The Acquisition of Morphonotactics in Lithuanian

Laura Kamandulytė
Vytautas Magnus University
Donelaičio 58, Kaunas

Wiener Linguistische Gazette
Institut für Sprachwissenschaft
Universität Wien
73 (2006): 88-96

Abstract

This study introduces a new approach to the acquisition of Lithuanian morphology and phonotactics and analyses the interaction of the phonotactics of consonant clusters with morphology (morpheme boundaries) in first language acquisition.
When analysing the acquisition of morphonotactics, all consonant clusters were divided into several categories: initial, medial and final consonant clusters and consonant clusters within a morpheme and within a morpheme boundary. These groups of consonant clusters are analysed in the child's language.
Some consonant clusters in the child's language like lb, mb, mp are produced without any problems. But other clusters like sk, nt, st are not always acquired by a child that easily. The analysis of these clusters has shown that it is easier for the child to acquire the clusters when they are across morpheme boundaries. Thus the development of acquisition of marked phonology depends on the acquisition of morphology.

1. Object, goals and methods

The acquisition of the Lithuanian language is a relatively new topic and there has been little research in this field. The acquisition of the Lithuanian language in the domain of morphology was analysed by I. Savickienė (1999, 2000, 2003), P. Wójcik (2000), I. Balčiūnienė (2005, 2006). However, the phonetic, phonological, syntactic or lexical features of Lithuanian first language acquisition have not yet been investigated.

The **object** of this research is the acquisition of morphonotactics in Lithuanian. The main hypothesis of this research has been put forwards by W. U. Dressler, the coordinator of the "Cross-linguistic Project on Pre- and Protomorphology in Language Acquisition" (funded by the Austrian Academy

of Sciences). This hypothesis suggests that there exists a relationship between the acquisition of phonotactics and the acquisition of morphology as the acquisition of phonotactics in every language is related to the acquisition of morphology. It means that phonotactic units existing across morphemes boundaries are recognised and acquired earlier than phonotactic units within morphemes. W. U. Dressler's hypothesis is related to the theory of coherent features selection, which claims that children, when listening to the speech of adults, first notice natural elements and those elements of the language that are denoting a particular function or have an exceptional feature (Dressler et al. 1995-1996: 19, Wurzel 1984: 21). Phonotactic elements (combinations of consonants) emerging across morpheme boundaries are noticed and acquired by a child earlier due to the function fulfilled by a morpheme. For example, in the case of the verb *atlei**s-k**,* the consonant *s* is in the root of the word and the suffix *-k,* joined to the consonant *s,* denotes the imperative mood.

The goal of this paper is to discuss the acquisition of the Lithuanian language in the morphonotactic domain and to support or reject the hypothesis that the speed of acquisition of phonotactic units depends on the morphemic composition of the word.

The data analysed in this research is naturalistic and consists of longitudinal production data, starting with the child's onset (1;8) until the age of 2;8. The girl Monika whose language acquisition is investigated was recorded by her mother Ingrida several times per month in different situations interacting with her mother or other caretakers. The data was transcribed in CHAT format by the girl's mother. The records transcribed by this program indicate exactly not only the form of a word pronounced by the child but also show the correct form of the word. For example,

**MON: Pitauk [=pritrauk].*

First of all the pronounced word form is given which is followed by the correct word form in square brackets.

During the research, all the words used in the girl's speech (either correctly or incorrectly pronounced) which contain consonant clusters were selected from the recorded conversations and their usage was analysed.

Before discussing the acquisition of morphonotactics we would like to present briefly those morphonotactic features that occur in the speech of the child under investigation.

2. Morphonotactic features of the Lithuanian language

According to Dziubalska-Kołaczyk (2002) and Girdenis (2003), all the consonant clusters of the Lithuanian language may be divided into several groups:

1) initials, for example, ***skr****aidyti,* ***pr****iaugti*.
2) medials, for example, *bė****gd****avo, vidu****rd****ienis*.
3) finals, for example, *šo****ks****, di****rbk***.

According to the morphonotactic classification, all the consonant clusters may be divided into two groups (Dziubalska-Kołaczyk 2002):

1) clusters which do not occur across a morphological boundary, for example, ***dr****aug-as, šmai****kšt-****us*,
2) clusters which occur across a morhological boundary, for example, *kly****k-d****avo, lė****k-s*** (in Lithuanian, consonant clusters at the beginning of the word do not belong to this group)

Moreover, there are some clusters which occur as a default across a morphological boundary.

In the Lithuanian language, consonant clusters across a morphological boundary, are typical only of adjectives and verbs (Table 1).

Table 1. Consonant clusters across a morphological boundary

	Initials	**Medials**	**Finals**
Noun	-	compounds (*vidu****r-d****ienis* *'noonday'* ← *vidur-ys* 'noon' + *dien-a* 'day')	sg. gen. of inflectional class -is of feminine gender (*obe****l-s*** 'apple-tree' ← *obel-is* + *-s*; *mote****r-s*** 'woman' ← *moter-is* + *-s*)
		lexical diminutives (*se****g-t****ukas* *'pin'* ← *seg-ė* + -tuk- + -as)	

	Initials	**Medials**	**Finals**
Verb	-	infinitive (*dir**b-t**i* 'work')	imperative (*dir**b-k*** 'work'← *dirb-ti* + *-k*)
		imperfect (*dir**b-d**avo* 'work' ← *dirb-ti* + -dav + -o)	future (*dir**b-s*** 'work'← *dirb-ti* + *-s*)
		reflexive verb (*a**t-s**ikelti* 'get up' ← *at* + *si* + *kelti* but *kelt-is* 'get up')	
		subjunctive mood (*dir**b-č**iau* 'work' ← *dirb-ti* + *-č* + *-iau*; *dir**b-t**um* 'work' ← *dirb-ti* + -t + -um)	
		adverbial participle (*dir**b-d**amas* 'work' ← *dirb-ti* + -dam + -as)	
		passive participle (*dir**b-t**as* 'work': PAST ← *dirb-ti* + -t + -as; *dir**b-s**imas* 'work': FUT ← *dirb-ti* + -si-m-, + -as)	

The aforementioned division of consonant clusters according to their position in the word and morphemic composition of the word is essential when analysing processes of language acquisition and studying whether the position of consonant clusters within the word has any influence on its acquisition.

3. Morphonotactic features of child's speech

When analysing the speech of a Lithuanian child, all the words containing consonant clusters were divided into correctly and incorrectly pronounced words[1]. During the analysis of these words it was noticed that the consonants pronounced by a child may be divided into three groups:

1) Consonant clusters easy to acquire,
2) Consonant cluster moderately difficult to acquire,

[1] This research considered only the correctness or incorrectness of production of consonant clusters.

3) Consonant clusters difficult to acquire.

3.1. Consonant clusters easy to acquire

Consonant clusters easy to acquire are those, which are correctly produced already within the first months of language acquisition. The child has no problem to pronounce these consonant clusters correctly even for the first time. In the child language there are some consonant clusters within morphemes and across morphemes boundaries which are easy to acquire:

a) consonant clusters within morphemes – *lb* (*a**lb**umas* 2;0[2]), *mb* (*ka**mb**ajį* (=kambarį) 1;9), *mp* (*ka**mp**ą* 1;11),

b) consonant clusters across morpheme boundaries – *pt* (*te**p-t**i* 1;11,), *mk* (*iši**m-k*** 1;9), *ns* (*nekanki**n-s**i* 1;11).

3.2. Consonant cluster moderately difficult to acquire

Consonant clusters moderately difficult to acquire are those that are pronounced incorrectly until the age of 2;5 (beginning of the modularized morphology stage). Various consonant clusters belong to this group:

a) consonant clusters within morphemes – bl, dž, gt [=kt], kd [=gd], kl, km, kn, ks, kš, kt, lč, lg, ln, lp, mš, nd, ng, nt, sk, sl, sp, st, sv, šč, tg, zd, žd;

b) consonant clusters across morpheme boundaries – gs [=ks], gt [=kt], ks, kš, kt, lk, ls, lt, lv, ms, mt, nk, nt, ps, sk, sn, st, šd [=žd], šk, šm, šp, šs, št, tl, tn, tr, tv, ts, žd, žm, žs, žt [=št].

As some consonant clusters occur in both ways, it is easy to compare in which case they emerge first. To illustrate this, four consonant combinations – *st, sk, nt*, *ks* – have been chosen.

3.2.1. As is shown in Table 2, the combination *sk* within a morpheme, at the beginning of a word, is pronounced incorrectly till the age of 2;3 (*katyti* (=**sk**aityti), *kanu* (=**sk**anu)), in the middle of the word – till the age of 2;6 (*nekido* (=ne**skr**ido), *pakai* (=pa**sk**ui)). The combination *sk* at the beginning of the word is pronounced correctly for the first time in 1;10

[2]The numerals show the child's age when she pronounced the indicated word for the first time (for example, 2;2 – 2 years 2 months).

(***sk****yluta* (=**sk**ylutė)), in the middle of the word in 2;1 (*pa****sk****ui*). Therefore, we may conclude that *sk* at the beginning of the word is easier to produce.

The combination *sk* within the morphemes boundary is pronounced correctly already from the age of 1;9 (*lei****sk***), and there are only two cases of incorrect pronunciation noticed – in the period of 1;8 and 1;10 (*sės* (=sė**sk**), *šiš* (=sė**sk**)).

Table 2. Acquisition of consonant cluster ***sk***

	Cluster space	**Incorrectly**	**Correctly**
Within a morpheme	Initial	1;9-2;3	1;10-2;8
	Medial	2;0-2;6	2;1-2;8
	Final	-	-
Across a morpheme boundary	Initial	-	-
	Medial	-	-
	Final	1;8-1;10	1;9-2;8

3.2.2. The consonant cluster *st* within a morpheme, at the beginning of a word, is produced incorrectly till the age of 2;5 (*tačius* (=**st**alčius)), in the middle of the word – till the age of 2;6 (*Jusės* (=Ju**st**ės)) (Table 3). *St* across a morpheme boundary is produced incorrectly only till the period of 2;1 (*papati* (=paspau**st**i)). When comparing the production of the combination *st* in the middle of the word, the correct production appears earlier if *st* is across a morpheme boundary (across a morpheme boundary 1;10, within morpheme 2;1).

Table 3. Acquisition of combination ***st***

	Position in the word	**Incorrectly**	**Correctly**
Within a morpheme	Initial	1;9-2;5	1;10-2;8
	Medial	1;8-2;6	2;1-2;8
	Final	-	-
Across a morpheme boundary	Initial	-	-
	Medial	1;9-2;1	1;10-2;8
	Final	-	-

3.2.3. The consonant cluster *nt* within a morpheme is produced incorrectly till the age of 2;6 if it is in the middle of the word (*neketa* (=nekre**nt**a)), and till the age of 2;5 if it is at the end of the word (*a* (=a**nt**)), whereas it is produced correctly in both cases at the same age 1;11 (*a**nt**akį, a**nt***) (Table 4). *Nt* across a morpheme boundary is always produced correctly (*jaki**nt**i* (=raki**nt**i), *ski**nt**i*).

Table 4. Acquisition of combination ***nt***

	Position in the word	**Incorrectly**	**Correctly**
Within a morpheme	Initial	-	-
	Medial	1;8-2;6	1;11-2;8
	Final	1;8-2;5	1;11-2;8
Across a morpheme boundary	Initial	-	-
	Medial	-	1;10-2;8
	Final	-	-

3.2.4. The incorrect production of the combination *ks* is typical of the period of 1;11 – 2;2 *(latysim* (=lan**kst**ysim), *pavesiukai* (=pavei**ksl**iukai)), the combination begins to be produced correctly from 2;3 onwards (Table 5). *Ks* across morpheme boundaries is produced incorrectly till the age of 2;1 (*nepasiesiu* (=nepasie**ks**iu)), whereas it starts to be correctly produced significantly earlier than the one appearing within a morpheme, i.e. the age of 2;0.

Table 5. Acquisition of combination ***ks***

	Position in the word	**Incorrectly**	**Correctly**
Within a morpheme	Initial	-	-
	Medial	1;11-2;2	2;3-2;5
	Final	-	-
Across a morpheme boundary	Initial	-	-
	Medial	1;10-2;1	2;0-2;8
	Final	-	-

To sum up, as it is shown in tables 2-5, the consonant clusters across morpheme boundaries are acquired and pronounced moderately difficult.

3.3. Consonant clusters difficult to acquire

Consonant clusters difficult to acquire are considered to be such combinations of consonants, which are not acquired and not even begun to be produced correctly till the modularized morphology stage. These are consonant clusters containing the consonant *r*: dr, gr, kt, rb, rd, rk, rp, rn, rš, rv, rz, rž, šr, pr, rg, rs, rt, tr. The girl, whose speech was analysed, at the end of the time of recording (2;8) was still not able to produce the sound *r*.

As the evolution of production of these clusters do not depend on the morphemic composition of the word, the article does not analyse such consonant combinations in detail.

4. Conclusions

The analysis of the speech of a Lithuanian child has supported the hypothesis that the development of the acquisition of phonotactics depends on the acquisition of morphology. The child acquires earlier those phonotactic clusters, which denote a special function and thus distinguish notional and functional parts of a word and mark the boundaries of morphemes.

Bibliography

Balčiūnienė, Ingrida (2005): Parodomųjų įvardžių įsisavinimas. *Lituanistica,* vol. 4, 45-54.

Dressler, Wolfgang U., Drażyk Roberta and Danuta, Dziubalska-Kołaczyk Katarzyna, Jagła Ewelina (1995-96): On the earliest stages of acquisition of polish declension. *Acta Wiener Linguistische Gazette*, vol. 53-54, 1-21.

Dziubalska-Kołaczyk, Katarzyna (2002): *Beats-and-Binding Phonology.* Frankfurt: Peter Lang.

Girdenis, Aleksas (2003): *Teoriniai lietuvių fonologijos darbai.* Vilnius: Petro Oksetas.

Savickienė, Ineta (1999): *Lietuvio vaiko daiktavardžio morfologija.* Dissertation. Kaunas: Vytauto Didžiojo universitetas.

Savickienė, Ineta (2000): Linksniai šnekamojoje kalboje. *Darbai ir dienos,* vol. 24, 89-99.

Savickienė, Ineta (2003): *The Acquisition of Lithuanian Noun Morphology.* Wien: Verlag der Österreichischen Akademie der Wissenschaften.

Wójcik, Paweł (2000): *The Acquisition of Lithuanian Verb Morphology: a case study.* Kraków: Quartis.

Wurzel, W. U. (1984): *Flexionsmorphologie und Natürlichkeit. Berlin: Akademie-Verlag.*