

Phonological processes used by Cebuano children at free play

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ABSTRACT

This study aimed to identify the phonological processes used by Cebuano children at free play. There were 15 children from different age groups who were studied: first age group (1.0 - 1.6 years old); second age group (1.7 - 4.0 years old); and third age group (4.1 - 7.0 years old). The participants were grouped according to the phonological stages of Ingram and David (1989). The first age group is the first 50-word phonology stage; the second age group is the phonology of single morphemes stage; and the third age group is the completion of the phonemic inventory stage. The child-adult interactions were recorded during the child's free play at home. The children's utterances were then transcribed. The result showed different phonological processes that dominated in the utterances of children in each age group. The final consonant deletion was the most occurring process in the first age group; stopping came out to be the dominant process in the second age group; gliding of liquids was prevalent in the third age group. This study concluded that children's versions of adult language words are indeed phonologically simpler. In the process of developing speech, children often use phonological deviations in their speech production.

1. Introduction

From toddlers, children are involved in free play. Children know how to deal with their environment, recognize their interests, and develop cognitive, motor, speech, language, and social-emotional skills through play, which has been referred to as the "work of children" (Oddo & Castleberry, 2010). Moreover, children can observe and perform the different roles they might encounter in life through play. This is an opportunity for children to develop their important language skills in fun situations. A child's language develops in large part through play, whether it be with an adult or other kids. The best way to learn a language is via play.

Children build the foundation for effective communication when they play. Kids also start to learn the concept of turn-taking, which is crucial for honing their verbal and interaction skills. Children go through different stages of development. Language is only one aspect, although a very important and complex one. Phonological development is a part of that extremely complex phenomenon, although a complicated process itself (Oddo & Castleberry, 2010).

As young children engage in the communication process, it might be difficult for them to utter some words as their vocal apparatus may not have fully developed which is vital in the correct realization of words. As they learn and expand their language skills, they frequently shorten words, switch out complicated sounds for simpler ones, and alter word structures (Chan & Li, 2000).

The first step in learning a language is knowing its sounds. To acquire words and sentences, children need to develop their ability to distinguish between sounds and to break down the speech stream into units-ultimately meaningful units. Even in the early stages of language learning, making language sound properly is crucial, even though it may not be the most crucial aspect. However, there are certain processes which have become a normal aspect in the process of language development of children. These phonological simplification processes take place as an individual learns a language and are usually stopped by the time they reach a specific age. Phonological processes are natural deviations utilized by the children to make the production of words simpler and easier. However, if these processes continue, these can be a sign of phonological problems (Leung & Brice, 2012).

In the field of phonological processes, Bowen (2011) argued that all children, when learning to speak like adults, make predictable pronunciation problems. According to Bowen (2011), there are nine types of phonological processes, namely: context-sensitive voicing, word-final devoicing, velar fronting, palatal fronting, consonant harmony, weak syllable deletion, cluster reduction, gliding of liquids, and stopping. By the age of 7, most children have overcome the process, but stopping, gliding, and cluster reduction are persistent and may last longer (Leung & Brice, 2012).

Deviations in the phonological process are considered to have a cognitive or linguistic basis. Children with these problems struggle in developing a phonological system, and not essentially in sound production. Languages are governed by phonological systems that specify how sounds can be joined to produce words. Classes of sounds or sound sequences may be affected by phonological processes, which simplifies production. The children's tendencies to use simpler sounds can also have an impact on intelligibility (Klein & Liu-Shea, 2009).

The fact that language is important for both social interactions and cognitive activities, all normal children in normal environments learn to talk in order to express what they are thinking. Phonological processes are part of the language development of the child. This fact demonstrates how human beings possess inherent abilities that make learning a language both possible and necessary. As children are learning to talk, they apply phonological processes to adult language words. Phonological processes are part of the language development of the child.

There have been studies that also deal with children's phonological development. The absence of empirical studies on the phonological development of Cebuano children from different groups urged the researcher to conduct this research undertaking. Thus, this paper aimed to explore the phonological processes used by Cebuano children at free play.

2. Theoretical basis

This section indicates a summary of theories and empirical literature that served as the basis of this research.

“Anything can be done in a playful manner, as play is a communication style, an orientation, a mode of experience” (Beresin, 1993, p. 252).

Just about any activity that children engage in can be considered play. According to scholars of play, an activity needs to meet the three requirements for it to qualify as play, namely: (1) it must take place in a certain location; (2) it must happen in a short time; and (3) it must be made for its own sake - for enjoyment (Miller, 2003).

Play can be defined differently. However, there are some behaviors associated with a play that are universally recognized: positive effect, active engagement, intrinsic motivation, freedom from external rules, attention to the process rather than product, and non-literality (Howes & Matheson, 1992).

Weisberg, Zosh, Hirsh-Pasek, and Golinkoff (2015) define free play as a play condition where children have the freedom to do whatever they want with their toys. Storli (2021) states that free play allows kids to do anything they want, however, they want, and when they like to finish and experiment with other things. There is no adult-imposed curriculum or outside objectives in free play.

When children play, it is like they are interacting with their environment. Play provides various complexity and intricacies that serve as a foundation for continuing development. It is widely acknowledged that play, in all of its multidimensional and multifunctional forms, is the best way to teach children new things. According to Vygotsky (1967), play establishes a child's zone of proximal development. When children play, they act outside their average age, over his regular behavior. It appears that he is a head taller during play. Play is an essential source of development and learning and contains all developmental inclinations in a condensed form, etc.

On the basis that language is the basic currency of social interaction, children can significantly make language development happen when they engage in fun interactions with adults and their peers (Weisberg et al., 2015). To put it another way, play develops children language abilities. Language learning occurs during play as children put up structures and negotiate and interact with their assigned roles. Children are more inclined to communicate with one another in play activities in a way that is personally relevant, which creates the ideal environment for language acquisition. They interact with a purpose, which allows for the practice and rehearsal of language used elsewhere in the situation (Parke, Drury, Kenner, & Robertson, 2002).

According to Hoff (2006), language development gains from the abundance of language input available in play. Indubitably, a child's overall linguistic abilities are significantly connected with the amount of language they hear.

According to Westman (2003), there may be a connection between a child's motivation to play, confidence, and language development. Furthermore, children who lack the motivation to play may result in language issues and problems.

Play is crucial for language development because it keeps children involved in social interactions. Children listen and discuss the things that appeal to them. Thus, the play gives the children the chance to immerse in a scenario and learn new words and sentence structures. Fisher (1992) as cited in Pastor (2012) estimates that through increasing adjustment, enhancing language, and lowering social and emotional issues, play accelerates early development from 33% to 67%. In addition to using their motor skills during play, children also communicate and interact socially. The incorporation of these actions is crucial for children's cognitive development.

Since language development in children depends on the situations and environment, play situations frequently produce interesting and meaningful contexts for children, in which they will be driven to communicate, and to practice and rehearse familiar words and short phrases, as well as to start putting new words together. These activities make children's language surprisingly diverse, including those of the very young ones (Parke et al., 2002).

At a young age, children demonstrate phonological, semantic and syntactic competence, as well as a high level of communicative competence in the use of language. Anyone who has dealt with children can easily understand that language acquisition is mainly automatic, even if it is sometimes susceptible to predictable errors (Finegan, 2012).

At the phonological level, the number of speech sounds decreases before the first recognized words are formed around age 1 (some children even experience a silent phase), and

then they gradually and systemically acquire the inventory of sounds that belong to the adult language. A child learns to create roughly 50 words between the ages of 12 and 18 months. Five vowels and 10 consonants would produce fifty monosyllabic words of the CV type, demonstrating the comparatively narrow range of sounds and syllable patterns required to give voice to such a small lexicon. However, children normally experience a “word spurt” at around 18 months, and for this bigger lexicon the prior inventory of sounds and syllables is insufficient and needs to be expanded. Around the age of 24 months, a child typically has acquired the nasals *m* and *n*, stops *b*, *p*, *d*, *t*, *k*, *g*, *q*, fricatives *f*, *s*, and *h* and approximant *w*, though not all of these sounds can be realized in a manner that adults produced them. At around 36 months, the child added the sounds *j* and *ŋ* to its repertoire, although *b*, *d*, and *k* stay vague in the final position of the word. Acquiring complete phonological development takes a longer period of time, and even the last sound might not emerge until around age 6 (Finegan, 2012).

Phonological development has been described as a series of stages or steps leading to adult phonological systems. The concept of phonological processes came from the study of word use in two to three years of life. It was first introduced by Stampe (1969) and became the subject of his doctoral dissertation completed in 1973. Stampe (1973, as cited in Fikkert, 1995) calls them natural rules and assumes that they are simplified and ultimately unlearned in the course of development.

Donegan and Stampe’s (1979) theory of Natural Phonology describes phonological processes as “phonetic forces that are manifested through processes as mental substitutions which systematically, but subconsciously adapt our phonological intentions to our phonetic capacities, and which conversely enables us to perceive in other’s speech the intentions underlying these superficial adaptations” (p. 126).

As children develop the correct production of speech they shed their phonological processes, making for more intelligible speech. All children demonstrate phonological processes of some sort during the development of speech.

Bowen (1998) outlined the phonological processes which she claimed to be generally used by children while they are learning the adult sound system. She identified these processes into ten types: context-sensitive voicing, word-final devoicing, final consonant deletion, velar fronting, palatal fronting, consonant harmony, weak syllable deletion, cluster reduction, gliding of liquids, and stopping.

Context-sensitive voicing is a process wherein a voiceless consonant is replaced by a voiced sound. Word-final devoicing happens when a voiced consonant in a word is replaced by a voiceless consonant. Final consonant deletion refers to the omission of final consonant in a word. Velar fronting occurs when a velar consonant is replaced with consonant produced at the front of the mouth. Palatal fronting is a process whereby fricative consonants ‘sh’ and ‘zh’ are replaced by fricatives ‘s’ and ‘z’. Consonant harmony takes place when the pronunciation of the whole word is influenced by the presence of a particular sound in the word. In weak syllable deletion, weak syllables are omitted when the child says the word. Cluster reduction is a process wherein a part of a cluster is omitted. Gliding of liquids refers to the process whereby liquid consonants /l/ and /r/ are replaced by /w/ and /l/. lastly, stopping occurs when a fricative consonant is replaced by a stop consonant. These phonological processes should be introduced to parents, teachers and caregivers since this topic can guide them in giving appropriate activities that could help develop children’s language skills. Individuals working with children’s language development need information as to what is expected at different stages of development. Hence, the conduct of this research study.

3. Methodology

This paper used quantitative descriptive research design as it identified the prevalent phonological processes used by children. This paper used a purposive sampling technique in selecting the 15 participants. The participants were categorized into three groups according to the phonological stages of Ingram and David (1989). They were chosen based on the following criteria: (1) The first age group must be 1 year- 1 year and 6 months old; the second age group must be 1 year and 7 months- 4 years old; and the third age group must be 4 years and 1 month- 7 years old; (2) The child must know how to speak English and Sinugbuanong-Binisaya (Cebuano). The locale of the study is in Tuburan, Cebu. This paper utilized voice recorder to record the interaction of children with their parents or caregivers during free play. Fifteen to twenty minutes were set for each interaction. During the interaction the researcher must have no participation to have a natural setting as possible. So, the parent or caretaker was responsible for recording their interaction with the child. The speech exchanges were then transcribed and analyzed with the help of an inter-rater. The inter-rater must be an English teacher, teaching Speech Communication. For research ethical considerations, parents of the children were voluntarily asked to participate in this study.

4. Result and discussion

The occurrences of the phonological processes in each age group were identified. The following tables show the phonological process used by children in the first, second and third age groups. Each phonological process has a corresponding frequency and example.

4.1. Result

Table 1 shows the phonological processes used by children in the first age group. The children in the first age group employed seven phonological processes.

Table 1

Phonological processes used by the first age group

Phonological Process	Frequency
Final Consonant Deletion	9
Weak Syllable Deletion	7
Cluster Reduction	6
Gliding of Liquids	6
Velar Fronting	6
Consonant Harmony	4
Context-sensitive Voicing	1
Palatal Fronting	0
Stopping	0
Word-final Devoicing	0
Total	39

Final consonant deletion was the most dominant phonological process used by children in the first age group. In the following examples, child 1 omitted the final sound /g/ in the word pig; child 3 omitted /y/ from the word tatay (father).

Final consonant deletion:

*Child 1:**Uttered word:* pi /pɪ/*Target word:* pig /pɪg/*Child 3:**Uttered word:* tata /tata/*Target word:* tatay /tətai/*English word:* father

Weak syllable deletion was used seven times making it the second most employed process in the first age group. The following examples show that syllables are deleted from the target word. The child pronounced the word 'banana' /bə'nænə/, as 'nana' /nænə/ and the word 'bomber' /bəmər/ as 'bam' /bəm/.

Weak syllable deletion:

*Child 3:**Uttered word:* nana /nana/*Target word:* banana /bə'nænə/*Child 5:**Uttered word:* bam /bəm/*Target word:* bomber /bəmər/

Cluster reduction, gliding of liquids and velar fronting occurred six times. Consonant harmony was used four times by the children. Context-sensitive voicing was used once. Final devoicing, palatal fronting and stopping were not present in the children's speech.

Cluster reduction:

*Child 2:**Uttered word:* noopy /nupi/*Target word:* snoopy /snupi/*Child 4:**Uttered word:* boom /bum/*Target word:* broom /brum/
(referring to a motorcycle)

Gliding of liquids:

*Child 5:**Uttered word:* yab /yab/*Target word:* love /lʌv/*Child 5:**Uttered word:* yoyo /yoyo/*Target word:* lolo /lolo/*English word:* grandfather

Velar fronting:

*Child 1:**Uttered word:* tudos /tudos/*Target word:* kugos /kugus/*English word:* carry*Child 1:**Uttered word:* tana /tana/*Target word:* kana /kana/*English word:* that

Consonant harmony:

*Child 1:**Uttered word:* gag /gæg/*Target word:* bag /bæg/*Child 4:**Uttered word:* babi /babɪ/*Target word:* baki /bakɪ/*English word:* frog

Context-sensitive voicing:

*Child 4:**Uttered word:* abi/abi/*Target word:* apir /apɪr/*English word:* high five

Table 2 presents the phonological processes used by children in the second age group. Five phonological processes were present in their utterances.

Table 2

Phonological processes used by the second age group

Phonological Process	Frequency
Stopping	35
Gliding of Liquids	21
Velar Fronting	18
Cluster Reduction	13
Weak Syllable Deletion	4
Consonant Harmony	0
Context-sensitive Voicing	0
Final Consonant Deletion	0
Palatal Fronting	0
Stopping	0
Word-final Devoicing	0
Total	91

Table 2 shows that the utterances of children in the second age group were rich in *stopping* process with 35 occurrences. In the following example, child 8 substituted /f/ in the target word 'farm' with /p/ while child 9 changed /θ/ to /t/ in the target word 'thank'.

Stopping:

Child 8:

Uttered word: parm /pɑrm/

Target word: farm /fɑrm/

Child 9:

Uttered word: tank /tænk/

Target word: thank /θæŋk/

Gliding of liquids was used 21 times. Velar fronting followed with 18; cluster reduction with 13 and weak syllable deletion with 4. Context-sensitive voicing, word-final devoicing, final consonant deletion, consonant harmony and palatal fronting were not present in the utterances of the children in the second age group.

Gliding of liquids:

Child 10:

Uttered word: pwiness /pwɪnsɛs/

Target word: princess /prɪnsɛs/

Child 6:

Uttered word: waya /wəjə/

Target word: wala /wələ/

English word: none

Velar fronting:

Child 7:

Uttered word: tapoy /təpɔɪ/

Target word: kapoy /kəpɔɪ/

English word: tired

Child 9:

Uttered word: tini /tɪni/

Target word: kini /kɪni/

English word: this

Cluster reduction:

Child 6:

Uttered word: sip /sip/

Target word: sleep /slip/

Weak syllable deletion:

Child 10:

Uttered word: gapon /gapun/

Target word: gahapon /gahapun/

English word: yesterday

Child 8:

Uttered word: tenty /tenti/

Target word: twenty /twenti/

Child 9:

Uttered word: sa/sa/

Target word: sa /unsa/

English word: what

Table 3 shows the phonological processes used by children in the third age group. Eight phonological processes were present in their utterances.

Table 3

Phonological processes used by the third age group

Phonological Process	Frequency
Gliding of Liquids	62
Stopping	60
Cluster Reduction	37
Velar Fronting	35
Weak Syllable Deletion	24
Final Consonant Deletion	22
Word-final Devoicing	13
Palatal Fronting	1
Context-sensitive Voicing	0
Consonant Harmony	0
Total	254

Table 3 reveals that eight phonological processes occurred in the utterances of children in the third age group. The most occurring process used by the children was *gliding of liquids* which occurred 62 times. As shown in the following example, child 13 replaced the liquids /l/ and /r/ with the glides /w/ and /y/. the child produced the word 'diri' (here) as 'diwi' and 'hello' as 'heyo'.

Gliding of liquids:

Child 13:

Uttered word: diwi /diwi/

Target word: diri /diri/

English word: here

Child 13:

Uttered word: heyo/həyov/

Target word: hello /həlov/

Stopping was also dominant in the utterances of children which occurred 62 times. It was followed by cluster reduction with 37 occurrences; velar fronting with 35; weak syllable deletion with 22; word-final devoicing with 13; and palatal fronting with 1. Context-sensitive voicing and consonant harmony were not present in the utterances of children in the third age group.

Stopping:

Child 13:

Uttered word: seben/sebən/

Target word: seven /sevən/

Child 13:

Uttered word: den/dən/

Target word: then /ðen/

Cluster reduction:

Child 14:

Uttered word: hapasa/hapasan/

Target word: haplasan /haplasan/

Child 12:

Uttered word: pease/piz/

Target word: please /pliz/

Velar fronting:

Child 11:

Uttered word: dahi /dahi/

Target word: gahi /gahi/

Child 11:

Uttered word: tiss/tis/

Target word: kiss /kis/

English word: hard

Weak syllable deletion:

Child 11:

Uttered word: lipop /lipap/

Target word: lollipop /lalipop/

Child 15:

Uttered word: cholet/cholet/

Target word: chocolate /chokolet/

Final consonant deletion:

Child 11:

Uttered word: ca /ka/

Target word: car /kar/

Child 12:

Uttered word: dahi/dahi/

Target word: dahil /dahil/

English word: because

Word-final devoicing:

Child 11:

Uttered word: sumbak /sumbak/

Target word: sumbag /sumbag/

Child 11:

Uttered word: bik/bik/

Target word: big /big/

English word: punch

Palatal fronting:

Child 11:

Uttered word: sake /seik/

Target word: shake /ʃeik/

4.2. Discussion

The findings show that there were differences in the phonological skills of children from different age groups based on the interaction they had with their parents/guardians. *Final consonant deletion* came out to be the prevalent process used by the children in the first age group (1 year- 1 year and 6 months old). Children's deletion of the final consonant in the target language words is due to the fact that children's utterances are predominantly Consonant-Vowel (CV) type. A plausible production of coda-loss (Ohala, 1992) explains that children who are just beginning to produce speech do not have complete motor control over their articulators. The child struggles to produce the sounds correctly that results in the exclusion of that sound during speech. A child may remove sounds as a result of this difficulty. In the production of CVC syllable, the last consonant is the difficult one to produce as it needs the most careful planning. The child's attempts to create a CVC word occasionally fail because the closing of the syllable is too difficult for them. As a result, the last consonant is dropped.

The second age group (1 year and 7 months- 4 years old) used the *stopping* process with the highest occurrence. The researcher considered the fact that the children speak both Cebuano (mother tongue) and English. The non-existence of the /f/ and /th/ and other fricatives, in general, in the child's first language resulted in the realization of /f/ as /p/ and /th/ as /t/. Children have the tendency to treat similar sounds as though they were the same as those in their first languages, replacing 'easier' sounds for ones that do not exist in their language (Brannen, 2011).

In the third age group (4 years and 1 month- 7 years old), *gliding of liquids* was the dominant phonological process used by the children. According to Topbas (1997), the phonemes /l/ and /r/ are mostly subject to a prevocalic lengthening process or a process called gliding. Maxilom (2003) asserts that the child's inability to produce /r/ is due to difficulty. Kenney and Prather (1986) ranked nine phonemes from most to least frequently misarticulated, namely: /r/, /th/, /l/, /sh/, /ch/, /s/, /f/, /k/, and /t/. Even children in school years found the phoneme /r/ not easily produced. Gliding often continues past the age of five years (Grunwell, 1983, as cited in Griffith, 1987).

Another factor why the gliding of liquids was dominant in the third age group is that some adults whom the child interacted did not really pronounce the words correctly. Some of the parents were using 'baby talks' when communicating with their children. According to Tomasello (2000), children mostly use language the way they have heard adults using it.

The results also revealed that children in the third age group demonstrated the most number of phonological processes. It could be inferred that they interacted and produced more utterances than the other children in the first and second age groups. Hence, more phonological processes were observed in their speech.

5. Conclusions and recommendations

It is concluded that children use phonological processes in their speech production. It is natural for children to utilize phonological processes. They attempt to sound like adults but often have phonological limitations because their linguistic resources are insufficient. They also lack the articulatory skills necessary to produce the words in an adult-like fashion. Other factors which have caused the variations of phonological processes among children are the environment, models of development, and bilingualism. Every normal environment has the capacity to provide the essential elements for language development, but each environment provides different conditions thereby influence language development in different ways. In addition, the differences in the language abilities among parents/guardians are a source of differences in children's experiences and is connected with variability in children's language development. The effects of

communicative experiences provided to the children at home are reliable. Lastly, the children used both English and Cebuano. Since the children are bilinguals, language interference occurs, where they transfer the phonemes or phonological rules of their first language to their second language. The findings of this study will contribute to parents, caregivers, and teachers' understanding of children's phonological processes and children's language development in general. Phonological patterns found in young children's speech provide a key source of information about how they learn languages.

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