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THE ACQUISITION OF AGREEMENT MARKINGS BY SIMULTANEOUS AND CONSECUTIVE BILINGUAL CHILDREN IN LIGHT OF THE MISSING SURFACE INFLECTION HYPOTHESIS (MSIH)

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Abstract
This study investigates the acquisition of L2 agreement markings by L1-Indonesian-speaking young learners of English. Two L2 children aged two and nine were involved in the study. Data from the subjects, consisting of their language use and exposure as well as transcripts of spontaneous oral productions, have been collected continuously over a period of 12 months. All the audio recordings were then transcribed and analysed using CLAN software in CHAT format. Following this, the utterances consisting tense and agreement structures were specifically analysed and calculated. Counts of suppliance in obligatory contexts were then factored into a specific formula, which ultimately produced data about participant's accuracy score in supplying the morphemes being investigated. Results of the study suggested that there was optionality in the production of agreement morphemes. This finding is in line with the claims presented in the Missing Surface Inflection Hypothesis (Prévost & White, 2000)

Keywords: *MSIH, bilingualism, morpheme acquisition.*

INTRODUCTION

In recent years, significant numbers of studies have been conducted to investigate child second language acquisition (L2A), particularly the acquisition of various morphological properties. Lakshmanan (1993), for example, studied Marta, a girl from Puerto Rico who moved to the US at the age of four, in order to see whether her L2 English data mirrored the early development of L1 English. Following this, the study by Haznedar (1997), investigating the acquisition of English by a Turkish child, Erdem, was regarded as one of the pivotal studies in child L2 acquisition. Prévost (1997) has also investigated if the Root Infinitive stage also characterizes second language acquisition. Later on, the study by Unsworth (2002) was conducted to investigate the acquisition of Dutch by children and adult L1 speakers of English. This was then expanded to a larger study of three different groups of language learners (non-native L2 children, L2 adults, and L1 children) with a specific focus on direct object scrambling in Dutch (Unsworth, 2005).

Up to these days, there have been very few studies covering the lengthy developmental process of the acquisition of English as a second language by Indonesian learners of English as a second language, especially in an English naturalistic environment. What makes such a study interesting is that many grammatical features in Indonesian are quite distinct from those of English. To exemplify, Zhang and Widyastuti (2010) have suggested that Indonesian language does not exhibit its grammatical features (i.e. number, tense, and person) and values (i.e. 1st/2nd/3rd person) in the

lexicon. In other words, these features and values are not overtly expressed in Indonesian. As a result, an agreement feature in a sentence like *my father smokes (ayah saya merokok)*, for example, is never marked with an agreement morpheme (i.e., *–s*) in Indonesian. The verb '*merokok'* is therefore expressed similarly (i.e., with no additional morpheme) regardless of any subject preceding it.

It is perhaps important to mention that L2 learners' lack of ability to produce verbal inflection morphology associated with functional categories has become a common issue in L2 acquisition studies (Haznedar, 2003). During the course of language acquisition and development, L2 learners tend to demonstrate optionality in the use of inflectional morphology especially when the two languages are distinct in terms of how inflections are marked (Sorace, 2000). As a result, properties like tense and agreement markings can sometimes exist, but in many occasions they can also be absent from young L2 learner's early language production. In the case of older or adult learners, this could also be found in the end state grammar (Lardiere, 1998).

This lack of morphological forms in interlanguage grammar has been postulated as the Missing Surface Inflection Hypothesis. Under this hypothesis (MSIH; see Prévost & White (2000) and Haznedar & Schwartz (1997)), L2 learners are considered to have unconscious knowledge of the functional projections and features underlying tense and agreement, where the lack of morphological forms in the inter-language grammar reflects a problem with the realization of surface morphology (Haznedar, 2003). In other words, the grammar of L2 learners contains abstract categories and features, but the real problem appears when they try to map from the abstract features to the corresponding surface morphology (Ionin & Wexler, 2002).

It is also worth mentioning that bilingualism can be subdivided into different forms according to when an L2 is formally acquired. The main divisions are commonly known as simultaneous and consecutive bilingualism, which are also what we are going to focus on in the present study. According to Meisel (2008), the term simultaneous bilingual is referred to those who acquire L1 and L2 simultaneously, while consecutive (successive) bilinguals are those who acquire L2 when their L1 proficiency has been fully established. When considering this, it is probably fair to say that language production data from the two types of bilinguals can be different because of critical period they might have gone through when acquiring their L2s. Therefore, we expect to see different data from both of them.

The Present Study

The aim of the present study is to investigate how L1-Indonesian-speaking learners of English acquire agreement morphemes in their L2 learning. In order to examine the acquisition of these morphemes, the Missing Surface Inflection Hypothesis (MSIH) (Haznedar & Schwartz, 1997; Prevost & White, 2000) has been adopted. The idea behind MSIH is that inflection is assumed to be absent at the surface level rather than abstract. In the current study, these surface morphological absences are the focus.

Hypothesis

Assuming the MSIH, the L1 Indonesian-speaking learners of English will show optionality in the production of English morphological inflections; they will sometimes produce non-finite forms in place of finite forms. In this regard, I assume that the production will be different between the simultaneous and consecutive learners.

METHODS

Participants and Research Procedure

This study adopts multiple longitudinal case study design. In this respect, the data from two research subjects have been collected at different points of time for a period of 12 months. In addition, the findings from the research subjects are presented and treated discretely as separate cases.

Two English learners of Indonesian L1 speaker have participated in the study. The first child, Bunga, whom we consider as a simultaneous bilingual, was two years old at the commencement of the study. The other, Harum, who was regarded as a consecutive bilingual, was nine when the study began. Both children arrived in England in the same month and year following their parents who

attended their PhD study at the University of Southampton. Bunga is regularly attending nursery four times a week, while Harum is now a third grader at Portswood Primary School, which is the main school that manages Bunga's nursery.

Our data collection took place continuously for 12 months, from January to December 2015. The two participants had been carefully followed to record their spontaneous language production in naturalistic environments. The data collection itself consisted of two main parts, the first of which covers the collection of data about their language exposure (through Utrecht Bilingual Language Exposure Calculator (UBiLEC) questionnaire) (see Unsworth, 2012) while the other gathered information about their actual language production (through recordings). Our data about the participant's general information and language exposure reveal important data about the two participants' CAE (Current Amount of Exposure), CLE (Cumulative Length of Exposure), and CQE (Current Quality of Exposure). On this paper, these data are not presented, as they are not directly relevant.

In regards to language production data, a range of activities such as free communication with interlocutors, oral production encouraging games, storytellings, and a few others, have been used to stimulate the two subjects' language production. Each participant was separately recorded once in every month, for at least 40 minutes each, continuously for a period of 12 months. A total of 4,390 utterances (12,030 morphemes) have been collected from Bunga, while the data from Harum comprises 3,516 utterances (15,205 morphemes). The detailed data and relevant discussion will be presented in the subsequent section.

Data Analysis

As mentioned previously, the main data of the study are a collection of corpus transcripts intentionally gathered from the two research subjects. These transcripts were produced from a set of audio-recording files transcribed within a language analysis tool called CLAN *(computerized Language Analysis)* by using CHAT *(Codes for Human Analysis of Transcripts)* format (see MacWhinney, 2014). Both manual and automatic analyses have been conducted to collect important data about participants' language production. To name a few, this includes MLU (Mean Length of Utterance) counts and a range of morpheme quantification analysis.

According to MacWhinney (2008) the calculation of morphemes within CLAN takes into account a lot of different requirements. In addition to all the basic forms, the program has been set to include any inflectional morphemes into its calculation. Therefore, it will include the *–s* plural marker, the *–ed* past tense marker, the *–ing* progressive marker, the *–s* tense marker, the *'s* possessive marker, and contractions (e.g. *she'll, they're, we've).* CLAN will include these although they are used incorrectly (for example mouse-*s* and drink-*ed).* Words included in false starts or repetitions (e.g. "[then] she [go] went to the bank" is counted as five morphemes) have been discarded appropriately. Compound words (e.g. fireman), irregular past tense, diminutives (doggie, horsie) and catenatives (gonna, wanna) are all regarded as one morpheme. Likewise, filler words like *uhm, well, oh, um hmm* are not counted as morpheme by CLAN (Johnson, 2005).

Personally, I believe that counting and examining suppliance and non-suppliance in obligatory contexts are perhaps the most challenging, labour intensive and time-consuming parts of this project following the transcription work~~s~~. In fact, the main result of this study is fully dependent on accurate calculation and detailed analysis of such data, from which the patterns of acquisition and language development of each participant could be predicted.

In this analysis, only the use of agreement morphemes in obligatory contexts was examined (Dulay & Burt, 1974). Each morpheme token has been specially coded according to how it is verbally produced by each subject. These include correct suppliance and misformation in obligatory contexts, as originally proposed in Brown (1973). For this particular study, the Suppliance in Obligatory Contexts (SOC) formula (see Pica, 1983) has been used to calculate the accurate use of morpheme by each participant during the course of data collection. The formula itself looks as follows:

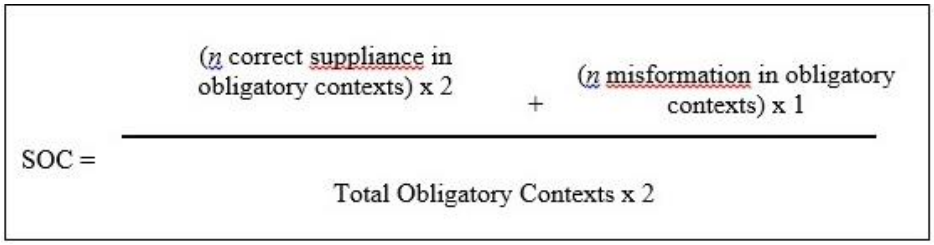

Figure 1. Suppliance in Obligatory Contexts (SOC) formula by Pica (1983).

By factoring independent monthly data counts from each participant to the formula above, the total number and percentage of correctly and incorrectly supplied morphemes, including suppliance accuracy scores, are obtained. In a sentence such as 'I have two cars', the speaker creates an obligatory context of plural *-s* inflection. Thus, two points is given if the morpheme is correctly supplied, while 1 and 0 point is given if incorrect and no suppliance, respectively. Sometimes, the subject seems to have acquired the rule for production of the morpheme, but applies it to an exceptional case (Dulay & Burt, 1974). Such a formula helps us track learner's knowledge in a wider scope, instead of just counting which morphemes are correctly supplied.

RESULTS AND DISCUSSION

Table 1 below displays overall use of agreement markings for both subjects.

Table 1. SOC data for Bunga and Harum.

Subjects	*Correct suppliance in obligatory contexts*	*Incorrect suppliance (misformation) in obligatory contexts*	*Total obligatory contexts*	*Accuracy score*
Bunga	93%	6%	1316	96%
Harum	90%	10%	667	95%

From the table, we can see that the two subjects project different performance in supplying required agreement morphemes. The younger child, Bunga, seems to perform better in correctly supplying required morphemes. Although their accuracy scores are slightly different (96% vs. 95%), which is a result of SOC formula calculation as displayed beforehand, the older child, Harum, tends to perform more errors (10%) in supplying the correct morphemes than Bunga (6%).

In the following, some extracts of errors, collected from both subjects at different points of time, are presented for our review.

**It fall*	(Bunga, age 2;6)
**Mommy have…*	(Bunga, age 2;9)
**Mommy love bracelet*	(Bunga, age 3;1)
**Mommy want daddy's shoes*	(Bunga, age 3;3)
**I think it taste like…*	(Harum, age 9;2)
**Shofie want some…*	(Harum, age 9;5)
**Oh it smell really nice.*	(Harum, age 9;7)
*My dad have nothing	(Harum, age 9;9)

The examples provided above are random examples of the two subjects' morphological errors in agreement. Essentially, these errors occurred in many different forms such as missing *–s* morpheme *or* wrongly inflected verbs for present tense, incorrect copula and auxiliaries, and many more. While many of these errors occur repetitively, others take place randomly on particular occasions. They could be correctly inflected in some utterances, but are wrong in different occasions. These morphological variations have been well predicted in previous studies (For review, see Prévost, 1997; Haznedar & Gavruseva, 2013).

Comparisons of monthly accuracy scores for both subjects can be found in the following illustration.

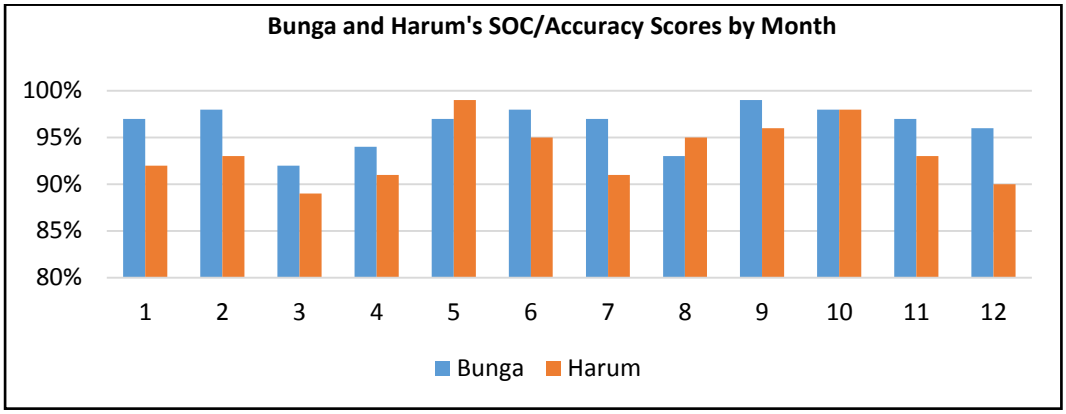

Figure 2. Comparisons of monthly accuracy scores for both subjects.

From the graph, it is evident that Bunga's monthly accuracy score has always been higher than that of Harum, except for two particular months (5th and 8th). This simply shows that, overall, Bunga performs much better in supplying correct agreement markings. This could be due to her early exposure to L2, resulting less influence from her L1 in her linguistic production. In respect to Harum, her L1 had been well established when she began exposing herself to L2, making it harder for her to deal with L2 system as L1 influence could have been stronger. As we may all know, L2 learners suffer from positive and negative transfer in their language acquisition process (Gass & Selinker, 1994). This being said, it means that similarities between L1 and L2 could facilitate learning, while any differences could result in slowing down acquisition process.

As one of the languages that do not mark subject-verb agreement, Indonesian interferences can be very obvious in any L2 with agreement marking morphemes. Having no agreement marking, any predicates in Indonesian sentences will appear in the same form regardless of what subject they follow. The following examples are given to illustrate this.

Table 2. Agreement in Indonesian and English.

Indonesian	*English*
Saya *pergi* ke sekolah	I *go* to school
Dia *pergi* ke sekolah	He *goes* to school
Dia *makan*	He *eats*
Mereka *makan*	They *eat*

Our findings show that most of the errors conducted by the two subjects have been recorded in similar forms. This indicates that L1 interference is taking place in the acquisition of L2 agreement morphology. In addition, it shows optionality in morphological inflections, as the occurrences are sometimes random. The results shown in table 1 above revealed that, although there were some incorrectness in supplying precise morphemes, accuracy score in the relevant morpheme suppliance is relatively high among the two participants. This proves that the two subjects had knowledge of English agreement to a certain level. However, it is obvious that they both had difficulties in the realization of surface morphology (Haznedar & Schwartz, 1997; Lardiere, 1998). As a consequence, non-finite forms are sometimes produced and used in place of finite forms such as in the 3rd person singular forms as in **mommy love bracelet,* for instance.

Referring to the Missing Surface Inflection Hypothesis mentioned earlier, Prévost and White (2000) suggest that L2 learners have unconscious knowledge of such features, but they tend to have problems with the realization of these features in their L2 production. As discussed above, findings indicated in the present study are well matched with this prediction. The data have revealed that there is optionality in the production of English agreement markings by the two research subjects. In other words, while most of the time inflections are correctly supplied, they are also frequently missing in various obligatory contexts. Therefore, the hypothesis that we propose is supported by the findings in the data.

CONCLUSION

In light of the Missing Surface Inflection Hypothesis, this study investigated how L1-Indonesian-speaking learners of English acquire English agreement morphemes. The results of the study revealed that optionality in using agreement morphemes is present, although in small percentages, among the two research subjects. This suggests that they actually have knowledge of functional and features in categories in agreement, but struggle in the realization of surface morphology. This difficulty is also widely known as L1 interference in L2 acquisition. What has been found in the study strongly agrees with the Missing Surface Inflection Hypothesis proposal, claiming that learners have unconscious knowledge of the functional projections and features underlying tense and agreement, but face problems in the realization of surface morphology (Prévost & White, 2000). It is then fair to say that the results of the present study align with MSIH's account.

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