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# Phonological Processes

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All children make predictable pronunciation errors (not really 'errors' at all, when you stop to think about it) when they are learning to talk like adults. These 'errors' are called phonological processes, or phonological deviations. In Table 2 are the common phonological processes found in children's speech while they are learning the adult sound-system of English.

**TABLE 2: Phonological Processes in Typical Speech Development**

PHONOLOGICAL PROCESS (Phonological Deviation)	EXAMPLE	DESCRIPTION
<b>Context sensitive voicing</b>	"Pig" is pronounced and "big"  "Car" is pronounced as "gar"	A voiceless sound is replaced by a voiced sound. In the examples given, /p/ is replaced by /b/, and /k/ is replaced by /g/. Other examples might include /t/ being replaced by /d/, or /f/ being replaced by /v/.
<b>Word-final devoicing</b>	"Red" is pronounced as "ret"  "Bag" is pronounced as "bak"	A final voiced consonant in a word is replaced by a voiceless consonant. Here, /d/ has been replaced by /t/ and /g/ has been replaced by /k/.
<b>Final consonant deletion</b>	"Home" is pronounced a "hoe"  "Calf" is pronounced as "cah"	The final consonant in the word is omitted. In these examples, /m/ is omitted (or deleted) from "home" and /f/ is omitted from "calf".
<b>Velar fronting</b>	"Kiss" is pronounced as "tiss"  "Give" is pronounced as "div"  "Wing" is pronounced as "win"	A velar consonant, that is a sound that is normally made with the middle of the tongue in contact with the palate towards the back of the mouth, is replaced with consonant produced at the front of the mouth. Hence /k/ is replaced by /t/, /g/ is replaced by /d/, and 'ng' is replaced by /n/.
<b>Palatal fronting</b>	"Ship" is pronounced as "sip"  "Measure" is pronounced as "mezza"	The fricative consonants 'sh' and 'zh' are replaced by fricatives that are made further forward on the palate, towards the front teeth. 'sh' is replaced by /s/, and 'zh' is replaced by /z/.
<b>Consonant harmony</b>	"Cupboard" is pronounced as "pubbed"  "dog" is pronounced as "gog"	The pronunciation of the whole word is influenced by the presence of a particular sound in the word. In these examples: (1) the /b/ in "cupboard" causes the /k/ to be replaced /p/, which is the voiceless cognate of /b/, and (2) the /g/ in "dog" causes /d/ to be replaced by /g/.
<b>Weak syllable deletion</b>	Telephone is pronounced as "teffone"  "Tidying" is pronounced as "tying"	Syllables are either stressed or unstressed. In "telephone" and "tidying" the second syllable is "weak" or unstressed. In this phonological process, weak syllables are omitted when the child says the word.
<b>Cluster reduction</b>	"Spider" is pronounced as	Consonant clusters occur when two or

	"pider"  "Ant" is pronounced as "at"	three consonants occur in a sequence in a word. In cluster reduction part of the cluster is omitted. In these examples /s/ has been deleted from "spider" and /n/ from "ant".
<b>Gliding of liquids</b>	"Real" is pronounced as "weal"  "Leg" is pronounced as "yeg"	The liquid consonants /l/ and /r/ are replaced by /w/ or 'y'. In these examples, /r/ in "real" is replaced by /w/, and /l/ in "leg" is replaced by 'y'.
<b>Stopping</b>	"Funny" is pronounced as "punny"  "Jump" is pronounced as "dump"	A fricative consonant (/f/ /v/ /s/ /z/, 'sh', 'zh', 'th' or /h/), or an affricate consonant ('ch' or /j/) is replaced by a stop consonant (/p/ /b/ /t/ /d/ /k/ or /g/). In these examples, /f/ in "funny" is replaced by /p/, and 'j' in "jump" is replaced by /d/.

## References

Bowen, C. (1998). Developmental phonological disorders. A practical guide for families and teachers. Melbourne: ACER Press.

Grunwell, P. (1997). Natural phonology. In M. Ball & R. Kent (Eds.), The new phonologies: Developments in clinical linguistics. San Deigo: Singular Publishing Group, Inc.

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<http://www.speech-language-therapy.com/Table2.htm>

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# Phonological Development

THE GRADUAL ACQUISITION OF THE SPEECH SOUND SYSTEM

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**TABLE 3: Elimination of Phonological Processes**

Phonological processes are typically gone by these ages (in years ; months)

PHONOLOGICAL PROCESS	EXAMPLE	GONE BY APPROXIMATELY
Context sensitive voicing	pig = big	3;0
Word-final de-voicing	pig = pick	3;0
Final consonant deletion	comb = coe	3;3
Fronting	car = tar ship = sip	3;6
Consonant harmony	mine = mime kittycat = tittytat	3;9
Weak syllable deletion	elephant = efant potato = tato television =tevision banana = nana	4;0
Cluster reduction	spoon = poon train = chain clean = keen	4;0
Gliding of liquids	run = one leg = weg leg = yeg	5;0
Stopping /f/	fish = tish	3;0
Stopping /s/	soap = dope	3;0
Stopping /v/	very = berry	3;6
Stopping /z/	zoo = doo	3;6
Stopping 'sh'	shop = dop	4;6
Stopping 'j'	jump = dump	4;6
Stopping 'ch'	chair = tare	4;6
Stopping voiceless 'th'	thing = ting	5;0
Stopping voiced 'th'	them = dem	5;0

## References

Bowen, C. (1998). Developmental phonological disorders. A practical guide for families and teachers. Melbourne: ACER Press.

0

Grunwell, P. (1997). Natural phonology. In M. Ball & R. Kent (Eds.), *The new phonologies: Developments in clinical linguistics*. San Deigo: Singular Publishing Group, Inc.

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