



**The analysis of morphological and syntactical development
of a non-native speaker English acquisition**

Yunita Remy Bani Bili

English Studies Program, Universitas Nusa Cendana Kupang, East Nusa Tenggara Province – Indonesia

Email: yunita.bili@staf.undana.ac.id

Abstract

This paper discusses the morphological and syntactical development of English acquisition, by a non-native speaker of English, based on the principle of Processability Theory. The aim of this paper is to apply processability theory principle to determine the highest emerged stages of the development of English acquisition with respect to syntax and morphology. Regarding the aim, the researcher employs the framework of Processability Theory proposed by Pienemann, (1998). This study was conducted through interview and picture task activities, making up for 15 minutes in each activity. The study found that first, the learner has reached stage 5 in the interlanguage syntax but the learner skipped stage 4. Second, the learner has reached stage 5 in the morphological interlanguage; produced lexical and formal variations as well as generated oversupplied tokens in several stages. In conclusion, despite the skipped stage and oversupplied tokens, the learner has reached stage 5 in the morphological and syntactical development of English acquisition, as well as being creative in producing lexical and formal variations

Keywords: morphological, syntactical, development, acquisition, processability theory

Introduction

There are number of different methods for investigating language developmental patterns of second language acquisition, such as error analysis (Elis 1994 cited in Brown, 1973)

(Wells 1985, Bickerton 1981, and Pienemann 1984 cited in Brown, 1973) and obligatory occasion analysis (Brown, 1973). However, the most novel approach, to analyse the development of SLA, is known as Processability theory (PT), proposed by Pienemann, (1998). This research employs the application of Processability theory principle and aims at determining the highest emerged stages of the development of English acquisition with respect to syntax and morphology. Working within the framework of Pinneman, this research address following research questions.

1. What are the highest emergence stages achieved by the learner in the syntactical and morphological development of English acquisition?
2. What are the non-emergence stages of the learner syntactical and morphological development of English acquisition?

Theoretical Context

This empirical research employs Processability Theory (PT) proposed by Pienemann, (1998) as the framework. Pinneman, (2011, p.3) argues that Processability Theory is designed to explain the phenomenon of staged development in SLA as well as other phenomena. The main aim of this theory is hypothesizing a universal hierarchy of processing resources related to the requirements of the specific procedural skills needed for the target language (Pinneman, 2011, p.3).

Pienemann, (1998, p.7) states that the fundamental principle of PT is that language specific processing resources have to be acquired to make the processing of the target language possible. This scholar furthermore asserts that “These processing resources are interrelated in two ways. (1) They feed into each other in the temporal event of language generation, i.e one is utilized before the other. (2) The information processed and generated in one is required in the other “(Pinneman 1998, p.7). Given that the resources form a hierarchy, if one building block is

missing the top cannot be reached (Pienemann, 1998, p.7). The processing resources comprise of 1) Word/Lemma; 2) Category procedure (Lexical category); 3) Phrasal procedure (Head); 4) S-procedure and Word order Rules; 5) Matrix and Subordinate clause (Pienemann, 1998, p. 8).

The processing resources clearly signify that at the lower level, a word/lemma, is a prerequisite for functioning at the higher level. The processing resources are started by adding a word into the lexicon of the second language. Following the addition of a word into L2, grammatical category is assigned to the word before the processing of category procedure. The development of a grammatical category then has to undergo the completion of phrasal procedure and its value and will be able to function as a phrase. Furthermore, the function of a phrase can only be attached to the s-node and sentential information to be stored in the S-procedure if the function of the phrase has been determined. Finally, the emergence of S-procedure determines the arrangement of target language word order. Thus, the implicational nature of the hierarchy would make it impossible for processing devices to develop before all other requisite devices have developed (Pienemann, 1998, p.8).

Besides the principles of PT, PT bears several strengths comparing to Behaviorism theory and Monitor theory. Johnson, (2004, p. 18) argues that behaviorism is a general theory of learning and language learning, including first and second languages. Behaviorism theory particularly accounts for the process of learning language as the ability to inductively come across the patterns of rule-governed behavior from language examples supplied to the learner from his or her environment (Johnson, 2004, p. 18). In other words, Behaviorism puts more emphasis on how language is learned through imitation and analogy and views environment as the most important factor in learning (VanPatten & Williams, 2007, p.19). While positive reinforcement is given when the learner correctly imitates the language, correction is also provided to the inaccurate imitation to facilitate the learning process (VanPatten & Williams, 2007, p. 20).

In comparison to behaviorism theory, PT has several strengths. First, PT is able to explain the developmental schedule of language acquisition. This theory can predict the development of second language acquisition and test it empirically. On the other hand, VanPatten and Williams (2007, p. 21) state that the goal of behaviorism theory is only to describe what is observable rather than to explain the process behind language acquisition, like PT does. Second, PT presents actual research on the application of PT, for example, second language acquisition of German language word order (Pienemann, 1998, p.9-10). Besides that, Pinneman also presents concrete examples of language devices, such as word order rules, syntactic procedures, diacritic features in the lexicon, and so on ((Bialystok, 1998, p. 21). Behaviorism theory, however, has little actual research on SLA to justify the claims made by behaviorist theories in SLA empirically. In addition, there is no exemplary study proposed to support the claims in behaviorism theory about SLA (VanPatten & Williams, 2007, p. 21).

In spite of the strengths of PT, compared to Behaviorism theory, PT also bears several weaknesses. As PT heavily stresses on the sequence development of first and second language acquisition syntactical and morphological aspects, PT does not offer three behaviorism constructs which remain important today, namely conditioning, reinforcement and punishment, as the three constructs play crucial roles in the application of SLA (VanPatten & Williams, 2007, p. 20). The other weakness of PT is that PT has no tool for comparing L1 and L2, structure by structure and sound by sound, that can predict learner difficulty. The prediction helps to figure out the emergence of positive and negative transfer. Positive transfer will occur when L1 and L2 are similar, but negative transfer will take place when L1 and L2 are different (VanPatten & Williams, 2007, p. 20). The third weaknesses of PT is that this theory is not designed to explain the linguistics knowledge or the inferential processes by which linguistics input is converted into linguistics knowledge (Pinneman, 2003, p. 3).

In contrast to the definition of behaviorism theory, Monitor theory is a broad scope theory which attempts to relate and explain a variety of phenomena in language learning, varying from the effect of age on SLA to the uneven acts of instruction (VanPatten & Williams, 2007, p.25). Krashen (cited in VanPatten & Williams, 2007, p.25) argues that Monitor theory can explain why what is taught is not always learnt, why what is learned may not have been taught, and how individual differences among learners and learning contexts is related to the variable outcome of SLA. Monitor theory consists of five hypothesis, namely the acquisition-learning hypothesis, the monitor-hypothesis, the natural order hypothesis, the input hypothesis, and the affective filter hypothesis (VanPatten & Williams, 2007, p.26-28).

Compared to the Monitor theory, PT has a strong point. It is evident that PT shows a better framework for analyzing the sequence development of language acquisition, than monitor theory. While natural order hypothesis in monitor theory suggests that second language learners should acquire grammatical structures in predictable orders (Gregg, 1984, p. 84), this hypothesis does not clearly specify the orders/stages like in PT. It is clearly shown in PT the processing sequence of acquiring language, ranging from the development of word/lemma towards matrix and subordinate clause. The development of each processing resources is categorized into 6 stages in syntax and 5 stages in morphology. Natural order hypothesis, on the other hand, only generally states that the learner should follow sequences in their acquisition of specific form, such as grammatical morphemes –ing, -ed, -s, and others (VanPatten & Williams, 2007, p.27). However, this hypothesis provides no categorizing stages of each grammatical morpheme.

However, the drawback of PT comparing to Monitor theory is that PT only focuses on the description of mental grammar through formal theory framework and puts no concern towards how language is learned (Carroll, 1998, p. 23). Monitor theory, conversely, does not only account for the description of grammar sequence development but also account for how

languages are learned through acquisition and knowledge, the importance of input for language learning, and the importance of language environment towards the comfort and ability to receive the input (VanPatten & Williams, 2007, p.28). Monitor theory, conversely, cannot address the observable phenomena in SLA regarding the exposure to input; why SLA happens incidentally, learner's output, variable outcome of SLA, limits on the effects of learner's first language in SLA, and limits on the effects of instruction in SLA. (VanPatten & Williams, 2007, p.30).

Furthermore, there are several reasons why PT is related to the study. The first reason is that PT primarily deals with the nature of human language processing architecture and the sequence which becomes available to the learner (Pienemann, 1998, p.1). Thus, PT is related to the study for determining the sequence and the development of learner's procedural skill. The second reason is that the language processing devices, proposed in PT, are only closely related to L2. Therefore, PT is an appropriate framework for this study because this study particularly focuses on the development of English as L2. This study aims at finding out the highest emergent stages reached by the learner based on the processing devices constructed by the learner. The third reason is that this study intends to find out the non-emergence stages produced by the learner, because PT principle requires that if one building block of the hierarchy is missing, the top cannot be reached.

Materials and Method

Data collection

Learner information

The informant is a 26-year-old Indonesian male student who has been living in Australia for 11 months. The informant can speak five languages, including Indonesian, English, German, Javanese, and Ansum (a tribal language of Papua). The learner has learnt English for more than 20

years in Indonesia. Interestingly, the learner learned English from his father, who can speak English fluently, and was taught through practical daily conversation. The informant undertook formal English instructions when he was in Junior high school until he was in an undergraduate program.

Data elicitation

The researcher collected 29.14 minutes-audio-taped data through individual interview and picture task methods. The interview was conducted naturally through face to face conversation with the predetermined topics as the guidance to elicit learner's interlanguage syntax of English and the acquisition respecting to the morphology. However, in picture task activity, the informant was given one of the two pictures called picture A, while the researcher held picture B that has distinctive features. The informant is firstly required to generally describe the given picture. Secondly, point out 7 specific differences through interactive question-answers and finally, summarize the differences between the two pictures.

Transcription and Coding

The researcher transcribed the whole 29.14-minute conversation consisting of 15.03 minutes of interview and 14.11 minutes of picture task. Both interview and picture task conversation transcriptions were coded based on the coding guideline and the result of the transcription is analysed below.

Analysis

The coded transcriptions are then analysed according to the data analysis guidelines. Both emergences of syntactical and morphological development are determined by specific stages as follows. The interlanguage of syntax is analysed based on the following stages. Stage 2,

the learner should construct sentences with subjects and verbs as well as making SVO questions. In addition, in stage 3 the learner is assumed to produce adjunct fronting, Wh- fronting, Do-fronting, and Complementizer fronting. Then, the learner is expected to make Yes/No inversion and Copula inversion in stage 4. While stage 5 requires the learner to use Aux second in 'wh' questions and 'Do' second in 'wh' questions. Stage 6 only requires that no inversion should be made in indirect question.

On the other hand, the result of interlanguage morphology is analysed based on the following stages. In stage 2, the learner is expected to produce simple past -ed, progressive -ing, and lexical nominal plural turns. On the other hand, stage 3 only requires the learner to produce Phrasal plural. Additionally, the learner should produce Aux=be+-ing, Aux= have+past participle, To+bare verb, Be/have been + past participle, Have been + v-ing, in stage 4. Lastly, the learner should create a sentence procedure in stage 5.

Result and Discussion

Results

The quantitative analysis result, of the interlanguage syntax produced in the interview and picture task, shows that the learner has reached stage 5. It is evident that the informant produced 10 tokens for stage 5, accounting for 4 tokens in Aux second in 'wh' questions and 'Do' second in 'wh' questions. Additionally, the learner produced 5 tokens for adjunct fronting, 3 tokens for Wh-fronting, 2 tokens for Do-fronting and 12 tokens for complementizer fronting. Thus, he produced 22 tokens for stage 3. On the other hand, the learner produced many tokens in stage 2, accounting for 214. However, 207 tokens were produced in SV and only 7 tokens were made in SVO questioning.

Interestingly, the informant provided no tokens for neither Yes/No inversion nor Copula inversion in stage 4 as well as no inversion in indirect questions in stage 6. Due to the absence of tokens provided in stage 6, it is concluded that the learner's English acquisition has reached stage 5.

The result of the morphological analysis shows that the learner has reached stage 5. The result of morphology analysis shows that the learner supplied 10 tokens of sentence procedure out of 16 obligatory contexts in stage 5. Meanwhile, the number of tokens produced in stage 4 are as follows. 13 tokens were supplied for Aux= be+-ing, 2 tokens were supplied for Aux=have+ past participle, 25 tokens were produced in To + bare verb, 4 tokens were produced in Be/have been + past participle and 15 tokens were supplied for Veb/Prep + v-ing. In fact, 3 tokens were not supplied in Aux=be +-ing and 1 token was not supplied in Be/have been + past participle. Due to the absence, only 60 tokens were supplied out of 64 obligatory contexts in stage 4. In addition, only 22 tokens were produced out of 26 obligatory contexts of phrasal plural in stage 3.

Furthermore, there were 32 tokens out of 39 obligatory contexts in stage 2, namely 5 supplied and 2 non-supplied tokens of simple past -ed, 9 tokens of progressive -ing, 18 supplied and 1 non-supplied tokens of lexical nominal plural. Therefore, there is no skipped stage found in the result of the morphology analysis.

Interestingly, morphological analysis also demonstrates that the learner produced 43 lexical variations in all stages and 9 formal variations in some stages. In addition, the interview and picture task activity coding demonstrate that the informant produced 10 oversupplied tokens for the interlanguage morphology. For example, the learner used the word *connected* in the

sentence *I would do connected...*etc. *Connected* was not supposed to be used there, because after the modal *would*, there should be only be a verb *connect*. Another example is found in the sentence *I have one trees* instead of *one tree*. The learner oversupplied the plural *s* where it is not necessary in a singular context.

Discussion

The highest emergence stage of English learner development, with respect to syntax, is based on a criteria set, stating that “*any one structure provided at any one stage should be originally or creatively produced by the learner*?”. With respect to the criteria, the syntactical analysis result demonstrates that the learner has reached stage 5 in the development of English acquisition as the second language. It is evident that the learner produced 10 tokens in the picture task. The 10 tokens produced match the criteria set because most tokens are generated originally and creatively by the learner. For example, the researcher addressed an example question to the learner, such as “*how many tree you have in the picture?*”, however, the learner did not copy the question. The learner was able to produce the right sentence where *do* was not absent, like in the researcher’s example question. The learner creatively made a question, such as “*how many people do you have in the pictures?*”. The other evidence is the learner was able to construct direct questions using *Aux* which is different from the researcher’s example. For instance, the researcher provided “*what the man is doing?*”. The learner, on the other hand, produced “*what is the size of the body of the picture?*”. The supply of *do* and another form of AUX sentence, demonstrated that the learner creatively and originally produced the tokens based on his linguistics knowledge of English.

Besides the emergence of stage 5, stages 2 and 3 meet the criteria of acquisition as well. Out of 214 tokens produced in stage 2, 7 tokens were produced as SVO questions. Most of the

SVO sentences in both tasks were produced creatively because no example was given of how to formulate the answer. Additionally, the learner produced 22 tokens in stage 3 making up 12 tokens for *complementizer fronting* (CF), 2 tokens for *do fronting* (DF), 3 tokens for *wh- fronting* (WF), and 5 tokens for *adjunct fronting* (AF). The transcriptions of both activities show that the tokens of CF are creatively produced by the learner. Although the researcher rarely used CF in her sentences, the informant could produce right CF sentences without copying from the researcher's sentences. It is evident that the informant constructed an affirmative sentence using CF *....my dad said that English can open our knowledge*". In doing so, the learner showed his ability and knowledge about how to use CF in the affirmative sentence.

Furthermore, the construction of DF, WF and AF was not copied from the researcher although no example was given to produce AF. For example, in turns 225, the learner produced many AF sentences, such as *"and in my picture", "from the activities", "from the colour perspective"*. Conversely, even though the researcher constructed WF question like *what about you*, the learner produced another form, i.e. *how about you?*. The use of *how* instead of *what* indicates that the learner was creative in constructing WF sentences. Although DF is the least produced fronting, the learner still constructed DF sentences creatively. For example, the researcher prompted the learner to ask in this formula *"do you have more than one bird?"*, but the learner responded differently, *do you count the man's bird?* and *"do you have cat?"*. The researcher's question signals that DF is used to confirm the number of the entities, but the construction of the learner's sentences aimed at confirming both the number and the presence of an entity. Thus, it can be said that the learner has creatively produced his tokens in stage 3.

Stages 4 and 6, on the contrary, did not emerge in the interview and picture task activity. The non-emergence of stage 4 tokens is shown in the turn 147 (*"Two sandwiches?"*), 149 (*"He is holding only one sandwich and...?"*) and 223 (*"And three birds right?"*) where the learner simply

produced the canonical order of SV(O), rather than supplied *copula inversion* or *yes/no inversion* to form the questions. The evidences of the unsupplied contexts where it is required indicate that the learner has skipped stage 4.

Additionally, the highest emergence stage in morphology is based on three emergence criteria. First, at least 2 tokens of the morpheme supplied should occur in at least 3 obligatory contexts. Second, at least one instance each of formal and lexical variations in each stage. Third, no oversupply should be produced by the learner. Regarding to the first criteria, the result of the morphological analysis shows that all stages meet this criterion because the learner supplied more than 2 tokens in more than 3 obligatory contexts as stated in the result explanation above. As the learners provided the tokens in all stages, the emergence tokens demonstrate that the learner has reached stage 5 in the interlanguage morphology.

In addition, according to the second criteria, the result of morphology analysis demonstrates that the learner produced 11 lexical variations in stage 2, 8 lexical variations in stage 3, 20 lexical variations in stage 4 and 4 lexical variations in stage 5. Besides producing lexical variation, the learner also produced 9 formal variations which mainly emerge in several words like speak, work, learn, do, have and hold. The formal variations emerged in the to+bare verb, gerund, SV agreement, and past tense.

Regarding to third criteria, the learner oversupplied 9 tokens. The oversupplied tokens, mostly produced in the lexical plural, accounting for 4 tokens while the least oversupplied tokens occur in past -ed and phrasal plural, making up for 1 token for each structure. On the other hand, the other oversupplied tokens also emerged in the gerund and sv procedure comprising of 2 tokens in each structure. It is interesting that the oversupplied lexical plural only occurred in the word *picture*. It is assumed that the learner probably was affected by the two pictures provided. Thus, mentioning *pictures* instead of *picture*. In general, despite the existence of

oversupplied tokens produced by the learner in the interlanguage morphology, it is argued that the learner has reached stage 5 in the interlanguage morphology as well as producing lexical and formal variation. Overall, there is no skipped stage found in the result of the morphology analysis.

Conclusion

In conclusion, the above findings illustrate that the learner has reached stage 5 in the interlanguage syntax of English as the second language. According to the criteria set, stages 2 and 3 of the interlanguage syntax also meet the criteria, likewise the stage 5 because the data shows that most of tokens produced by the learner were originally and creatively produced without copying from the researcher. Regardless of the emergence stages, stages 4 and 6 did not emerge based on the criteria set. The non-emergence of the stage 4 is because the learner did not provide copula and yes/no inversions where necessarily needed. Consequently, stage 4 is argued to be skipped by the learner. On the other hand, the findings of the interlanguage morphology shows that the learner has reached stage 5 in the development of English acquisition. The data illustrates that there are no skipped stages because the learners were able to produce more than 2 tokens in more than 3 obligatory contexts in each stage. Besides that, the learner creatively produced lexical variations in each stage and formal variations in several stages. Interestingly, the learner produced several oversuppliance tokens in several structures.

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