solve his problem while having L2 dependencies.

**2. Fluency, Generalization and Fossilization**
Razumiejczyk et.al (2017) indicates that written data can cause bigger possibilities for interference than spoken data. It is in line with the finding in this

research where students write down their script before performing it in the class. The written script creates temptation for students to look up their text instead of focusing on correct utterances. Moreover, as Indonesian pronunciation is similar with written text make them read the text and leading to error. It is suggested that the students are not allowed to look their note up in order to avoid interference from text.

In learning L2 Wonnacott (2011) indicates that generalization is an indicator of acquisition success. He claims "learners use distributional statistics to make inferences about when generalization is appropriate". It can be meant that learner will generalization is a natural process that happens on many L2 learners. During their generalization process learners try to make classification about linguistic distribution of forms. After making statistical distribution, the learners will find the classification of forms and how to use them. In short, generalization is not a failure of language acquisition but it is part of acquisition process.

In line with Wonnacott (2011), Batterink and Paller (2017) explains that generalization as an ability to with draw rules from given samples and use it into specific purpose. English teachers should not worry about generalization created by learners during L2 learning. What the teachers should do is supervise their students whether their generalization goes beyond the acceptable form.

Bergmann et.al. (2015) reveals background knowledge and daily exercise effect speech fluency. It means that learners who have good previous linguistic ability and usually use it will benefit their speaking fluency. The interfered learners during L2 learning can be manipulated to be fluent speaker of L2 only by give them refreshment about their linguistic cognition and train them routinely. By using this way, fluency of L2 learners can be achieved.

Fossilization comes from an interaction of two non native L2 speakers who share similar L1 pronunciation exerted into L2 pronunciation (Demirezen, 2009). Based on the statement, it is tolerated if phonological errors occur during L2 learning process, especially in Indonesia. The learner whose local language is mother tongue is difficult to pronounce English accurately. Their learning process is taught by non native speaker while the L2 communication is only done in English class. The ideal model of pronunciation does not exist during learning process. In other word, their pronunciation model and practice are very limited.

In this case Demirezen (2009) proposes an effective and efficient way to train pronunciation that is audio articulation. This method consists of series of drills to break fossilization among non native English speakers who have problem with fossilization. However, it promises not making learners bored. In particular stages

of drilling, the process is created like playing game while actually it is learning. Teachers of l2 can use this method to get significant progress of learners' pronunciation.

The method proposed by Demirezen (2009) can be a solution for pronunciation correction which should be considered deeply. Gumbaridze (2013) informs that correction of pronunciation may create contra productive effect on L2 learners. Students' confidence during fluency practice can be attired. Careful correction given by teacher can give positive effect to learners. Audio articulation model is possible to make the pronunciation correction as enjoyable process because it is presented in interesting technique like playing game.

## 3. Methodology

This is a descriptive study which aimed to elaborate and describe language transfer that occurs during speaking. Setting of research is at Language Center of Malahayati University Lampung Province – Indonesia, in second semester of 2016. The place was chosen because it has run English for Medical Purposes (EMP) program for many years. The program prepares the students to be ready in communicative context of medical practitioners in the future.

The program is done during two levels: in the first level, students are taught to identify patients' history while in the second level students are taught to deliver diagnosis and education. First level is taken by fifth semester students. They take it after completing General English program (GE) for four semesters. When they pass level 1 of Medical English they can take Level 2 Medical English. During the learning process, both level 1 and 2 of Medical English, the students are required to have good competences in four skills: Listening, speaking, reading and writing.

The teaching procedures in the two levels are concentrated more on training and practice. The guidance book for teaching learning is English in Medicine third edition by Eric H. Glendinning and Beverly A. S. Holmstrom. The book provides activities and tasks that suitable for communicative practices. As additional material, the language center uses Case Files Family Medicine book second edition written by Eugene C. Toy et al, published by McGraw Hill Medical. This book focuses on medical diseases and cases that functions as supplementary material. The book can be used as media to enact medical discussion to solve medical problems. Those books are suitable to make better learning process in the class.

The samples were four students chosen randomly from a class consisting of 25 students. They are in their sixth semester of their bachelor degree process. The students' learning level supposes to be beneficial for them. Because most of

medical terms have been taught by their lecturers before entering Medical English class. In short, they have quiet enough background knowledge to support Medical English class activity. As consequence, they transfer their knowledge purely in English learning.

Data collection was done during speaking activity. The researcher recorded their voice one by one. Each student was given a medical case that must be solved. They needed to guess the disease and give explanation how to get certain diagnosis. After that, they came to teacher to tell their diagnosis and elaborated it together with recording process. The activity is a role play practice. The teacher pretended as a patient, and the student pretended as a doctor in one on one speaking practice. The teacher used Smartphone recorder to save students' voice while they were giving their diagnosis.

After recording, researcher made transcription of students' speaking. The transcriptions were coded and categorized based on language transfer types. The categories are phonological, grammatical, lexical and orthographic which is based on Berthold's theory (1991). The calculation was only done to find out what kind of language transfer that dominated students' work; it could be done through percentage calculation. Analysis was done on categorized parts. Because the focus of the study was describing phenomena (content analysis), the analysis was only until overview of language transfer types. The data triangulation was omitted.

## 4. Findings
After data collection and analysis, it was found that the total words produced by four students were 407. Student A took 62 seconds for 114 words. Student B took 66 seconds for 66 words. The shortest speaking was student C with 60 seconds for 109 words. Student D, the longest speaking and words, took 73 seconds for 118 words. The following is the half part of students' transcription:

Table 1. Transcription of Giving Diagnosis Practice

| Students | Transcription |
|---|---|
| A | *Age is 62 years. Suffered from forgetfulness since two month ago. When patient also often repeat frustration. . . .* |
| B | *My name is B. Mr. X 24 years old of coming to the hospital UGD Bintang Amin. Headache complain. . . .* |
| C | *Hello my name is C. I want to tell you my diagnosis. After our interview Mr. Putri. . . .* |
| D | *Hello Mr. I am D. And now I want to tell you about my diagnosis. After our conversation. Mrs. Regyta  complain. . . .* |

From the above data, it can be seen that students B, C, and D introduced their name, meanwhile student A forgot to introduce her name. In the case of this study, it is not a problem whether they introduce their name or not, unfortunately introducing her own name as a doctor is important. In the work ethic of a doctor, each patient should know identity of the doctor.

Further analysis goes to calculation of errors and categories that can be seen on the table below. The total error caused by interference is 50 as can be seen on Table 2.

Table 2. Distribution of Data

| Ss | Words | Time | Interference Categories | | | |
|---|---|---|---|---|---|---|
| | | | PH | GR | LE | OR |
| A | 114 | 62" | 10 | 4 | - | 2 |
| B | 66 | 66" | 7 | 2 | 1 | - |
| C | 109 | 60" | 8 | 3 | - | - |
| D | 118 | 73" | 8 | 5 | - | - |
| Total | | | 33 | 14 | 1 | 2 |

The most frequent interference that occurs is phonological. Grammatical, Orthographic and lexical are on the second, third and fourth position subsequently. The total number of phonological transfers is 33 where a student contributed the most. Grammatical consists of 14 in which student D made five transfers. Lexical and orthographic have 1 and 2 transfers, subsequently. In sum, four students created 50 transfers.

As shown by table 2, phonological transfer is prominent. It happened because students did not pay attention on pronunciation. That can be explained below:

## 4.1 Phonological

Student A said hypertension with/hɪpəˈtenʃn/ instead of /haɪpəˈtenʃn/ it is very understandable since in Indonesian, the letters and pronunciation are similar. What is written will be read as it is, that is different with English. In English what is written and pronounced are not same. The other sample from the student is acronym MRI, which must be spelled /em ɑːr ˈaɪ/ but the student easily said /em er ɪ/.

Student B changed pronunciation of since / sɪns/ to be /saɪns /. Student C said vitamin to be /ˈvɪtamɪn / instead of /ˈvaɪtəmɪn /. As addition student D pronounced thrombocyte to be / trɑːmˈboʊsɪt / instead of /θrɑːmˈboʊsaɪt /. These are caused by significant different between English (L2) and Indonesian (L1).

The phonological problem that occur in this study is correlated with fossilization. It happens because the students use their L1 pronunciation (Demirezen, 2009; and Bergmann et.al., 2015). More exercise is needed in order to correct the pronunciation.

## 4.2 Grammatical

As the second most prominent transfer occurred, grammatical is easily happen because; the grammatical in Indonesian language and English are totally different. Take for example; Indonesian language does not use subject verb agreement. It means that whatever the subject of a sentence will not influence the verb. For example on sentence said by student D was *Mrs. Regyta have dengue fever* because Indonesian language does not change predicate because plural and singular subject are treated with similar verb. Actually the correct sentence should be *Mrs. Regyta has dengue fever*.

If this problem is connived by teachers, the learners will possibly assume their words are correct. The most dangerous possibility is the learners create their own new rule without knowing the correct one or create new language even though it is incorrect (Sarfraz et.al., 2016). Grammatical correction should be given to the learners appropriately as suggested by Gumbaridze (2013).

## 4.3 Lexical

In the case of lexical transfer of this study, there is only one which was produced by student B. the phrases are as follow: *coming to the hospital **UGD**.* UGD in Indonesian stands for Unit Gawat Darurat or in English Emergency Care Unit. The student just simply borrows UGD since she did not know the English word

for emergency care unit. Borrowing L1 word and apply it into L2 indicates limitation of vocabulary mastery on the student.

Arnett and Wagers (2017) implicitly suggest teachers to see UGD problem as a dispensation from difficulty. Speaking in L2 to produce a medical term is not easy. They also implies that the learner with interference problem may have L2 dependencies. As addition this student has limited background knowledge about medical English term for Emergency Care Unit.

### 4.4 Orthographic

It is a transfer that concerns on spelling of one language altering another. Only student A who did it. She said *obstained a history of obstruction since two month ago* while what she meant was obtained a history of obstruction since two month ago. The student insert s in the word *obtained*. After consulting to dictionary, it is known that word *obstained* does not exist. This can happen because of slip of tongue. The preceding words that has uncommon pronunciation in L1 interferes students' pronunciation. Unintentionally, she put *s* in the word *obtained*.

Based on the samples above, it is known that. Each error created by the students is strongly affected by their mother tongue (Demirezen, 2009). The fossilization of tongue and the wide range of English and Indonesian language create chances for students to make errors.

### 4.5 Fluency

From table 2, it can be inferred that student B has the lowest speed. In sixty six seconds she only produced 66 words. On the other side student A places the highest speed 1.83 words pre second. The lowest fluency can be caused by less routine training and lack of linguistic capability as explained by Bergmann et.al. (2015). They said that the main factor of successful fluency during L2 production is linguistic background knowledge and daily exercise.

The other interference factor that causes low fluency on the student is bringing note in demonstration session. It is known that bringing written data for performing speaking contributes L2 interference (Razumiejzyk et.al., 2017). All subjects of this study brought their notes during giving diagnosis. It becomes distraction that blocks focus of mind and eye contact.

### 4.6 Fossilization

Some errors, especially phonological ones, can be caused by fossilization. Demirezen (2009) states that fossilization can occur on L2 learning process especially on L1 learners who make interaction with non native L2 speakers. It is

applicable to the subjects of this study because the four students live in Indonesian language speaking area while their mother tongue is local language.

In the deeper analysis, actually English is not second language of the students. Their mother tongue is local language and their second language is Indonesia language. It can be said that learning English is a process to understand L3 for them. In the home, they spoke local language, when in the campus they speak Indonesian language, and English happens only in English class. In this case we can assume that students rarely use English and has very small probability to meet English speaking person.

As daily activity uses local and Indonesian languages which pronunciations are totally different from English, they are difficult to pronounce well. The habit of pronunciation forms fossilization among students. Related to this problem Demirezen (2009) proposes audio articulation as a way to teach enjoyable pronunciation.

## 4.7 Generalization
*Mrs. Regyta* <u>*have dengue fever*</u> this sentence besides indicating grammatical interference, it also implies generalization that happens during speaking process. However, teachers of L2 should not count it as a teaching learning failure. Wonnacott (2011), Batternk and Paller (2017) assume it as part of language acquisition. As explained detail by Wonnacott (2011) deep in learners' mind, process of categorization is on progress and needs guidance from teachers.

When a teacher can contribute correction as suggested by Gumbaridze (2013) the successful learning can be achieved. It is possible for the student will automatically produce *Mrs. Regyta* <u>*has*</u> *dengue fever* instead of *Mrs. Regyta* <u>*have dengue fever*</u>.

## CONCLUSION
Indonesian Language (L1) has very wide difference with English (L2). As indicated in the previous part that those differences create opportunity to make errors among Indonesian learners. Even though the study was conducted in EMP class (English for Medical Purposes), the highest level of English class in the university, the students tend to create errors because English is not the main communication mean. English is learned, not used which causes English is just subject not a daily communication media. Therefore, students are easy to forget phonological, grammatical, lexical, orthographic aspects and fluency of English. There is no wonder when they practice their English they make errors.

As recommendation, teacher of EMP keep striving the best teaching strategy, methodology and technique which focus on the use of English in order to make

students internalize English in their daily. Routine audi articulation can be used as a solution to teach pronunciation. Reading note during speaking performing session should be prohibited in order to maintain fluency and memorization. Correction during speaking should be considered in order to avoid contra-productive problems.

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