LEXICAL AND GRAMMATICAL ERRORS IN SPEECH PRODUCTION:
A DESCRIPTIVE QUALITATIVE STUDY OF HIGH SCHOOL
STUDENTS IN BANDUNG

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Abstract
This study is about lexical and grammatical errors in students’ speech production of speaking performance. The aims of the study are to find out the kinds of errors in the speaking performance and the error which is most frequently occurred. The participants were 36 high school students in the level of beginner. In lexical errors, the classifications are divided into two kinds, they are: 1) Lexical errors constitute collocations, idioms, content and functional words and errors of derivational morphology; and 2) Lexical errors constitute unintentional use of L1 lexemes. The Grammatical Errors are divided into two classifications of Syntactic Errors and Morphological Errors. Based on the oral distributions, the most frequent error occurred is morphological error regarding the omitted and misused ‘be’.

Keywords: lexical error, grammatical error, speech production

INTRODUCTION
Speech errors are deviations from the speaker’s communicative intention and are an important source of information for understanding the complex mechanisms of language production (Kovac, 2011). The process of speech production comprises four main activities which proceed in successive order, as follows: a) conceptualization, that is, planning of the content of the utterance; b) formulation, which includes grammatical, lexical and phonological encoding; c) articulation, the phase that represents overt speech, and finally d) self-monitoring, that includes the verification of the correctness or appropriateness of the produced utterances (Kormos, 2006). While content planning in the native language requires increased conscious attention on the part of the speaker, the formulation and articulation are automated processes that can run in parallel without any conscious speaker’s effort. However, despite the automated nature of the native language, the speakers do not
produce perfect speech, on the other hand, their speech displays different forms of disfluencies, such as hesitations, false starts, repetitions, vowel prolongations, and speech errors. The researches dealing with speech errors in the native language (e.g. Levelt, 1989; Van Hest, 1996) and in the foreign language (e.g. Kovac, 2011; Poulisse, 1999; van Hest, 1996) indicated that lexical errors, which occur as a result of erroneous retrieval of lexemes in the mental lexicon, are very frequent. On the other hand, in the foreign language, errors are often results of insufficient knowledge of language or the semantic noise in the communication process (Jaeger, 2005). There are different theories regarding the reason for the occurrence of speech errors. Dell (1986) in Kovac (2011) argued that the erroneous activation of certain nodes causes speech errors, explaining that the realization of a particular unit depends on the degree of its activation, but also on the degree of activation of other units that are organized in an associative network. This means that the unit, which is in the process of realization, has to be deactivated at some point in order to empty the place for another unit.

Nootenboom (1980) in Kovac (2011) concluded that 50% of all errors remain uncorrected for several reasons. Sometimes the monitoring mechanism does not register and respond to an error or, in the speaker's point of view, the speech is sufficiently redundant, that is, the interlocutor can correctly interpret the message without correction. However, most errors are corrected without the intervention of the interlocutor, which confirms the existence of a system for speech monitoring and the feedback loops. Their task is to control the correctness of speech utterances and consequently, if necessary, to execute the correction or enrichment of the propositional content. In recent decades a growing interest in language production has resulted in numerous psycholinguistic models which try to explain the mechanisms in the service of speech production, which are speech errors, self-corrections and various forms of disfluencies.
The aims of this study were to explore the occurrence of error categories, and to investigate the distribution of different categories of errors in the speech of the students. The paper describes Kormos' bilingual model (2006) of speech production, which is based on Levelt's model (1989) as the empirically most accepted theory for monolingual speech processing. In addition, a brief overview of the findings dealing with speech errors, as well as the classification of errors based on the described model for the purpose of this study, is presented. Afterwards, the research methodology is presented, followed by the obtained results and corresponding conclusions.

**Speech production**

Kormos' bilingual speech production model (2006) is based on Levelt's model (Levelt, 1999), as the most accepted and most widely used model in studies of speech production (Figure 1). She assumed that the bilingual speech production is modular and can be described as a series of relatively independently functioning processing components: the conceptualizer, the formulator, the articulator and the acoustic-phonetic processor, and finally, the speech comprehension system or parser. There are also three knowledge stores: the mental lexicon, the syllabary and the store for the knowledge of external and internal world. She proposed that the new model contains one large memory, called long-term memory, which is subdivided into several subcomponents: episodic memory, semantic memory including the mental lexicon, the syllabary, and a store for declarative knowledge of L2 rules. All knowledge stores are shared between L1 and L2, that is, there is a common episodic and semantic memory for L1 and L2, a shared store for L1 and L2 lemmas and lexemes, and for L1 and L2 articulatory scores. In L2 production, however, she postulated the existence of a fourth and L2 specific knowledge store: a declarative memory of syntactic and phonological rules in L2.

In Kormos' model the processing components are "specialists" in certain functions that must be executed, which means that they do not share processing
functions. A component or module will start processing only if it receives a distinctive input. Kormos assumed that processing is incremental, that is, a fragment of a module’s characteristic input can trigger encoding procedures in this module. Consequently, the articulation of an utterance can start even before the speaker has finished planning the entire message. This also means that in the case of more proficient speakers parallel processing is possible. Incremental and parallel processing as well as the automated nature in the native language may explain the high rate of speech production. In L1 production message conceptualization requires attention, whereas formulation and articulation are automatic processes which work in parallel, which makes L1 speech generally smoother and faster compared to L2.

Abutelabi et al. (2001) conducted neuroimaging studies and provided support for the similar nature of L1 and L2 speech processing, that is, neither the extent of brain activation nor the regions involved in the processing in L1 and L2 are different for bilinguals who learned the L2 early in their lives and for high proficient speakers with extensive L2 exposure. On the other hand, low proficient speakers and those who have had a low exposure to the target language, were found to activate larger and slightly different cerebral areas when speaking in L2 than in L1 (Kormos, 2006). Kormos’ model accounts for this finding because proficient bilinguals do not rely on the separate knowledge store of declarative rules, whereas for learners at lower levels of proficiency grammatical and phonological rules are stored in a separate brain region.

**Speech errors and self-monitoring**
Errors can occur at each phase of speech production, that is, during lemma retrieval, grammatical and phonological encoding, as well as articulation. When the monitor notices an error, an alarm signal is sent to the conceptualizer, which then in turn issues the same preverbal plan, hoping that the renewed message will now be properly articulated (Levelt, 1989). Levelt distinguished lexical, syntactic and
phonetic errors that correspond to the three basic levels of processing. Lexical errors are "any lexical item, color words, direction terms, prepositions, articles, etc." (Levelt, 1989). Levelt assumed that in the case of lexical errors an incorrectly activated lexical entry is retrieved and then articulated. The results of speech error studies indicated that errors as a result of faulty L2 lexical access are very common (Poulisse, 1993), but they also often occur in L1 (Dell and Reich, 1981). In Levelt's theory (1989) content and functional words as well as collocations and idioms are considered lexical entries. Errors of derivational morphology, such as different instead of difference also belong to the category of lexical errors, because derivations in Levelt's model of the lexicon represent different lexical entries. Syntactic errors include the syntactic structure that leads to a deadlock after which the speaker cannot continue the utterance. Unfortunately, Levelt did not give a precise definition of phonetic errors and did not provide a definition of morphological errors.

Studies of speech errors in the native language confirmed the superiority of this theory over others (e.g. Blackmer and Mitton, 1991; Nooteboom, 2005). Moreover, theories of foreign language speech production (e.g. Kormos, 2006) also accepted this theory and consider that there are no qualitatively different monitoring mechanisms in a foreign language.

**METHODOLOGY**

Regarding to the aims of the study, the research questions are; 1) what kinds of errors appear in the students’ speaking performance?; 2) what is the most common error produced by the students in their speaking performance?

For this study, the participants were 36 students of 10th grade at a private senior high school in Bandung who belonged to two different classes. All participants were taught by a particular teacher. Student participants had been asked to create a casual conversation considering the topic “New Faces” in the Business English Class a week before. The conversation should be performed in front of the
class. Researcher was a non-participant observer who did not get involved in the teaching and learning activities.

To collect the data, a single visit of observation to both classes and video recording were conducted. From the video, the speaking performances were transcribed and selected. The classification of errors and the analysis are presented in the part of findings and discussion.

FINDINGS

Classification of errors and analysis

A system of classification of errors was devised on the basis of previous taxonomies of errors and self-corrections (Levelt, 1983). The reason for choosing Levelt's model was because it was the most complete and the most widely applied system available. For the analysis of errors, Lennon's (1991) definition was used.

*An error is a linguistic form or combination of forms, which in the same context and under similar conditions of production, would in all likelihood, not be produced by the speaker's native counterparts* (Lennon, 1991:182).

On the basis of this definition, the researcher identified all the possible instances of errors in the transcripts of 101 students. All the cases where no unambiguous judgements could be made, data were collected and were shown to two educated native speakers of English. The native speakers were informed about the nature of the tasks the subjects had to perform and were shown the errors together with their contexts. Only the cases which were considered unacceptable by the researcher and native speakers were counted as errors.

Errors were analyzed in accordance with Levelt's (1983:44) structure of error self-repair which includes three parts:

'Go from left again to uh.. from pink again to blue'

Original utterance editing alteration phase REPAIR

The first part 'Go from left again to' is the original utterance and consists of a problematic spot or reparandum which needs to be corrected ('left'). Shorter or
longer speech segments can be erroneous, that is, ranging from an erroneous phoneme to a whole utterance. The speaker may interrupt the speech before or after overt articulation, but an interruption delay can also occur. An interruption may be followed by different kinds of disfluencies, such as editing terms, silent pauses, vowel prolongations which represent the editing phase, and finally, the third phase is the repair. After the identification of errors, all the instances of erroneous utterances were classified in accordance with the classification taxonomy. The main criterion for distinguishing lexical from grammatical errors was the way of accessing lexical entries.

Lexical entries can be accessed via syntactic building procedures or on the basis of their conceptual specifications, or lemma activation. Firstly, it is proposed that errors of derivational and inflectional morphology should be handled separately. As derivations (*rotate, rotating, rotation*) are assumed to be different lexical entries, and word-formation is supposed to take place as a part of lexical encoding (Levelt et al. 1999), errors of derivational morphology should be classified as lexical errors. On the other hand, inflectional morphemes are encoded and processed in the grammatical encoding phase and therefore are handled as morphological errors. Lexical, syntactic, morphological and phonological errors are errors arising at lower levels of processing, whereby conceptual errors (Van Hest, 1996) have their roots at higher levels and occur as a result of an erroneous conceptual plan. Conceptual errors are not found in Levelt's classification system, nor are they included in the classification of this study, because the author believed that only a retrospective analysis could reliably determine whether an error was a result of faulty lemma retrieval or occurred at the level of conceptualization.

**Lexical Errors**

The first type of error to be discussed is lexical errors. Two subcategories of lexical errors have been established: a) idioms, collocations, functional and content words, errors of derivational morphology (1) and b) unintentional use of L1 lexemes (6).
(1) Nokia company? It is a **biggest** company.

(2) My name Jeffry, my number is **dua belas**.

One of the problems in the classification of lexical errors are errors within idioms and collocations. In example (4) the subject choses the preposition 'to' and then replaces with 'in'.

(4) *I work as employee to...eh...in the government bank.*

It can be assumed that in the case of L2 speakers many idioms and collocations are not fully automated, therefore they are not stored as complete lexical entries. It is assumed that the mechanisms by which the L2 speakers produce these phrases are similar to those by which new words are created (Kormos, 1998), and for this reason these errors are classified as lexical errors, which do not occur at the stage of lemma activation, but in the process of lexical encoding.

**Grammatical errors**

1. **Syntactic Errors**

   Opposite to lexical errors that arise as a result of incorrect lexical approach, grammatical errors occur as a result of problems in grammatical encoding (Levelt, 1989). The differentiation between lexical and grammatical errors is not simple, since the processes of lexical access and grammatical encoding are closely related. For example, prepositions are in some cases classified as lexical, whereas in some other instances as grammatical errors. In order to overcome these difficulties of classification, it is important to distinguish function words which have conceptual specifications from those which do not have them. The preposition “under” (e.g. the ball is under the desk) has its conceptual specification, whereas the preposition “to” (e.g. She listens to music) has no conceptual specification and is addressed via the syntactic building procedures and therefore regarded as a syntactic error. Syntactic errors were analyzed according to where they occurred in the the three stages of the grammatical encoding phase, that is, (i) when the various
complements, specifiers and parameters are encoded and (ii) handled by the different subroutines, and (iii) when these processed materials are ordered (Kormos, 1999). The next phase involves the production of speech errors that occur at the stage of grammatical encoding.

The following subcategories of syntactic errors have been established: a) wrong word order (7); b) unfinished expressions or false starts (8); c) completely unacceptable morpho-syntactic and/or semantic structure (10).

(7) I’m rio, my number absent is 20.

(8) I work finance in Jakarta.

(10) I also like Indonesia because in Indonesia is the food is good.

2. Morphological Errors include a) inflexional errors, when the speaker chooses the wrong verb form (9); b) incorrect plural of nouns (10);

(13) Oh I like Singapore because Singapura have a beautiful place.

(16) Hey, are you a new comers here?

c) errors for "time and aspect" (19), when the speaker uses the wrong time or aspect. In Levelt's classification of errors (1989) this category does not exist, probably because these errors are very rare in L1 (Van Hest, 1996);

(19) Hi...I don’t think we have meet before.

d) omitted article or misused article (23).

(23) Ok, my name Maria, I works at a bank in Bandung as a accounting.

e) omitted ‘be’ (29) or misused ‘be’ (30)

(29) I--from Purwakarta.

(30) I’m work in Apple.

The classifications of lexical and grammatical errors used in this study are displayed in the appendix of ‘The Errors Distribution’.
DISCUSSION

Based on the table of classification above, the errors found from 18 speaking performances are 6 Lexical Errors and 30 Grammatical Errors. The Grammatical Errors are divided into two classifications of Syntactic Errors and Morphological Errors.

In lexical errors, the classifications are divided into two kinds, they are: 1) Lexical errors constitute collocations, idioms, content and functional words and errors of derivational morphology; and 2) Lexical errors constitute unintentional use of L1 lexemes.

In syntactic errors, the classifications are divided into three groups, they are: 1) Wrong word order; 2) Unfinished expression or false start; 3) Completely unacceptable morpho-syntactic and/ or semantic structure. The most frequent syntactic error found in the students’ speaking performance is completely unacceptable morpho-syntactic and/ or semantic structure. It might happen because the students are still in the beginner level, so most of them still have difficulties in sentence arrangements and grammar.

In morphological errors, the classifications are divided into five groups, they are: 1) Inflexional errors, when the speaker chooses the incorrect structure (wrong verb form); 2) Incorrect plural of nouns; 3) Errors of ‘time and aspect,’ when the speaker uses the wrong time, or aspect; 4) Omitted or misused article; and 5) Omitted or misused ‘be’. The most frequent error appeared in this group is omitted or misused ‘be’. It happened because in their L1 the pattern of using ‘be’ is not common. Students are confused whether or not they have to use ‘be’ in their sentences. So in this case, L1 is a huge influence of their speech production.

CONCLUSION

There are two kinds of errors examined in this study; lexical error and grammatical error. Based on the analysis, there are several classifications of the errors. In lexical errors, the classifications are divided into two kinds, they are: 1) Lexical errors
constitute collocations, idioms, content and functional words and errors of derivational morphology; and 2) Lexical errors constitute unintentional use of L1 lexemes. The Grammatical Errors are divided into two classifications of Syntactic Errors and Morphological Errors. In syntactic errors, the classifications are divided into three groups, they are: 1) Wrong word order; 2) Unfinished expression or false start; 3) Completely unacceptable morpho-syntactic and/or semantic structure. The most frequent syntactic error found in the students’ speaking performance is completely unacceptable morpho-syntactic and/or semantic structure. In morphological errors, the classifications are divided into five groups, they are: 1) Inflectional errors, when the speaker chooses the incorrect structure (wrong verb form); 2)Incorrect plural of nouns; 3) Errors of ‘time and aspect,’ when the speaker uses the wrong time, or aspect; 4) Omitted or misused article; and 5) Omitted or misused ‘be’. Based on the oral distributions, the most frequent error occurred is morphological error regarding the omitted and misused ‘be’. The influence of L1 made the students confuse about the using of ‘be’ in some particular sentences.

REFERENCES

APPENDIX

Figure 1. The model of bilingual speech production (Kormos, 2006)

The Errors Distribution

Lexical Errors
**Classification**

| a)   | Lexical errors constitute collocations, idioms, content and functional words and errors of derivational morphology | 1. Nokia company? It is a biggest company. |
|      |                                                          | 2. I work as employee to…eh…in the government bank. |
|      |                                                          | 3. I live in Karangsari street. |
|      |                                                          | 4. Oh, it’s a biggest company. |
|      |                                                          | 5. How about…eh what about you? |
| b)   | Lexical errors constitute unintentional use of L1 lexemes | 6. My name Jeffry, my number is dua belas. |

**Grammatical Errors**

a. **Syntactic Errors**

| Classification | 7. I’m rio, my number absent is twenty. |
| a) Wrong word order | |
| b) Unfinished expression or false start | 8. I work finance in Jakarta. |
| c) Completely unacceptable morpho-syntactic and/or semantic structure | 9. I’m looking for to work in here. |
|                                                          | 10. I also like Indonesia because in Indonesia is the food is good. |

b. **Morphological Errors**

<p>| Classification | 11. Where--you live? |
| a) Inflexional errors, when the speaker chooses the incorrect structure (wrong verb form) | 12. Oh I like Singapore because Singapura have a beautiful place. |
| b) Incorrect plural of nouns | 13. Hey, are you a new comers here? |
|                                                          | 15. Yes, I’m new comers here. |
|                                                          | 16. Hi…I’m Christin and I’m a human resource…a new human resources here. |
|                                                          | 17. My name is Sagita, my students…student number is twenty one. |
| c) Errors of ‘time and aspect,’ when the speaker uses the wrong time, or aspect | 18. I’m already work here for 16 years. |
|                                                          | 19. Hi…I don’t think we have meet before. |
|                                                          | 20. Hey, I think we have meet before. |
|                                                          | 21. Hey wait, I don’t think we have meet. |
|                                                          | 22. Ok, my name Maria, I works at a bank in Bandung as an accounting. |
| d) Omitted or misused article | 23. Ok, my name Maria, I works at a bank in Bandung as an accounting. |
| e) Omitted or misused ‘be’ | 24. Oh yeah, my name---Naomi and I’m from Padjadjaran University. |
|                                                          | 25. I’m come from Bandung. |
|                                                          | 26. My name---Immanuel, please call me Noel. |</p>
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