

Acquiring Language(s):

What Data Show


by

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We all acquire language; there are fundamentally no exceptions. Ignoring the alleged counter-examples (children suffering traumatic mental disability due illness or accident), the only problem we face is remembering what happened and when. In this article, data are cited showing what sounds children acquire when mastering English, and at what age this is done. I argue that English data can be used for other languages as well, since children are fundamentally the same. True, a child acquiring French will not master the phonology of English, but what is easy and natural for one child will be easy and natural for another child, no matter what the language; what is difficult in English is no less problematical in Russian, for instance.

Data for English child language acquisition were collected in the early 1970s (and could benefit from replication today). Hundreds of children were observed in everyday interactions, their language transcribed and tabulated. If the child was repeating ‘memorized’ material, that data was omitted from the study. The age of the child was noted (in months) for each observation. A given sound (e.g., [p]) was marked as used when 50%+1 of the subjects used it in two positions (word initial, word medial, or word final) at that chronological age. The study of that sound was completed when 90% of those studied used it in two of the three position (except for [] which is not found in English initially or finally).

The study (for details, please contact the author) indicated that children’s language acquisition could be broken into six stages, each stage beginning in a six-month’s step above the previous one, i.e., (1) >one year six months or 18 months; (2) > two years or 24 months; (3) 30 months; (4) 36 months; (5) 42 months; (6) four years or 48 months. What confuses the issue is the fact that the end of the developmental stage does not stair-step in equivalent periods. For example, Stage 2 begins >2.0 years and ends >6.0 years; Stage 3 begins 2.6 years and ends 5.0 years; Stage 4 begins 3.0 years but doesn’t end until 8.0 years. The Early Period contains three stages in which children acquire some of the 24 consonants of English and all of the 16 vowels. The Late Period contains stages (4-6) where children acquire only consonantal sounds since all

vocalic sounds have been mastered earlier. In other languages (with fewer vowels or consonants), the conclusion of the periods might not match the stages in quite this manner. These dates are statistically determined, and may be different from children you know.

I illustrated in my presentation these periods and stages with phonetic/phonemic data, sample words, and introduce ‘Simplified English Phonology’ to assist beginning or poorly-trained teachers to English phonology.

Early Period: Stage 1 (6 Consonants and 9 Vowels) (> 1 Yr. 6 Mo. → >3.0+ Years)

The first consonants children acquire need no simplified rendition; they only need a brief explanation. The sounds are primarily the first phonemes they perceive, the bilabials: / m, p, b, w /. In addition, the child easily perceives and produces / n / and the first approximate / h /. Early data on the consonants incorrectly assumed that they could be perceived without a vowel, but the meaning of consonant etymologically is con + sonant = with a sonant or vocalic element, that is, consonants must have an accompanying vowel. We know today that children want their sounds to be meaningful and attempt to attach meaning whenever possible, thereby adding new sounds to their language. The vowels actually used first to accompany these six consonants include the primary tense vowel triangle / i, u, a /, the secondary lax vowel triangle / ⑦, ④, □ / and four of the six diphthongs / ʌ◆, □◆, ɔ◆, ɔʌ /. The [□] and [□◆] contain tense and lax allomorphs of the same / o / phoneme, both of which are used by most speakers. The SEP for these nine phonemes is proposed as / i:, u:, a:, i, e, ou, iu, au, oi >.

Stage 2 (5 Consonants and 4 Vowels) (> 2 Years → 6.0 Years).

Again, the consonants in this stage create no mental problem for teachers (and most parents), but the vowels are all problematical, some due to perception, some to social acceptability, all phonetically. The consonants are the remaining simple plosive sounds: from 2.0 to 4.0 years / d, g, k /, and from 2.0 to 6.0 years / ④ / and / t /. They can be represented with

digraphs as / ng, t, k, d, g /. The four vowels are [④, ⑤, ⑥, ⑦] and (along with ④) the data look like this:

(IPA	DATA	=	SEP)
④	--, <u>si</u> ng, <u>ri</u> ng		/ ng >
⑤	<u>a</u> sh, <u>ca</u> t, --		/ ⑤ >
⑥	<u>au</u> to, <u>ba</u> ll, <u>pa</u> w		/ oh >
⑦	<u>a</u> sleep, <u>su</u> n, <u>ze</u> bra		/ uh >
⑧ ⑨	<u>ea</u> rth, <u>bi</u> rd, <u>fa</u> ther		/ ur >

From this you can see the basics of Simplified English Phonology: there are both monographs and digraphs, 24 alphabetic characters plus *ash* [⑤], but no other phonetic characters. SEP symbols are enclosed by phonemic and orthographic markers, i.e., / SEP >. *Stage 3 (2 Consonants and 3 Vowels) (2.6 → 5.0 years)*.

This final part of the early period begins a new type of sound (fricatives) and concludes with the acquisition of the last monophthong and diphthongs. The consonants include another approximate [y], and the first fricative [f]. (We do not now discuss [⑩] which could be included here.) Both of these are the same in the IPA and SEP, while the vowels are more complex. The final monophthong is the high, back, lax vowel [⑪] which, because of the use of the colon in SEP for the primary vowel triangle, simply becomes / u >. That leaves two problematical diphthongs; / ai / is commonly (mis)understood as < i > and this confusion requires work; it should be seen as / ai >. In addition, the last diphthong, acquired from 3.0 to 5.0 years, is / ei /. It too is commonly misrepresented as < a >, and viewed as basic or fundamental in the alphabet, and its late appearance is not generally known. The data look like this, showing first IPA, last SEP:

y	<u>y</u> es, <u>o</u> n <u>i</u> on, --	y
f	<u>f</u> oot, <u>co</u> <u>ff</u> ee, <u>lea</u> <u>f</u>	f

ʊ	--, <u>foot</u> , <u>book</u> , <u>put</u> , etc., --	u
ai	<u>eye</u> , <u>bite</u> , <u>pie</u>	ai
ei	<u>apron</u> , <u>cake</u> , <u>day</u>	ei

The Late Period begins with Stage 4 (>3 yr. → 8.0 years) encompassing the acquisition of three difficult sounds for American children to acquire, let alone for Asian adults to acquire in their second language: / s, l, r /. The liquids and lateral sounds are stereotypically attributed to speakers of languages like Japanese or Korean, where the contrast is not phonemic in the first language, but we need to recognize the difficulty found in English as well. These three phonemes are simply stated in SEP as / s, l, r >.

In Stage 5 there are only 3 consonants, like in Stage 4, but these three are all fricatives or ‘fric-ative ending’, and they show that voiceless fricatives come before voiced and that fricatives come before affricated stops. The two fricatives from Stage 5 are [z, ●,] and the affricate is [✦]. Notice the developing acquisition of the fricatives and affricates:

Stage 3	[f]	[+labiodental, +continuant, -voice] = / f >
Stage 4	[s]	[+dental, +continuant, -voice] = / s >
Stage 5	[z]	[+dental, +continuant, +voice] = / z >
	[●]	[+postalveolar, +continuant, -voice] = / sh >
	[✦]	[+postalveolar, +stop, +continuant, -voice] = / ch >
Stage 6	[v]	[+labiodental, +continuant, +voice] = / v >
	[○]	[+postalveolar, +continuant, +voice] = / zh >
	[✨]	[+postalveolar, +stop, +continuant, +voice] = / jh >

In summary for Stages 1-6, children acquire nasals first, then plosive stops, both of these with accompanying approximates and vowels, then fricatives and finally affricates. In all instances of the consonants, [-voice] seems to have precedence over the parallel [+voice] feature.

Finally, the full Stage 6 picture includes the above mentioned [v, **○**, **↔**] and the two interdental < th > sounds, [**•**] and [**☆**]. The five consonants of Stage 6 are transcribed in SEP as / v, th, th, jh, zh]. See accompanying Appendices for a complete summary.

In addition, I argue that the same principles and chronology could be applied to any language being investigated, specifically any language where research did not ask similar questions or report similar development. I proposed a generalization of English child language acquisition can be expected in Armenian or Spanish, in that children are essentially the same in different cultures and what is easy or difficult in English should be similar in any language with different (numbers of) consonants and vowels. In all languages, children take the sounds they hear and attempt to produce them with meaning. Most of the time when our children produce language missing a particular sound, or substituting one sound for another, we do not become traumatized by this, simply recognizing that ‘children’s speech’ will pass with maturation. Children rarely say something which is meaningless (to them), but that doesn’t mean we understand everything. The problem is more ours than theirs.

Similarly, adult second language learners will find some things easy and some difficult, just as children do. But adult learners have the added variable of already possessing the phonology of another language. There will be sounds found in one language that are not found in the other. The question is ‘though different, how similar are they?’ When some contrasts and distinctions are problematical for native speakers, we can expect similar difficulties (and successes) for the second language learner.

Related References

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