

## CHAPTER I

### INTRODUCTION

This chapter is an introductory section of the present study. It consists of background of the study, research questions, aims of the study, significance of the study, scope of the study, clarification of key terms, and organization of the paper.

#### 1.1. Background of the Study

This is a psycholinguistic study that examines the realization of how young children produce the sounds of their speech. Conventionally, psycholinguistics deals with three primary interests concerning language comprehension (how people perceive and understand spoken and written language), speech production or language processing (how people construct and produce language), and language acquisition (how people acquire and learn language) (Carroll, 2008). In this study, the psycholinguistics main focus is on the speech production which specifically looks into the articulation of sound production and phonological patterns demonstrated by children with language impairment, particularly children with autism.

The reason why language is difficult for autistic children is probably one of the most frequently asked questions of people about autism. This is because autism has been described as “A developmental disorder that effects many aspects of how a child sees the world and learns from his or her experiences” (Siegel, 1996, p. 9). Moreover, it is usually not characterized only by impairments in social, but also impairments in communication and language functioning, and restricted range of behaviors and interest.

Impairments in both language and communication have become the primary involvement in the development of autistic children (Kjelgaard & Tager-Flusberg, 2001). One criterion that is used to document the presence of these

impairments in autistic children is the delay or absence of their language development. It is supported by the *Diagnostic and Statistical Manual of Mental*

*Disorders* (DSM-IV, American Psychiatric Association, 1994) that states that impairments are the core features of autism in the domain of language and communication. Therefore, this could be important in differentiating between autistic children and others.

Typically, children usually demonstrate phonological patterns in their speech development. These patterns are characterized by systematic relations between child and adult forms of a target phoneme and involve whole classes of sounds or syllable types. Phonological patterns may include deletion of sound (e.g., final consonant deletion), substitution of one sound for another (e.g., fronting), or assimilation of one sound with another (e.g., context-sensitive voicing). For example, the phonological pattern of stopping involves the substitution of the members of stop sounds (e.g., /p/, /b/, /t/, /d/) for members of the fricative or affricative sounds (e.g., /f/, /v/, /s/, /z/).

Phonological patterns are considered to be atypical when they exist for a protracted period of time (e.g., past 4 years of age) (Hassink & Wendt, 2010). In autistic children, it is considered to be much poorer than that of the normal children. Relating to this situation, it certainly affects their language development including their phonological acquisition as supported by Brereton & Tonge (2004, p. 8) that “Approximately 50% of children with autism will eventually have useful speech but the pattern of development and usage is strikingly odd”.

From the viewpoint of speech production, Ingram (1986) points out that there are three categories of phonological patterns, namely *substitution*, *assimilation*, and *syllable structure*. Furthermore Bowen (2009) supported Ingram’s (1986) ideas by listing other phonological patterns that will be found in children’s speech development while they are learning sound-system of language, such as *reduplication*, and *final consonant deletion*. These phonological patterns are usually found in the speech development of young children and these patterns are universal (Ingram, 1986). Therefore, if these patterns are truly universal as claimed by Ingram (1986), then it would be reasonable to expect to find them

operating in the speech of children with language impairment, particularly children with autism.

Research on the speech development of children with autism has already been done by some researchers, among others are Cleland et al. (2010) and Pangestuti (2011). By using phonological analyses Cleland et al. (2010) demonstrates research about the comparison of phonological errors between children with autism and Asperger syndrome. They claim that the speech of children with autism is generally characterized by developmental phonological patterns, in which gliding is the most frequent pattern type (25% of the errors), followed by cluster reduction (15% of the errors) and final consonant deletion (10% of the errors). Their investigation also revealed that in pronouncing consonant clusters, generally all the participants cannot pronounce them perfectly. Interestingly, two children in their research produced /s/ and /z/ with nasal emission, which is rarely found in children with phonological disorders.

On the other hand, Pangestuti (2011) has investigated phonological skills of six children with autism in Cakra Autism Center, Surabaya. By using the recorded data of the children's speech, she found that the ability of children with autism in speaking and naming objects is very limited. Moreover, phonemes with complex articulations, namely phonemes /v/, /z/, and /ʃ/ which are categorized as fricative sounds could not be produced by them.

Furthermore, one more previous study was conducted by Fatmasari (2011) who has investigated language description in an 11-year-old autistic child. She focuses on phonological competence and pragmatic recontextualization of the child's utterances. In the context of phonological competence, she examines phonemes production of the child. She found that the autistic child can manage to produce all kinds of sounds except plosive /b/ and /d/ sounds. The problems of these sounds are observed in word-final position. Phoneme /b/ is produces as /p/ and phoneme /d/ is produced as /t/.

Motivated by the findings from Cleland et al (2010)'s, Pangestuti (2011)'s, and Fatmasari (2011)'s studies, this present study aims to reveal specifically the

description of sound production in the speech of autistic children in *SLB Autisma YPPA*, Bukittinggi, West Sumatra. Moreover, by focusing on Ingram's (1986) and Bowen's (2009) theories of phonological patterns in children's speech development, this study also aims to examine the phonological patterns which may occur in the speech of children in this population.

Among the previous studies which investigate the speech of Indonesian autistic children (i.e., Pangestuti (2011) and Fatmasari (2011)), none of them investigated autistic children's sound production in the form of single-word production. They only focused to see the autistic children's speech sound production from conversation or in the form of spontaneous speech. Furthermore, none of them tried to confirm a notion by Tager-Flusberg et al. (2005) saying that "pronouncing written words is the strength of children with autism." Therefore, this present study also aims to examine the comparison of autistic children sound production in two different tasks: spontaneous speech in a conversation phase and single-word production in a pronunciation test.

## **1.2. Research Questions**

There are three questions underlying this study:

1. How do Indonesian autistic children produce sounds, especially fricative sounds?
2. What kind of phonological patterns occur in their sound production?
3. How different is autistic children's sound production in spontaneous speech compared to the production in single-word production?

## **1.3. Aims of the Study**

This study aims to do the following:

1. Investigate the sound production of Indonesian autistic children in general and produce fricative sounds in specific.

2. Identify the kind of phonological patterns occurred in their speech sound production.
3. Identify the comparison of sound production of autistic children in two different tasks: spontaneous speech in a conversation phase and single-word production in a pronunciation test.

#### **1.4. Significance of the Study**

This study is useful to investigate how Indonesian autistic children produce sounds and what kinds of phonological patterns may occur in their speech sound production. It may give some contributions and enrich the reference in psycholinguistic study, especially related to the sound production of children with autism spectrum disorder. Henceforth, it will also benefit future researchers by providing the facts needed to compare their study during the time they conduct a similar study. Furthermore, it may also benefit the clinical necessity in deciding the generalization of assessment or treatment needs for young children or adolescents with autism.

#### **1.5. Scope of the Study**

This present study is limited to identify the production of speech sounds by autistic children, especially fricative sounds and to describe their phonological patterns that may occur during their speech production. The participants of this study are autistic children in *SLB Autisma YPPA*, Bukittinggi. They are limited to those whose ages range from 9 to 10 years old.

#### **1.6. Clarification of Key Terms**

To avoid misunderstanding, some of important terms are clarified as follows:

##### **1. Psycholinguistics**

Psycholinguistics is a branch of linguistics which deals with the comprehension, production, and acquisition of language (Carroll, 2008).

## **2. Phonology**

Phonology is defined as the sound system of a language, including the rules determining how different phonemes may be arranged in a word (Carroll, 2008).

## **3. Speech Production**

The process of uttering articulated sounds or words, i.e., how human generate meaningful speech (Li, 2009).

## **4. Phonological Patterns**

The patterns which account for errors of substitution, omission, or addition that typically developing children use to simplify speech when attempting to produce words (Nicolosi, 2004).

## **5. Autism**

It is a disorder in development that usually begins before the age of four, characterized usually by the failure to develop social abilities, language, and other communication skills to the usual level (*The National Institute on Deafness and Other Communication Disorders*, 2012).

### **1.7. Organization of the Paper**

This paper consists of five chapters. The first chapter introduces the present studies that provide the background of the study, research questions, aims of the study, significance of the study, scope of the study, clarification of key terms, and organization of the paper. The second chapter presents the theories and literature review that have to do with the analysis of the study. The third chapter discusses the research design and procedures for data collection and analysis. The fourth chapter presents the analysis, findings, and interpretation of the findings. Finally, chapter five concludes the present study and offers some suggestions.