

Syntactic Awareness of Indonesian Preschool Students

Teja Komara
English Language and Literature
Universitas Pendidikan Indonesia
teja.komara3@gmail.com

ABSTRACT

This study aims to investigate syntactic awareness of word order changes in the categories of verbal structures and the effects of bilingualism and birth order in relation to syntactic awareness. Employing a mixed method (qualitative and quantitative), data were collected in three ways: 1) visual and audio tasks tapping identification and correction, 2) questionnaires for parents to give information on their children's backgrounds such as bilingualism and birth order, and 3) observation during the task execution by using recorders for response time and production findings. Nineteen kindergarteners aged 5 and 6 years old participated in a kindergarten in North Bandung. The results reveal that syntactic awareness of word order changes has emerged among the preschool students. The high results can be interpreted in four factors: language-specific characteristics, children's sensitivity to the larger meaning, innateness/competence, and props. For the categories of ditransitive and transitive, syntactic awareness indicates that the more complex the structures are, the more difficult they are to understand. The implication of the result also reveals that the discrepancy between syntactic knowledge and syntactic awareness may have something to do with the separate position between acquisition and metalinguistic awareness. Also, reading is not the necessary precondition for syntactic awareness of word order change. In the end, the findings on the external factors such as bilingualism and birth order do not seem to affect syntactic awareness performance.

Keywords: *metalinguistic awareness, syntactic awareness, factors of syntactic awareness, preschool students, linguistic knowledge.*

INTRODUCTION

Syntactic awareness as the predictor of reading comprehension has an important role to measure preschool students' cognitive development. Even though these 5-and 6-year-old children are in stage 5 with full competence and have acquired full language development, their language development does not guarantee their awareness of language itself (metalinguistic awareness). Then, to develop metalinguistic awareness, especially syntactic awareness, parents begin to teach early reading and normally send their children to a kindergarten for better education in their ages. In the kindergarten, they keep developing in metalinguistic awareness and accumulating a large number of vocabularies in line with the social activity and maturation (Tarigan, 2011).

However, preschool curriculum focusing on playing, even for communication development, becomes a problem when elementary schools nowadays require reading ability (Direktorat Jenderal Pendidikan Luar Sekolah dan Pemuda Departemen Pendidikan Nasional,

2004; Karli, 2010). As is known, elementary schools require pupils to be able to read for digesting the materials. In the Regulations of National Education Minister of the Indonesian Republic No. 58/2009, language teaching for 5-and 6-year-old students covers three aspects: language reception, speaking, and literacy. If children should be taught early reading and writing, the consideration lies in the children readiness psychologically and linguistically. However, the preschool curriculum in Indonesia has less empirical evidence to measure to what extent children are aware of and perceive Indonesian as having formal structures. Previous research in the Indonesian context only touched on phonological awareness (see Mazka, 2014).

To fulfill all those criteria, children should have syntactic awareness to help them in comprehension and literacy, both reading and listening. Tunmer and Hoover define syntactic awareness as a metalinguistic skill for manipulating internal aspects of grammatical structures of sentences (cited in

Center, 2005). Syntactic awareness in this case has the important role as the prerequisite of comprehension and reading (Nation and Snowling, 2000; Tausch, 2012; Guo et al., 2011; Cain, 2007; Brimo and Apple, 2011; Brimo, 2011; Bowey, 1986). This research, in the end, investigated children's syntactic awareness to provide the empirical evidence on their language development and proved the external factors such as bilingualism and birth order in relation to syntactic awareness. Delving into children's syntactic awareness and its influencing factors also have the implication to know how far children, with their linguistic competence, process Indonesian by identifying and correcting jumbled sentences for their readiness to read and enter elementary schools. Because language is the media for other accumulation of knowledge, this research on syntactic awareness in preschool students is important to determine their capability to comprehend, read, and digest teachers' utterances (Guo, 2008).

RESEARCH METHOD

Research Design

This study employed a mixed method (qualitative and quantitative) to describe syntactic awareness in preschool students comprehensively. The data were collected/interpreted qualitatively, and presented quantitatively. In particular, this study took place in a kindergarten in North Bandung for one month. This kindergarten did not teach reading, writing, and computing *calistung*. That teaching program was the reason for this study to take into account the kindergarten as the object of research.

Participants

The primary data for this study were collected from 19 preschool students only as the primary subjects, and they did not have hearing impairment. Some of them could read, and some others could not. These preschool students were 5 and 6 years old from a kindergarten in North Bandung. Tsang and Stokes (2001) and Tausch (2012) explained that the acquisition of metalinguistics or syntactic awareness commenced in phase 3 at

around five years of age and consolidated in phase 4 at six or seven years of age. Other participants were their parents respectively to give information on preschool students' backgrounds as the explanation of primary data and the external factors such as bilingualism and birth order.

Data Collection

In answering the question of the study, qualitative research also regarded the researcher as the key instrument to collect the data (Creswell, 2009). In this study, there were three ways of collecting the data: two syntactic awareness tasks (visual and audio tasks), 19 questionnaires for their parents, and observation for 5 hours a day by recording the children's performance during the execution of tasks.

Instruments and Procedures

The instruments to test syntactic awareness consisted of two tasks: visual and audio. The syntactic awareness tasks basically covered two main paradigms of syntactic abilities: identification and correction

through visual and audio adapted from previous research on syntactic awareness such as Cain (2007), Center (2005), Tsang and Stokes (2009), Brimo (2011), Davidson *et al.* (2010), and Bowey (1986).

These tasks covered children's syntactic structures in Indonesian such as intransitive, transitive, ditransitive, and semitransitive in line with the words acquired in their age proposed by Dardjowidjojo (2000). The tasks also used cartoon characters in the film *Spongebob Squarepants* as they were familiar to children and for the context. Context was regarded as the important variable for comprehension (Bentin *et al.*, 1990). Well-chosen words commensurate with children's age were also very important as vocabulary knowledge. The researchers such as Chen (2014); Guo *et al.* (2011); Mokhtari and Niederhauser (2013), and Guo (2008) suggested that vocabulary knowledge was the independent contribution to reading comprehension. The overall model of this study was described in the figure below.

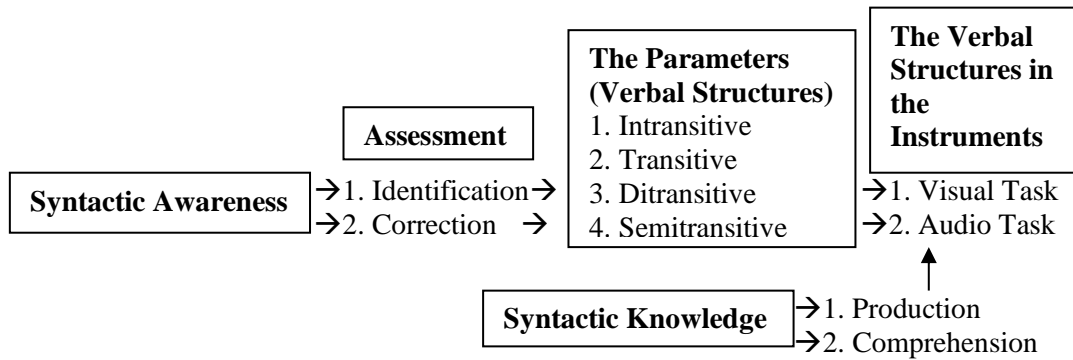


Figure 3.4. Model of syntactic awareness in this study

In doing the visual and audio tasks, one child first came in the class in turn. In one day, there were four children who had done the tasks until midday. The execution which was conducted depended on the break schedules in the kindergarten and lasted for one month all over. The audio task was given after the visual task. Before testing the children with the visual identification task, the researcher broke the ice by asking what they had done just now and how old they were, and following their conversation. Before the execution of the tasks began, the netbook had been on to record all of the activities until midday.

In the first instrument, the visual task, children were firstly asked to tell what the images in the picture were. This first stimulus

would raise the children’s knowledge of the characters in the pictures themselves. Secondly, the children were asked to tell what the characters, Spongebob and Patrick for example, were doing in the pictures. This question was designed to validate whether the children really knew the contexts of the pictures and as the stimuli for children to speak. In the end, they would produce verbally sentences related to the pictures, for example a child said “Spongebobnya nangis” (for production findings). The next was to ask the children to read two sentences below to make sure what the character was doing. If the children could not read, they would be helped in reading the sentences (for reading abilities). In the end, the children were asked to choose one out of two sentences below that sounded right towards the characters in the pictures by sticking the star (for

identification findings of syntactic awareness) as is in figure below.



Figure 3.1. The example of the visual task instrument in ditransitive

In the audio tasks, children were asked to choose the picture that was best mentioned in the record that followed. The records covered the correct and jumbled sentences with the same sentence and picture materials. The correct sentence records would tap their comprehension as linguistic knowledge/aptitude (for comprehension findings) and the jumbled sentence records would tap their syntactic awareness (for audio correction findings). As the distractor, there were three picture cards with only one true card, for example in semitransitive audio instruction.



“Spongebob Makan Roti”

(Audio Comprehension)

“Makan Spongebob Roti”

(Audio Correction)



Figure 3.3. The picture choices towards the audio instruction

Even though the materials such as the picture choices and sentences for audio comprehension and correction tasks were the same, they were not tested simultaneously, but randomly between comprehension and correction differently to avoid recency effects. By choosing the correct picture, the assumption was that the children

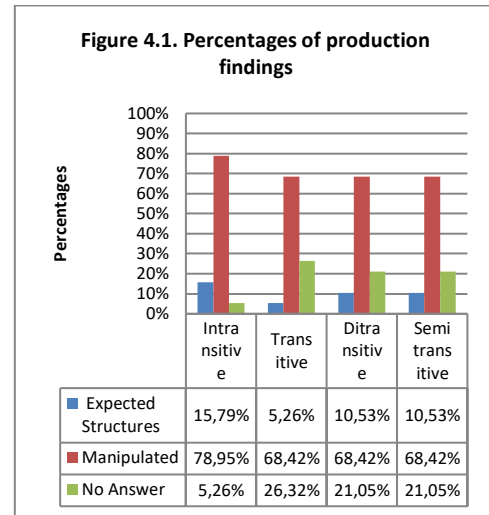
could construct jumbled sentences into correct sentences in their cognition.

All of these activities were recorded for the details as the observation. The instrument for observation was a software of tape recorder in a netbook. That netbook was used to record the children when they did the tasks. The records were important to observe their verbal utterances and response time spent by the children in choosing the picture as their mastery. In the end, the researcher gave the questionnaires to the parents to reveal the linguistic backgrounds of the students' by focusing on bilingualism and birth order only to address the second research question. These additional/supplementary data were also needed to complement the primary data.

FINDINGS AND DISCUSSION

3.1. General Findings in the Visual Task

3.1.1. Production



From the recorded observation of sentence verbal production in the visual task, all children could verbally identify all of the characters' names such as Spongebob, Patrick, Mr. Krab, Squidward, Plankton, and Kraby Patty. In the second question to know what the characters were doing, some children were able to answer with complete structures and manipulate the sentences with their own words. Some of them, however, gave no answer. For the expected structures, children could answer the expected and complete structures related to the pictures. For example, children produced transitive sentences when they were given the picture for the transitive sentence.

In the expected structure of intransitive, three children, S5, S9,

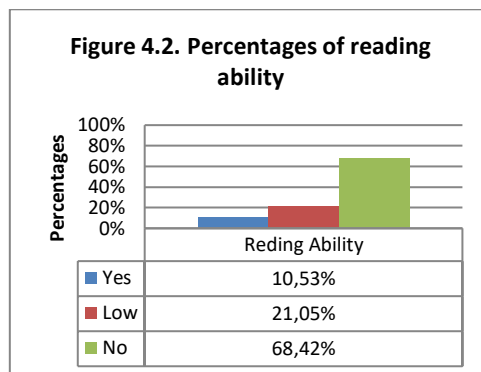
and S12 (15.79%), could produce the expected S-V structures such as “Spongebobnya nangis” and “Spongebob nangis”. 15 children (78.95%) manipulated the production into subjectless sentences such as “nangis”, “menangis”, “abis nangis”, and so on. In transitive, one child, S2 (5.26%), could produce the S-V-O expected structure such as “Tuan Krab lagi mencubit Spongebob”, and 13 children (68.42%) mostly manipulated the sentences without subject, object, or both such as “lagi mencubit Spongebob” and “dicubit”.

In ditransitive, 2 children, S1 and S2 (10.52%), also produced the complex S-V-DO-IO structures such as “Spongebob kasih krappy patty ke temen Patrick” and “Spongebob lagi memberi hadiah kepada Patrick”. 13 children (68.42%) used no subject and indirect object such as “ambil makanan” and “lagi ngasih kado”. For semitransitive with the S-V-O structure, 2 children, S2 and S19 (10.53%), could produce “Squidward lagi makan banyak burger” and “Squidward lagi makan”, and most of them, 13 children (68.42%), also used subjectless sentences such as

“makan” and “suka makan burger”. Then, their verbal production reflected the aptitudes only without syntactic awareness in this findings.

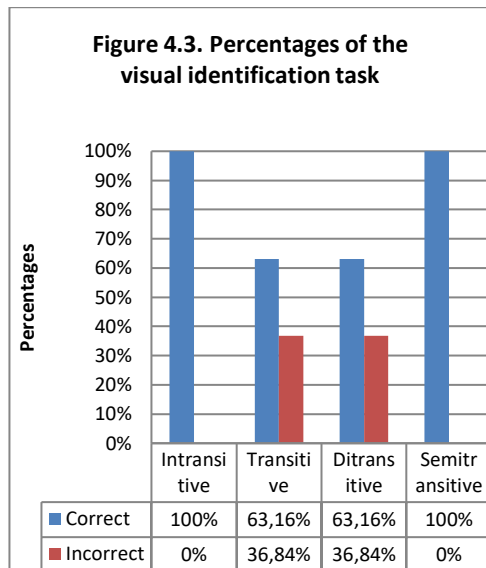
3.1.2. Syntactic Awareness in the Visual Identification Task

In the next instruction of visual task, the children were, then, asked to see the sentences under the pictures and read them. The children’s ability in reading is presented below.



13 children could not read (68.42%), and the children who could read were only two, S10 and S11 (10.53%). The remaining four who could read but low in ability were (21.05%). These four children, S6, S7, S8, and S19, could read only well-structured sentences and got stuck in reading jumbled sentences. Also, some of them could only read simple sentences such as intransitive. After they had read, they identified the

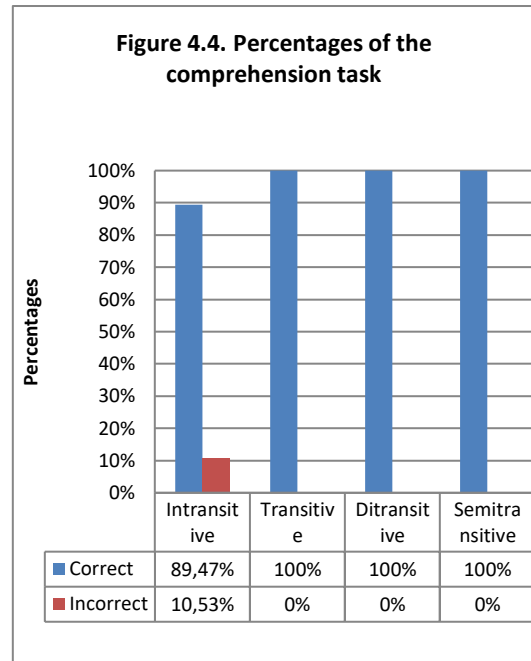
correct sentence below related to the picture. The results of the visual identification tasks are presented in the figure below.



Majority of the children responded the question fast after being read. However, some children had difficulties in some categories. They were confused and hesitant to choose the correct sentences. In this part, the results tapped their syntactic awareness of identification. In the intransitive and semitransitive tasks, the result showed that 19 children could identify the sentence correctly (100%). On the contrary, in the transitive and ditransitive tasks, 12 children chose the correct sentences (63.16%), and the wrong answers were 7 (36.84%).

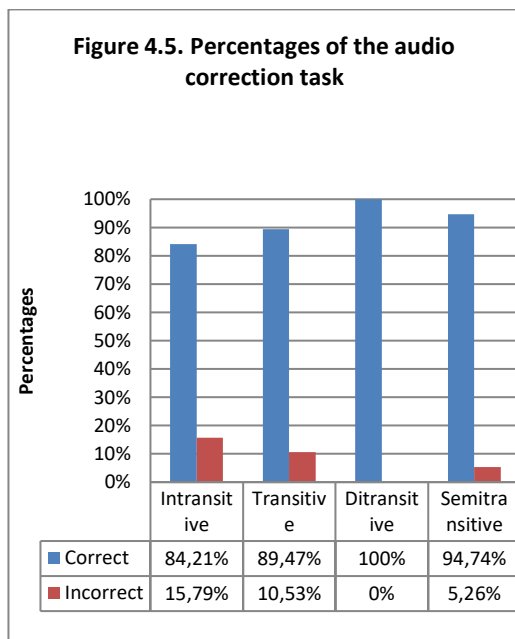
3.2. General Findings in the Audio Task

3.2.1. Comprehension



In the intransitive comprehension task, the data showed that 17 children chose the right pictures (89.47%), and 2 children were wrong (10.53%). On the other hand, the results of other categories were all true (100%). In this case, the results reflected their aptitudes.

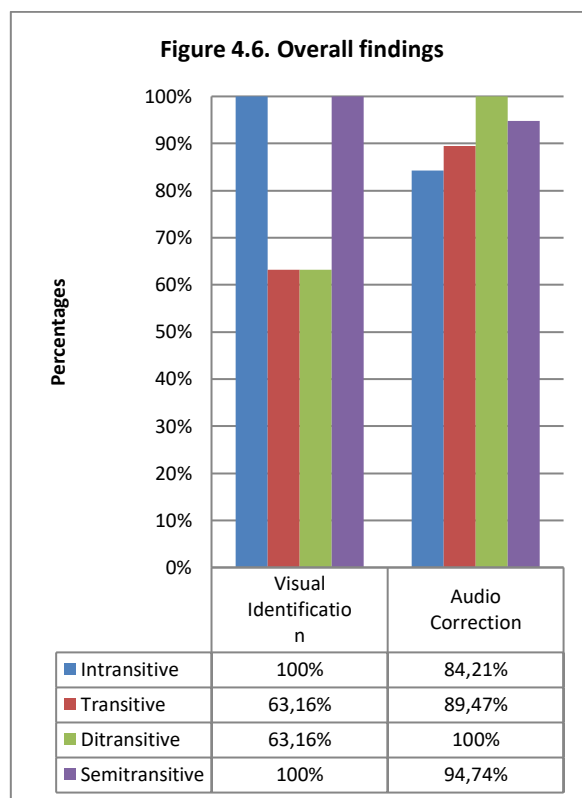
3.2.2. Syntactic Awareness in the Audio Correction Task



The audio correction task, which tapped syntactic awareness, had high results all over. In the intransitive, the data showed that 16 children could choose the right picture with the percentage of 84.21%, and the wrong choice were 3 children (15.79%). In the transitive, 17 children chose the right pictures (89.47%), and 2 children chose the wrong pictures (10.53%). In the ditransitive, all of the children chose the right picture (100%), and in the semitransitive, one child chose the incorrect picture (5.26%) while 18 children chose the right ones (94.74%).

Overall, there is no difference between the visual identification and

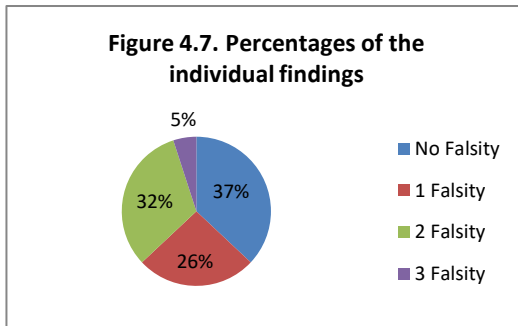
the audio correction tasks, $t_{obt} 1,40 < t_{crit} 2.447$ using t -test. The overall results of this present study are presented in the figure below. The means of two groups of scores do not differ to a statistically significant degree at the .05 level.



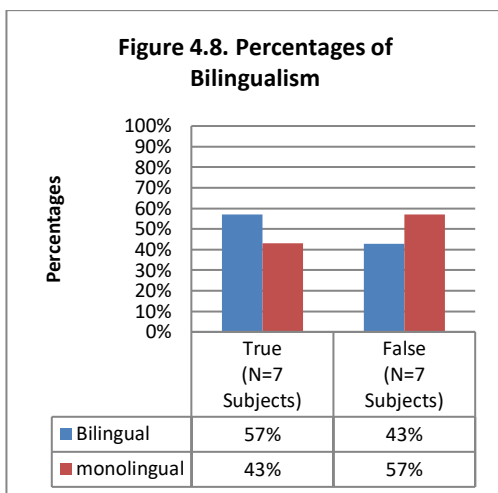
3.3. Factors Influencing Syntactic Awareness

Individually, based on the results of the visual identification and audio correction tasks, seven children had no falsity (37%) at all, and six children lost two scores (32%). Five children lost one score (26%), and one

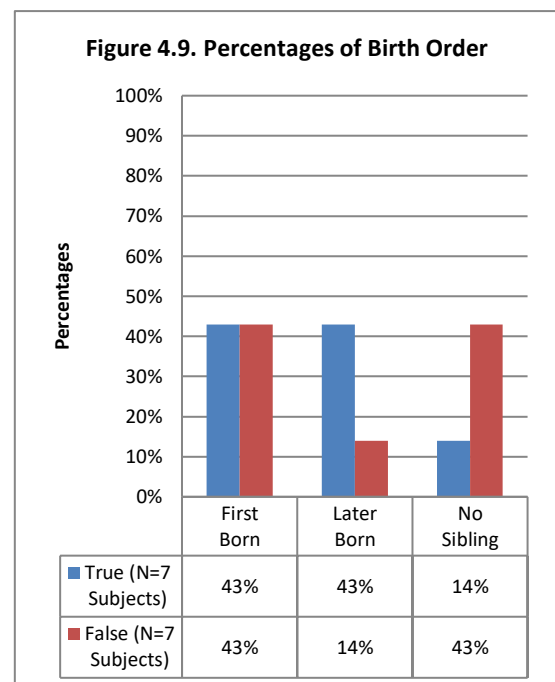
child lost three scores (5%). The figure of the individual performance is described below.



The backgrounds of the children who had 2 and 3 falsity (more falsity), and no falsity in the overall tasks were juxtaposed to see the patterns among their bilingualism, and birth order. The most extreme scores were juxtaposed regardless of the individuals who had one falsity. This information was obtained from the questionnaires. The bilingual factor is presented in the figure below.



The spread was almost the same between three monolingual children (43%) and four bilingual children (57%) in having no falsity. For those children who had more falsity, the spread was also almost the same in bilingualism. Four of them were monolingual (57%), and three of them were bilingual (43%). There is the tendency for bilingual children to have better performance in the syntactic awareness, but the tendency is insignificant. For the birth order, the percentages are presented in the figure below.



Three of the first born children who had more falsity (43%) and no

falsity (43%) were not different in the percentages. In addition, three later born children were true (43%) while only one later born child was wrong (14%). For the children who had no sibling, one of them was true (14%) whereas three of them were false (43%). To conclude, the results of the first and later born children were the same. However, the first born children had more falsity than the later born children, and the children who had no sibling also had more falsity.

3.4. Discussion

3.4.1. General Discussion

The preschool students' ability in the syntactic awareness tasks reveal high results all over, and there is no difference between two syntactic awareness tasks: the visual identification and the audio correction. Thus, it is safe to conclude that the five-year-old children have developed syntactic awareness especially in the word order changes. In this case, there are four possible explanations for the good results: language-specific characteristics,

sensitivity to the larger meaning, innateness, and props.

Firstly, Tsang and Stokes (2001) assert that syntactic awareness is affected by language-specific syntactic characteristics. Indonesian has the Subject+Verb+Object robust pattern. Then, its word order is important to decode semantic relation. In the instrument of syntactic awareness tasks, the patterns become "action-agent" in the intransitive "berpelukan Tuan Krab dan Spongebob", and "action-agent-object" in the transitive "memotong Spongebob roti". The word order changes result in the illogical meanings of the sentences, even meaningless until they are easy to identify and correct (Tunmer *et al.*, 1984). According to Bialystok and Ryan (1985 in Davidson *et al.*, 2010), children are more likely to base their judgment of the correctness of a sentence on its meaning rather than on its grammatical context.

Secondly, children are basically sensitive to the bigger meaning rather than the detail that gives little difference to the meaning (Tsang and Stokes, 2001). This

accords with the researcher's previous study (Kurniawan *et al.*, 2016) and other studies, syntactic awareness is much higher than morphological awareness. Morphology only affects the appropriateness of a word a little even though the larger meaning is still understood. It is common in the preoperational stage that the child's thinking still depends more on perception than logic, only to see the appearance regardless of the details (Ormrod, 2008). According to Van Kleeck (1982 in Tsang and Stokes, 2001), children in the preoperational stage are merely able to attend to the most salient perceptual aspect and attuned to the meanings of messages and the content. They rely on semantic strategies to revise ungrammaticalities and cannot focus on the linguistic form.

What is still the issue is the emergence of the categories of metalinguistic awareness. Mazka (2012) propounds that 5-year-old children have not obtained phonemic awareness, and another research finds that syntactic awareness results are largely much better than

morphological awareness (Tsang and Stokes, 2001). Those results are in line with Rozin and Gleitman (1977 in Tunmer *et al.*, 1984) who hypothesize that “the lower the level of the language features, the later its accessibility to the language-learning child”. That is, ‘the lower the level of linguistic organization called for, the more difficult it is for young children to respond to non-communicative linguistic activities’” (cited in Tunmer *et al.*, 1984, p.41-42).

Thirdly, drawing from the different results between syntactic and morphological awareness, it is probable that syntax is innate, and morphology is not. According to Chomsky, syntax is competence as is opposed to performance. Even adults cannot explain the reason for judging the sentences as unacceptable. The ability to make acceptability judgments is a part of the linguistic competence (Tunmer *et al.*, 1984). According to Pinker (1984, in Johnston, 2005), grammatical knowledge is already genetically available. In his naturalist perspective of syntactic development, Pinker (1984, in Harley, 2005) argues that

syntactic categories such as noun, verb, adjective, and adverb are innate. By these categories, children try to learn the meaning of some content words for comprehending and constructing semantic representations of simple input sentences. In the end, semantic bootstrapping works by making inference.

Fourthly, the other interpretation for the good results may have something to do with the props in the instruments. Props, in this case, are the examples of the characters/contexts referred to in the sentence. These props can give the significant results of syntactic awareness of the children. That kind of research was evidenced by Blackmore and Pratt (1995) when they compared the syntactic awareness using props and not. As Harley (2005) puts it, contextual cues are strong enough for the children to get the gist of an utterance without having to perceive the details. In the audio tasks of this study, the children are helped by the pictures as the contexts. When they were asked to listen to the ungrammatical records and chose the pictures, they

responded extremely fast before the records ended. They probably relied on one word that matched the pictures without having to listen until the end of the records.

3.4.2. Categories of Verbal Structures

Even though there is no difference between the visual identification and audio correction, this study reveals the ability of the children who performed rather poorly in the particular categories. For the ditransitive and the transitive, some children are wrong. The ditransitive and the transitive are much more complex in their structures. The ditransitive task has two options, “Spongebob Patrick hadiah memberikan” and “Spongebob memberikan Patrick hadiah” with the S-V-DO-IO structure. For the transitive, the sentence options are “Tuan Krab mencubit Spongebob” and “mencubit Tuan Krab Spongebob” with S-V-O. Thus, those categories may have something to do with the structural complexity.

Similarly, Nation and Snowling (2000) assume that word

order correction performance is sensitive to syntactic complexity (e.g. passives are harder than actives) and semantic ambiguity (e.g. “the donkey pushed the mouse to the cat” is harder than “the donkey put the food on the plate”). The result also supports the idea that children acquire language from the easiest to the hardest. For example, complex sentences such as center embedding are mastered after right hand embedding because center embedding separates subject and predicate (Dardjowidjojo, 2000). Thus, children will need more efforts to understand much more complex sentences. In the ditransitive sentence, children will face two direct and indirect objects, and decide who gives what and to whom.

3.4.3. Implication between Syntactic Awareness and Acquisition

At this point, children’s aptitude for speaking well and understanding competently which is reflected in the production and comprehension results is the aspects of their linguistic knowledge whereas the ability to reflect upon the language—the

understanding of how ones do these things—represents an aspect of the metalinguistic knowledge (see Gleason and Ratner, 1993, p.29). The supplemental results in the visual and audio tasks indicate that the children have acquired converging comprehension and production as part of the syntactic knowledge.

In the production findings, the children could produce the S-V-O and manipulated V-O sentence structures. Yet, some of them could not answer the sentences with the same structures in jumbled ways V-O-S or S-IO-DO-V in transitive and ditransitive. Also, some children who could choose the right picture in the comprehension task, such as S2, S18, S3, and S8, were wrong in the audio correction tasks. The fact that the sentences and the pictures are the same, only jumbled in the audio correction, gives rise to the difference. The difference means that in reflecting upon their language in visual identification task and audio correction task, children needs more efforts to understand the internal structures of the sentences compared to the acquisition in the production and comprehension tasks.

The results indicate that those children are aware of listening to and understanding the tasks, but unaware of anything occurring in between (Tunmer *et al.*, 1984). This study supports Tunmer *et al.* who assume that children are oriented to “responses” and “situations” rather than focusing on the aspects of the linguistic structure of the material. Then, metalinguistic awareness is separate from production and comprehension. In light of this, this research only assumes that preschool students have obtained syntactic awareness of word order changes. This present research argues that syntactic awareness has provenly emerged around the time when the formal schooling begins specifically 5-6 years old, not after the child is introduced to formal schooling.

Another evidence in this study shows that children who cannot read at all, such as S1, S2, S4, S5, S14, and S16, chose the right sentences all over. This study may suggest that the children are metalinguistically aware despite the fact that they cannot read. After all, children who cannot read probably have metalinguistic

awareness; and there are not children who can read but do not have metalinguistic awareness (Tunmer *et al.*, 1984). Even though some children in this study, who can read such as S10 and S11, picked wrong sentences in transitive and ditransitive, S10 in ditransitive and S11 in transitive; they performed well in the audio correction task, and S11 was the fastest in the comprehension task (2.53 seconds). Then, reading may not be a necessary condition for metalinguistic awareness, specifically syntactic awareness of word order changes. This study asserts that syntactic awareness of word order changes has emerged before children can read.

3.4.4. Individual Performance on Syntactic Awareness

Individually, most of the children answered the tasks correctly, meaning that preschool students have demonstrated syntactic awareness in the type of word order changes. Yet, this study does not seem to give the evidence of external factor that “the bilingualism demonstrates greater

metalinguistic awareness (knowledge and awareness about language as a system) and mental flexibility, as well as the ability to think more abstractly” (King, 2006, p.222). Even though the chart shows that there is the tendency for bilingual children to have better performance in the syntactic awareness, but the tendency is insignificant. Then, next research should further explore this factor with many more subjects.

Probably, the same L1 and L2 features are the reason for having the same ability in syntactic awareness of basic word order change. Davidson *et al.* (2010), in their research, assume that the different characteristics of languages under investigation may affect syntactic awareness performance. Those children are mostly the bilinguals of Indonesian and Sundanese. Both languages are grammatically the same and share the same basic word order S-V-O. Just as Javanese, Madurese, and Balinese, Sundanese is predominantly S-V-O language (Kurniawan, 2013). Also, Galambos and Meadow (1990) assume that the bilingual experience does not affect the types of easy

grammatical constructions. They conclude that the implication of bilingualism only hastens the children’s certain metalinguistic development skills and does not augment the grammatical mind to understand the regularities.

In addition to bilingualism, it is heralded that first born children have an early advantage in the development of syntax and vocabulary just as only children score higher in the vocabulary, but later born children have more conversational skills (Hoff, 2006). In all tasks of this study, the children who had more falsity and no falsity at all in the answers varied. Three first born children have no falsity and more falsity. As the chart shows, even the first born children have the tendency in falsity just as the children who have no sibling. For example, S3 who was a first born also took the longest response time in the correction task. All of the researchers tend to attribute the difference of the results to the language stimulation which the children are exposed. Berowitz (2000, cited in Lawry, 2012) alleges that while birth order,

laziness, and bilingualism are believed to affect the delay of speech and language, those factors have never been proven. Lawry (ibid.) assumes that the difference may have something to do with the different language learning environments for the children, not detrimental.

CONCLUSION

In conclusion, the preschool students at the kindergarten in North Bandung have probably obtained syntactic awareness of word order changes and acquired converging comprehension and production. However, bilingualism and birth order do not seem to affect syntactic awareness performance. These five and six years old are probably in the deployment of syntactic awareness. Even though they acquire language in the stage of full competence, children still learn to manipulate those verbal structure categories as having formal structures. By and by, they will obtain metalinguistic awareness with age and cognitive development.

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