

VYTAUTAS MAGNUS UNIVERISTY



Morphosyntactic Complexity in Lithuanian Noun- Adjective Agreement: Insights from Bilingual Children and Non-Native Adults

Jonas Stepšys

Assoc. prof. Laura Kamandulytė-Merfeldienė

Talinn, 2025

Morphosyntactic Features of Lithuanian

Lithuanian is distinguished by its complex morphological system and extensive inflectional patterns.

Adjectives and adjectival words (pronominal adjectives and participles) must agree with nouns in **gender**, **number** and **case**:

graž-us 'nice-MS-SG-NOM' or *-as* 'weather-MS-SG-NOM'

graž-i 'nice-FM-SG-NOM' *dien-a* 'day-FM-SG-NOM'

Complex Declension Patterns in Lithuanian

There are **four** different **masculine** and **three** different **feminine** declension types of **adjectives**.

jaun-as 'young-MS-SG-NOM'
didel-is 'big-MS-SG-NOM'

jaun-a 'young-FM-SG-NOM'
didel-ė 'big-FM-SG-NOM'

Some of which are iconic with the declension types of nouns.

There are **twelve** different declension types of **nouns**.

vyr-as 'man-MS-SG-NOM'
med-is 'tree-MS-SG-NOM'

mam-a 'mom-FM-SG-NOM'
kat-ė 'cat-FM-SG-NOM'

What the Literature Says About the Acquisition of Morphosyntax in Lithuanian

Studies show that morphosyntax in Lithuanian — such as agreement, government, and adjacency — poses challenges for children with atypical language development and for bilingual children (Stepšys, 2023; Kamandulytė-Merfeldienė, 2022).

While typically developing children master these features by age four, children with atypical language development and bilingual children may struggle with them for a longer time (Dabašinskienė et al. 2024).

Morphosyntax Acquisition in Lithuanian: Insights from Adult L2 Learners

Foreign learners studying the Lithuanian language also struggle with adjective–noun agreement.

Studies have found that adjective–noun agreement is difficult in written, experimental, and spontaneous settings (Dabašinskienė & Čubajevaitė, 2009; Bružaitė-Liseckienė, 2017; Stepšys & Kamandulytė-Merfeldienė 2024).

Study Focus

The present study **aims** to explore the acquisition of morphosyntactic agreement features in bilingual children and non-native adults learning Lithuanian as a foreign language.

Structure of Experimental Test

An experimental task was created based on **The Usage-based Model** (Tomasello, 2000) and **The Theory of Natural Morphology** (Dressler et al., 1987).

The experimental sentence selection task included a diverse set of 36 sentences reflecting various declension types of different adjectival words (ADJ-W) and nouns (N), as well as different grammatical categories:

singular (22) and plural (14) forms,

masculine (21) and feminine (15) forms,

different cases (NOM – 12; GEN – 6; DAT – 3; ACC – 2; INST – 1; LOC – 2).

Experimental Task Design (1)

The choices given in the test include:

- **a correct form**,
- **a declension type error** (incorrect ADJ-W declension type),
- **a gender error** (incorrect ADJ-W gender in the target declension type),
- **a number error** (incorrect ADJ-W number in the target declension type).

The order of four options was randomized each time. This method of sentence construction allows to determine whether the inflections of the adjectival words are affected by the different declension types of the nouns.

Experimental Task Design (2)

Neradau _____ varlės

A

žalios

B

žalės

C

žalio

D

žalių

Procedure

Participants, including children and non-native adults, were tested individually using an online test hosted on the *Free Online Surveys* platform.

Bilingual children attended remote Lithuanian language lessons once a week, while Non-native adults studied Lithuanian as a foreign language at the university.

The sample size was too small for a detailed sociolinguistic analysis, so the results are discussed only in terms of language groups: analytic and synthetic.

Data

Group	Age	N	Mean Age	Language Group	Lithuanian (L2) language level
Children (C)	6–12	35	8,9	Analytic (N=24)	–
				Synthetic (N=11)	–
Adults (A)	18–72	25	30,3	Analytic (N=5)	A2 (N=16)
				Synthetic (N=20)	B1; B2; C1 (N=9)

Sociolinguistic Research Results

1. **Analytic language group:** frequent errors in gender agreement (C=42,1%, A=35,1%).
2. **In the synthetic language group,** the most common difficulties were related to inflections of different declension types (A = 38.8%) and number agreement (C = 37.6%).
3. Among non-native adult learners of Lithuanian, beginners (A2 level) make significantly more agreement errors (53,8%) compared to advanced learners (B1, B2, C1 levels), who make 22,8%.

Agreement Errors

Agreement Errors	Bilingual Children (percentage of errors)	Non-Native Adults (percentage of errors)
A declension type error	28,6%	38,0%
A gender error	39,0%	33,6%
A number error	32,4%	28,4%

Impact of Gender Markedness on Morphosyntactic Agreement

The gender of the noun had no significant impact on adjective–noun agreement accuracy.

	Bilingual Children (N=35)		Non-Native Adults (N=25)	
Gender	Masculine	Feminine	Masculine	Feminine
Total Responses	735	525	525	375
Agreement Errors	71	53	67	62
Percentage of Agreement Errors	9,6%	10,0%	16,7%	16,5%

Impact of Number Markedness on Morphosyntactic Agreement

The number of the noun had significant impact on adjective–noun agreement accuracy.

	Bilingual Children (N=35)		Non-Native Adults (N=25)	
Number	Singular	Plural	Singular	Plural
Total Responses	770	490	550	350
Agreement Errors	43	60	52	57
Percentage of Agreement Errors	5,5%	12,2%	9,4%	16,2%

Prevalence of Errors Resulting from Inflectional Diversity (1)

Incorrect adjectival words endings are selected due to the influence of noun declension type:

<i>Knyga</i>	<i>yra</i>	<i>kairoje</i> (=kair ^ė je)	<i>rankoje</i>
<i>The book</i>	<i>is</i>	<i>in the left</i>	<i>hand</i>
(N:FM:SG:NOM)	(V)	(ADJ:FM:SG:LOC)	(N:FM:SG:LOC)

Prevalence of Errors Resulting from Inflectional Diversity (2)

Changing the endings of unproductive declension types to productive ones. For example, declension *-as* (gen. *-o*) is considered to be more productive than declension *-us* (gen. *-aus*):

<i>Noriu</i>	<i>saldo</i> (=sald aus)	<i>medaus</i>
<i>I want</i>	<i>sweet</i>	<i>honey</i>
(V)	(ADJ:MS:SG:GEN)	(N:MS:SG:GEN)

Prevalence of Errors Resulting from Inflectional Diversity (3)

A preference for unmarked grammatical categories over marked ones, for example, singular is unmarked one and used instead of plural (marked one):

<i>Statau</i>	<i>medine</i> _ϑ (=medine _{es})	<i>pilis</i>
<i>I build</i>	<i>wooden</i>	<i>castles</i>
(V)	(ADJ:FM: SG :ACC)	(N:FM: PL :ACC)

Conclusions

1. Agreement difficulties for bilingual children and non-native-speaking adults arise due to the inflectional diversity of the Lithuanian language.
2. Agreement errors are related:
 - to changing the endings of unproductive declension types to productive ones,
 - replication of noun inflections,
 - and a preference for unmarked grammatical categories over marked ones.
3. Agreement difficulties correlate with the learner's native (first) language, being particularly challenging for learners with an analytic first language.

Literature

- Bružaitė-Liseckienė, Justina 2017. Lietuvių kalbos kaip svetimosios semantiškai motyvuotos daiktavardžių giminės atpažinimo ir skyrimo klausimai [On the Assignment of Natural Gender in Lithuanian as a Second Language]. *Taikomoji kalbotyra / Applied Linguistics* 9. 1–30. <https://doi.org/10.15388/TK.2017.17445>
- Dabašinskienė, Ineta, Laura Čubajevaitė 2009. Acquisition of Case in Lithuanian as L2: Error Analysis. *Eesti Rakenduslingvistika Ühingu aastaraamat* 5. 47–65. <http://dx.doi.org/10.5128/ERYa5.04>
- Dabašinskienė, Ineta, Kamandulytė-Merfeldienė, Laura, Balčiūnienė, Ingrida, Prameneckienė, Ieva 2024. *Rišliojo pasakojimo kūrimas: kalbinės patirtys vaikystėje: monografija* [The Creation of Coherent Narratives: Linguistic Experiences in Childhood: A Monograph.], Kaunas: Vytauto Didžiojo universitetas.
- Dressler, Wolfgang, Ullrich, Willi Mayerthaler, Oswald Pangel, Wolfgang Ullrich Wurzel 1987. *Leitmotifs in Natural Morphology*. Amsterdam, Philadelphia: John Benjamins Publishing Company.
- Kamandulytė-Merfeldienė, Laura 2022. Comprehension of Complex Lithuanian Syntactic Constructions: a Study of Typically Developing Children and Children with Developmental Language Disorder. *Eesti Rakenduslingvistika Ühingu aastaraamat* 18. 131–148. <http://dx.doi.org/10.5128/ERYa18.08>

Literature

Stepšys, Jonas, Kamandulytė-Merfeldienė, Laura 2024. Būdvardiškųjų žodžių derinimo sunkumai: eksperimentinis dvikalbių vaikų ir svetimkalbių suaugusiųjų kalbos tyrimas [Challenges in adjective agreement: an experimental study on bilingual children and adults learning lithuanian as a foreign language]. *Darbai ir Dienos / Deeds and Days* 81. 117–136. <https://doi.org/10.7220/2335-8769.81.7>

Stepšys, Jonas 2023. Būdvardiškųjų žodžių derinimo ryšio įsisavinimas dvikalbystės sąlygomis [The Acquisition of Adjective Agreement by Bilingual Children]. *Taikomoji kalbotyra / Applied Linguistics* 20. 172–182. <https://doi.org/10.15388/Taikalbot.2023.20.13>

Tomasello, Michael 2000. First steps toward a usage-based theory of language acquisition. *Cognitive Linguistics* 11. 61–82. <https://doi.org/10.1515/cogl.2001.012>

VYTAUTAS MAGNUS UNIVERISTY



M C M X X I I
VYTAUTO DIDŽIOJO
UNIVERSITETAS

Morphosyntactic Complexity in Lithuanian Noun- Adjective Agreement: Insights from Bilingual Children and Non-Native Adults

Jonas Stepšys

Assoc. prof. Laura Kamandulytė-Merfeldienė

Talinn, 2025