

## SOUND PATTERNING OF PRE-TEENS IN ENGLISH WORDS - A COGNITIVE PROCESS

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### ABSTRACT

Teachers of English tend to believe learners of English as Second or Foreign Language (ESL/EFL) generate "same phonological patterns" during even taught English words. Evidences show they deviate from teacher- instructed patterns in their known English word articulations. This unrecognized act is speakers' subconscious knowledge of phonological awareness. The sounds of all languages are patterned and organized in a way where some actions of sound patterning are results of cognitive process leading distorted processes. This paper presents Sound Pattern Processing (SPP) and it impacted deviated processes in utterances of two- forty (240) pre-teens students in select known English words. The complexity of phonological patterns in these words is studied from the perspectives of the theory of RCVP - Radical CV Phonology (Hulst, 2020), autosegmental (Goldsmith, 1976), and lexical phonology (Mohan, 1982). The study is concerned with issues of phonological processes where pre-teen learners of English exhibit differences and variations in their independent English –word articulations.

**Keywords-** English learners, Sound Pattern, Processes, articulations

### 1.0 INTRODUCTION

#### 1.1 English – A Lingua Franca

The ability to read this passage is because of the 'lingua-franca.' Cambridge Advanced Dictionary (3rd edition) defines 'Lingua-Franca' as a language that is used for communication between groups of people who speak different languages but which is not used between members of the same group. What makes a human being unique in the social animal world is his use of lingua franca. English is undoubtedly a major lingua-franca. There is no point in discussing the history of English; the advancement of English in many fields including technology over last five decades; the role of English in our day to day life; or why learning English as a second language [ESL] or English as a Foreign Language (EFL) is a matter of the highest priority to many etc., as too many works pertinent to English language are available. This paper deals with sound pattern processing of pre-teen lingua-franca users' in specific words.

#### 1.2 Development of English in India

English has been a lingua franca for the people since British rule in India began in 1765. European missionaries use the translation method to teach the English language in India (KumarAuddy, 2020). It gradually spread across India even before the independence of India through the 'British Raj Administrative System.' Thomas Macaulay's Minute, written in 1835, recommended introducing an English educational system in India. As a result, English was adopted as a primary medium of instruction in the established universities of Bombay, Calcutta, and Madras. Until the Independence of India in 1947, English continued as a medium of administration of British rule. Between the 1960s and 1990s, the English language was prolific and was adopted as a primary medium in renowned state/central universities, colleges, and schools. Gradually English got its space in multilingualism. The rapid growth of English in India took a turn in communications and print media. English is now widely used in books of Indian literature, science, technology, mass media, and information-transfer exchange.

### 1.2.1 English Today in India

At present, English is considered an overwhelming language in India. An English language user today in India, is often observed as a 'literate' irrespective of his/her academic achievement. The use of English in day-to-day life in India has often earned 'respect' among non-urban people. In rural areas, English – usage is a sign of power and pride. For example, an incident of an English undergraduate student in 2009 before police officers of Kerala-Karnataka (two south Indian states where English is highly prioritized) border is interesting to share. His car was stopped, and he was forced to bribe the Sub Inspector (SI) of the police station despite having valid documents to advance his journey. His few queries using 'English' to SI in front of other police officials were like a helping hand of God to get him instantly released and his car without a rupee pay! There could have been many instances in India where English-users in India enjoyed a privilege.

English is more valued and preserved in 'the South' than in the North; that is generally still (used as) a symbol of power, prestige, and social mobility (Nayar, 2008). Today, English is a part of the multilingual texture of Indian life, as trousers and shirts are a part of Indian dress. In India, shirts and trousers are continuously being readjusted and refashioned to meet the demands of new tastes and times (Auddy, 2020). People of India were/are never ready to give up their 'mother tongue' but were/are willing to embrace English for specific purposes. The people of India, to update their knowledge due to the enormous development of science and technology, are fascinated with learning English (Lalitharaja, 2021)

### 1.3 Received Pronunciation (RP) - A Variety or Dialect?

Received Pronunciation is sometimes referred to as BBC (British Broadcasting). BBC radio/television programs make BBC stations different from others is the 'use of codified and accepted accents' throughout programs. Daniel Jones, a renowned phonetician, and lexicographer, introduced RP as the standard Pronunciation of English to phonologists. The term RP was first used in the 1920s for the 'prestige variety' of British English which had a socially accepted standardized 'accent.' According to Trudgill (2017), the RP accent originated in the southeast of England and is associated with public schools in England and members of the upper-middle and upper-class people. RP is the Pronunciation of English, based originally on the speech of educated people in London and the South-East, which had come to be thought of as the only socially acceptable Pronunciation in English society. (Lyons, 1981)

It is a known fact that RP is now preferred to other varieties of English in schools, colleges, magazines, and television/radio programs, of English-speaking countries. In addition, major English language testing systems, such as TOEFL, TOEIC, IELTS, etc., are conducted to assess examinees' proficiency in English based on RP (Received Pronunciation). RP is thus a 'sought variety of English' and in practice before and now.

#### 1.4 Indian English (IE) – A Major Variety?

Indian English (IE) has been a major world variety for many years. You may be wondering if Indian English (IE) exists in India only. The term IE is generally used and applied to the English spoken in Pakistan, Bangladesh, Sri Lanka, Nepal, and another Southern Asian regions. 'Indian English' is used loosely to include the English spoken in all South Asian areas (Collins & Mees, 2013). IE differs from other varieties of English in some features. Consonants phonemes / t d s z l n r / are retroflex in IE; no consistent distinction exists between / v / and / w /, / p / and / f /, / t / and / θ /, / d / and / ð /, and / s / and / ʃ /. Initial and medial /r/ are generally strong taps, and aspirated consonants /p/, /t/, and /k/ are usually un-aspirated. (Collins & Mees, 2013; Trudgill & Hannah, 2017)

#### 1.5 Standard English (SE)

It shall not be confused Modern English [ME] with Standard English [SE]. The former is a form of English that has been practiced since the Great Vowel Shift (Crystal, 2004). Shakespeare's works are said to be in ME. Over centuries, many dialects of ME have been spoken in England. SE has undergone much codification during its development of SE and is now a major world variety used in publications, education systems, translations, print media, and television/radio reports.

SE is a type of English called 'standard' because it has undergone standardization processes through selection, codification, and stabilization in a way other varieties have not (Trudgill & Hannah, 2017).

##### 1.5.1 Syllable Structures of SE

Syllable structures of English words can be with any of the following CV pattern

- a) V e.g., 'I' / ai /
- b) CV e.g., 'he' / hi: /
- c) VC e.g., 'ill' / il /
- d) VCC e.g., 'apt' / æpt /
- e) CCV e.g., 'flea' /fli: /
- f) CVC e.g., 'feet' / fi:t /
- g) CVCC e.g., 'risk' / risk /

- h) CCVC e.g., 'please' / pli:z /
- i) CCCV e.g. 'spray' / spreɪ /
- j) CVCCC e.g., 'text' / tekst /
- k) CVCCCC e.g. 'texts' / teksts /

## 2.0 METHODOLOGY

The present study is based on 2400 word- utterances of 240 students of two aged groups in known English words. The age groups are classified as G1( age range 10 -11 and G2( age range 11-12) The term 'known words' is considered in the sense the selected words have been taught to speaker or they are familiar with or heard their teacher say in their English language teaching - learning process. Students involved in the study were chosen randomly from six CBSE syllabus opted schools located in Malappuram district of Kerala state. Participants began learning English as L2 from the primary stage. The ratio of boys and girls in both G1 and G2 is 1:1. Each of the participants was personally interviewed either in physical or virtual mode or virtually and presented a sheet which consisted 'printed 10 known English words. He/she was required to pattern sounds only once in the given words. Word-utterances were recorded using PX 470 (sony voice recorder). Recordings were systematically examined and interpreted phonetically to generate 'qualitative data'. Formula in MS excel is used to generate percentage distribution of SPP in know English words. An attempt to discuss SPP-resulted-in changes is also followed later part of this paper.

**Table 1 List of known English words used for SPP**

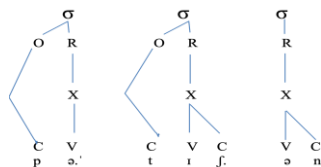
Sl	Unknown words	Phonemic script	Syllabification
1	petition	[pə.'tɪʃ. ə n]	CV.CVC.VC
2	a duke	[ə'dju:k]	V-CCVC
3	column	[kʌ.'lʌm]	CV.CVC
4	voyage	[vɔɪ.ɪdʒ]	CV.CV
5	silk-house	[sɪlk. haʊs]	CVCC.CVC
6	boredom	[bɔ:.dəm]	CV.CVC
7	average	[æv. ə r.ɪdʒ]	CV.VC.VC
8	animal	[æn.ɪ.məl]	VC. V.CVC
9	so near	[səʊ. nɪə]	CV.CVC
10	kindness	[kænd.nəs]	CVCC.CVC.

## 3.0 OBSERVED WORD UTTERANCES AND IT RESULTED IN PROCESSES

Word utterances are caused by the adjustment of the phoneme in a stream which often results in segmental changes in certain contexts or segments remain unaffected in some contexts. The following are noticed segmental processes.

- 1) Apheresis- Deletion of initial segment(s)
  - 2) Syncope - Deletion of internal segment(s)
  - 3) Apocope – Deletion of final segment(s)
  - 4) Assimilation- Segment influence on segment
  - 5) Epenthesis – Insertion of segment
  - 6) Metathesis – Transposition of segments
  - 7) V- alternation – Vowel deviations
  - 8) Substitution– Consonant phoneme replacement
  - 9) Unaffected - free from any phonological process
- } SPP-affected

**3.1 SPP in ‘petition’ [pə. 'tɪf. ə n]**



**Figure 1. Syllable template of ‘petition’**

Derived processes	σ structure	Segmental change	phon.process
(a) [pə. 'tɪf. ə n]	CV.CVC.VC	-- .----. --.	unaffected
(b) pə. ' tɛf. ə n]	CV.CVC.VC	-- .- e -. --.	V-alternation
(c) [pə. 'tɪt. ə n]	CV.CVC.VC	-- .- - t . --.	substitution
(d) [pʊ. 'tɪf. ə n]	CV.CVC.VC	- ʊ .----. --.	V-rounding
(e) [pə. 'tɪ.tɪf. ə n]	CV.CV. CVC.VC	-- .t i --. --.	insertion

Notice that a ‘-’ stands for segment. A ‘.’ indicates syllable boundary.

Four types of phonological processes were observed due to SPP in the word (1)utterances; phonological process free (1(a)), alternation of a vowel segment ( 1(b) and (d) ), the substitution of [f] with [t] as shown in 1 (c) and insertion of two segments, [ /t, i/] resulting an addition of syllable (1.e). See the following.

3.2 SPP in 'a duke' [ə'dju:k]

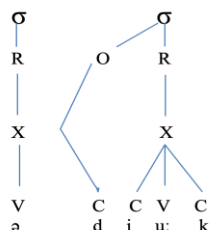


Figure 2 Syllable template of the phrase 'a duke'

Derived processes	σ structure	segment change	phon.process
(a) [ə'dju:k]	V.CCVC	- . - - - .	unaffected
(b) [ə'du:k]	V.CVC	- . - ∅ - - .	syncope
(c) [ə,d ʌ k]	V.CVC	- . - ∅ ʌ -	V-lowering

A '∅' indicates deleted. A 'ʌ' stands for the insertion

It was observed a lot of G2 speakers made SPP in the given word right (2(a)) while a number of speakers in G1 and a few of G2 had patterned with deletion of [j] as shown in 2(b). Vowel lowering; /u/-- /ʌ/, which was unprecedented, was observed in utterances of some speakers as shown in 3(c).

3.3 Alternation and substitution in 'column' [kɒ.'ləm]

Derived process	σ structure	segmental change	phon.process
a. [kɒ.'ləm]	CV.CVC	- - - . - - - .	unaffected
b. [kɔ:.'ləm]	CV.CVC	- ɔ: . - - n.	insertion
c. [kɒ.ljum]	CV. CCVC	- - . - ʌju-	insertion

It is noticed that no changes were brought to the first and final segment of the word. Vowel alternation in the initial syllable of 3 (b) and substitution in the final segment of 3 (b) were observed in very few speakers. Similarly, the insertion of [j] and vowel change in the final syllable of 3 (c) were also seen in G1 speakers. SPP was appropriate (3 (a)) in many of the G2 speakers.

3.4 Alternations and insertion in 'voyage' [vɔɪ.lɪdʒ]

Derived process	σ structure	Segmental change	phon.process
a. [vɔɪ.lɪdʒ]	CV. VC	- - . - - .	unaffected

b. [vɔ:.je:dʒ]	CV.CVC	- ɔ:. _je: -	insertion
c. [vɔ:.ja:g]	CV.CVC	- ɔ:. ja:g	substitution
d. [vɔ:.je:g]	CV.CVC	- ɔ:, _je:g	substitution
e. [vɔ:.ju: g]	CV.CVC	- ɔ. _ju: g	V-alternation
f. [wɔɪ.lɪdʒ]	CV. VC	w - . - -	gliding

The second segment of the word (4) is a diphthong [ɔɪ] which was processed as a monophthong [ɔ:], in number of G1 and G2 speakers as shown in 4 (b) (c) and (d) and as a different vowel [ɔ] in 4 (e). Monophthongization is characterized by the speaker’s implicit phonology. Internal phonological evidence includes data from alternation (Mohanani, 1986). Insertion of the [j] segment was also noticed in the second syllable (4b, c, d, e ). Some speakers have shown phonological error-free processes, as illustrated in 4 (a). Gliding (f) – substitution of a glide / w, j/ for a liquid or fricative was another noticed SPP derived-output which is an impulse of English L2 users.

### 3.5 Syncope in ‘silk-house’ [sɪlk. haʊs]

Derived process	σ structure	segmental change	phon.process
a.[sɪlk. haʊs]	CVCC .CVC	- - - - . - - - .	unaffected
b.[sɪl. haʊs]	CVC .CVC	- - - Ø . - - - .	syncope
c.[sɪlk. hu:s]	CVCC .CVC	- - - - . -u: - .	V-alternation

Unlike other select-known English words in which many phonological processes resulted, only one type of phonological derivation was observed in the word (5) utterances of G1 and G2. Deletion of interior segment [k], as in 5 (b), was the SPP driven process in some speakers. A number of L2 learners have patterned an exact sound patterning process in the word which is illustrated in 5 (a). Some speakers did alter the penultimate diphthong [ai] to monophthong [u:] causing the alternation (5 (c)).

### 3.6 Alternation and Insertion in ‘boredom’ [bɔ:.dəm]

Contrary to the expectations, the SPP in ‘boredom’ ‘has been processed as:

Derived process	σ structure	segmental change	phon.process
a. [bɔ:.dəm]	CV .CVC	- - . - - - .	unaffected
b. [bɔ:.ri.dəm]	CV.CV .CVC	- - . _r i. - - - .	epenthesis
c. [bɔ:.ra..dəm]	CV.CV .CVC	- - . _r a. - - - .	epenthesis
d. [bi:. ri.dəm]	CV.CV .CVC	- i:. _r i. - - - .	alteration
e. [brɔ:.dən]	CCV .CVC	- _r ɔ: . - - n.	metathesis

Notice 6(a) is a phonological process-free that was observed along with sound patterning. An insertion of [r] and a vowel is noticed in some SPP output which is illustrated in 6 (b), and (c). Also, some speakers have altered [ɔ] to [i], and the inserted [r] and [i] in the second syllable. Speakers have transposed a pattern of –iri- for a stream of the word utterances (e.g., 6 (e)) as well as the process of substitution of the final segment [m] with [n] as shown in 6 (e) was observed in limited speakers.

### 3.7 SPP driven segmental changes in ‘average’ [æv.ə r.ɪdʒ]

Derived process	σ structure	segment change	phon.process
(a) [æv.ər.ɪdʒ]	VC. VC.VC	--. ---.---	unaffected
(b) [æv.ər.ædʒ]	VC. VC.VC	--. ---.æ-	V-altering
(c) [æv.ər. eidʒ]	VC. VC.VC	--. ---.ei-	diphthongization
(d) [æv . æg]	VC.VC	--. Ø Ø æg.	syncope

Accurate Sound Pattern Processing (7(a)) was one of the results of some speakers. We have seen the alternation of vowels as a predictable SPP output in known English words. In the given word utterances, a number of G1 and G2 speakers altered the third vowel of the word, as illustrated in 7 (b) and (c). Notice that segment(s) deletion, as shown in 7 (d) was another observed SPP –driven change.

### 3.8 Least phonological processes in ‘animal’ [æn.ɪ.məl]

Derived process	σ structure	segmental change	phon.process
(a) [æn.ɪ.məl]	CV. V.CC	--. ---.	unaffected
(b) [a:n.ɪ.məl]	CV. V.CC	a: -. ---.	V-centring

Probably, both G1 and G2 speakers equally had phonological processes free (8 (a) utterances in the word. On the other hand, altering the low-front unrounded vowel [æ] to low –the central long unrounded vowel [a:] was also observed in the speakers’ word articulations.

### 3.9 Substitution and alternations in ‘so near’ [səʊ. nɪə] utterances

An interesting observation found in the word utterances is o substituting the [s] with a nasal segment [n]. This is illustrated in 9 (b)

Derived processes	σ structure	segmental change	phon.process
(a) [səʊ. nɪə]	CV. CVC	--. ---.	unaffected



(b) [nəʊ. niə] CV. CVC n - . - - . substitution

Phonological patterns of vowel alternations in the select words are predictable. On the contrary, the substitution of the initial segment of the word [s] with a nasal [n] remains a complex phenomenon. Our ability is restricted to explain the emergence of phonological patterning in child language (Pellegrino, Marsico, Chitoran, & Coupe', 2009)

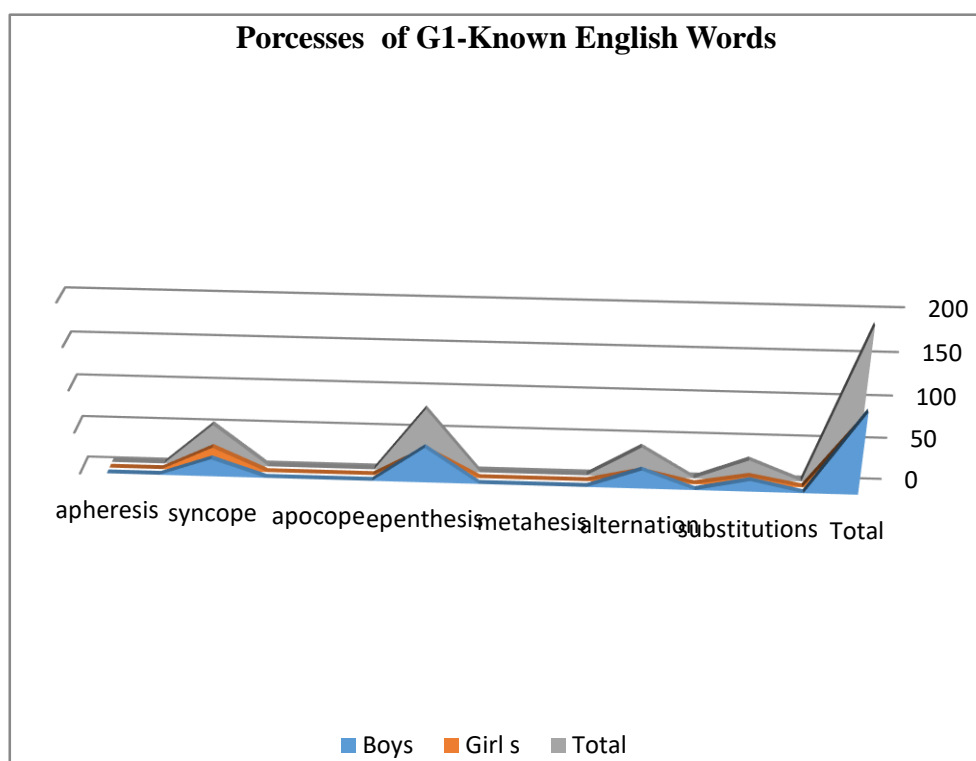
**3.10 Deletion and V- alternations in kindness [kaɪnd.nəs]**

Derived processes	σ structure	segment change	phon.process
(a) [kaɪnd.nəs].	CVCC.CVC	- - - - . - - - .	unaffected
(b) [kɪnd.nəs].	CVCC.CVC	- i - - . - - - .	V-raising
(c) [kɪd .nəs].	CVC.CVC	- i Ø - . - - - .	syncope

Though the word kindness seems to speakers more familiar and easier to have error-free patterning, deletion of first [n] was observed (10. (C)) in the number of utterances. In 10 (b), we see monophthongization; / ai / > / i /, whereas accurate sound distribution, as shown in 10 (a), was noticed in most of the G2 speakers.

**3.11 Analysis of SPP-Driven Processes in Known English Words - G1 S**

The following diagram shows figures driven processes of G1 in their 1200 utterances.

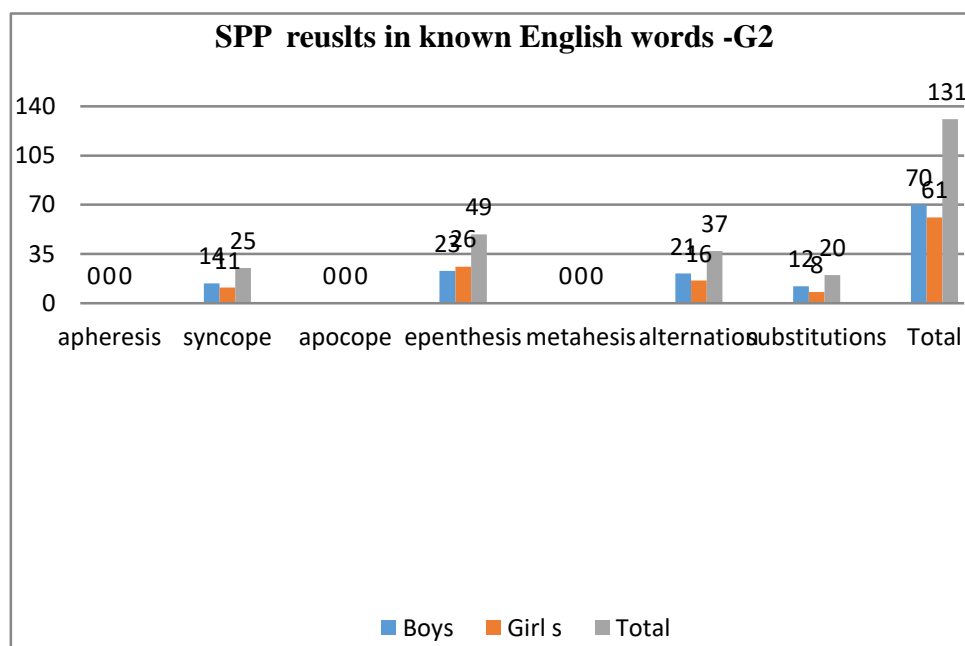


**Figure 3.SPP resulted-in changes of G1 in known English words**

Figure 3 shows that insertion of a segment (epenthesis) is., as in the contexts of select unknown English words, the highest phonologically processed results in G1. No initial (apheresis) and final segment (apocope) deletion were traced in any of the word utterances. These processes indicate an assumption; apheresis and apocope seldom occur in known English words when sound patterned in isolation of L2 pre-teen speakers. Significantly G1 speakers had not caused any metathesis due to SPP in the given words.

Besides, vowel change (alternations) was the second highest observed process (36) among G1 speakers. It was also examined boys happened to cause more epenthesis (42), alternation (22), and substitutions (13), whereas female G1 speakers have recorded deletion of a segment (28) in their word utterances. Out of 1200 utterances of the G1 speaker, 184 processes of different types were evolved.

**3.12 Analysis of SPP-Driven Processes in Known English Words – G2**



**Figure 4 Illustration of SPP-driven processes of G2 in known English words**

In Figure 4, very limited phonological derivations (131) could be noticed in G2 1200 utterances. Among these phonological error patterns, as many as 70 phonological processes were observed in girls only and 61 in boys due to SPP in select word utterances. Boys have shown higher syncope (14), alternation (21), and substitution (12) than G2 girls (11, 16, 8) in unknown word utterances. Epenthesis was higher in girls (26) than in boys (21)

**3.13 Comparisons of SPP Results in Known English Words – G1 vs. G2**

	Apher- e-sis	Syncope	Apoc- ope	Epen- thesis	Meta- thesis	Altern- ations	Substi- tutions	T o	S P

Age group	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	BOYS	GIRLS	total SPP changes (in 1200 utterances)	P affected %
(G1) 10-11	0	0	21	28	0	0	42	33	0	0	22	14	13	11	184	15.3
(G2) 11-12	0	0	14	11	0	0	23	26	0	0	21	16	12	08	131	10.9
<b>Total</b>	0	0	35	39	0	0	65	59	0	0	43	30	25	19	315	13%

**Table 2 Total numbers of SPP-driven processes of G1 and G2 in known words.**

Results of cross-sectional comparison of the SPP derived processes caused by G1 and G2 in select ten English words classified as known are presented in Table 3. G1 speakers have shown comparatively higher syncope (Boys- 21, Girls-28), Epenthesis (Boys -42, Girls -33), and substitutions (Boys- 13, Girls-11) than G2. The alternation process is slightly higher in G2 (37) than in G1 (36). Overall, G2 speakers exhibited 184 error patterning, and G1 speakers showed

only 131. Thus, higher exposure to phonological patterns does help speakers rationalize and apply existing phonological knowledge for acceptable and appropriate patterning

#### 4.0 CONCLUDING REMARKS

Children advance through a number of stages before adult-like productions (K.Ohala, 2008). SPP of G1 and G2 speakers in select English words- classified as and known has been an unconscious-driven act. An important observation is that even in known English words, where speakers probably have an established knowledge for appropriate pattern processing, G2 and G1 speakers err, resulting in various phonological processes. It is assumed though external or instructed phonological awareness was available in known English words, inappropriateness and inaccuracy were observed. On the other hand, it is self-developed and generated knowledge of pattern processing of speakers have played significant roles, eventually resulting in higher appropriate SPP error patterns (see Figure 3 &4)

Speakers have some subconscious knowledge of phonetic patterns that make up phonological systems (Katamba, Dobrovolsky, & Higgins, 2011). G1 and G2 being L2 learners or users, have shown error sound pattern processes in taught English words which signify that they have certain independent -phonological knowledge. This working phonology appeared to be functioning for appropriate pattern processing in any context. With the workings of implicit phonology of speakers' second language, G1 and G2 did not resort to the 'explicit phonology.' It is assumed that abstract cognitive phonological process determines how sound should pattern and process in any specific word(s). Thus speakers' subconscious phonological knowledge overlaps conscious knowledge of phonological patterns processing.

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