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# University students' interactions with AI chatbots: linguistic means of referring to AI chatbots in Estonian

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# Introduction

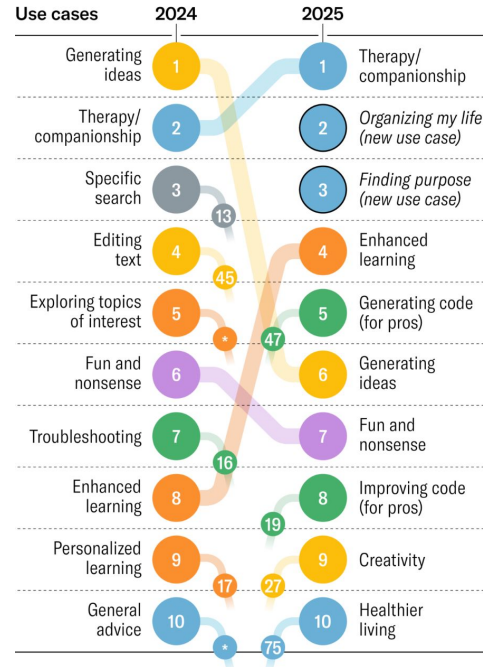
- ❖ AI has become an important part of people's everyday lives: it is used to meet psychological and social needs, for learning, to achieve healthier lifestyle, and more (Zao-Sanders, 2025). Therefore, it could be seen as something akin to a friend.

## Top 10 Gen AI Use Cases

The top 10 gen AI use cases in 2025 indicate a shift from technical to emotional applications, and in particular, growth in areas such as therapy, personal productivity, and personal development.

### Themes

PERSONAL AND PROFESSIONAL SUPPORT	TECHNICAL ASSISTANCE AND TROUBLESHOOTING
CONTENT CREATION AND EDITING	CREATIVITY AND RECREATION
LEARNING AND EDUCATION	RESEARCH, ANALYSIS, AND DECISION-MAKING



(Zao-Sanders, 2025)

- ❖ The language used by AI chatbots has been studied in a number of ways (see e.g Baek et al. 2025; Janson, 2023; Song et al. 2023). In contrast, little attention has been given to how humans themselves write when interacting with chatbots.
- ❖ There are established traditions regarding how to refer to author(s), sources, inanimate objects etc in academic texts.
  - what about AI?

# What do we want to know?

- ❖ How do university students interact with AI chatbots?
  - greetings, politeness
- ❖ How do the students describe their interaction with AI chatbots in an academic text?
  - pronouns, names, personification etc.

# Human-AI interaction

- ❖ When talking to chatbots, people tend to use shorter messages with restricted vocabulary, also more profanities (Hill et al. 2015).
- ❖ The language is more neutral and formal. Politeness is often used, but this may stem from habit (Paulikova, 2025).



# Post




**tomie**  @tomieinlove · Apr 16




I wonder how much money OpenAI has lost in electricity costs from people saying “please” and “thank you” to their models.

 1.2K

 5.9K

 181K

 5.8M



**Sam Altman**  

@sama



tens of millions of dollars well spent--you never know

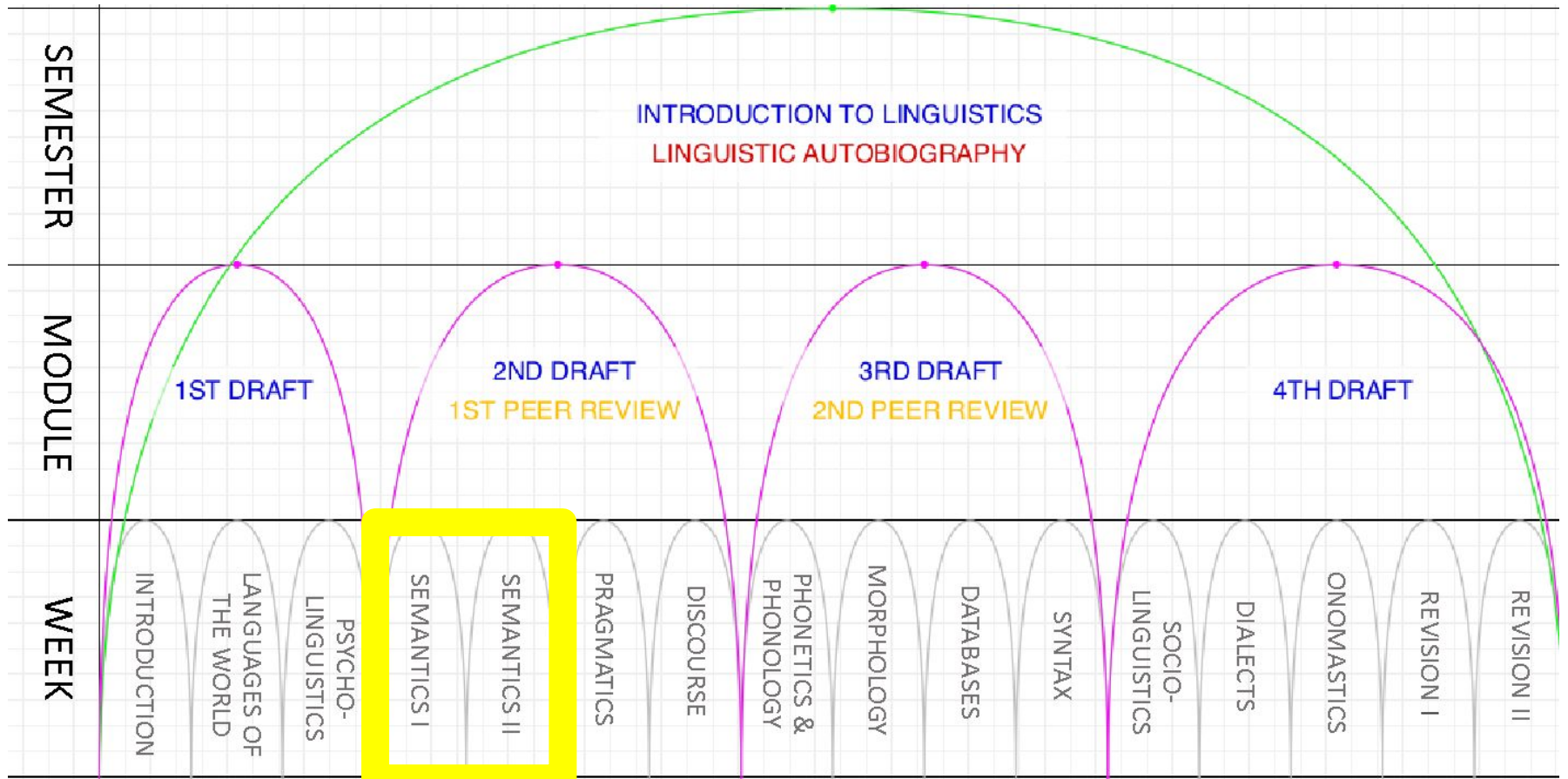
2:15 AM · Apr 17, 2025 · **594K** Views

# Referring to animate and inanimate objects in Estonian

- ❖ No grammatical gender nor gender-specific pronouns (Grambank)
  - Pronouns (*sina* and *teie* as SG2/PL2; *tema*, *ta* 'he/she' or *see*, *too* 'it')
- ❖ Nouns (*robot*)
- ❖ Names (*ChatGPT*)
- ❖ Impersonal voice (*kirjutati* 'was written')

# Coursework of “Introduction to Linguistics”

- 2023/2024 and 2024/2025 academic year
- 3 ECTS
- 247 and 252 first year undergraduate students
- Linguistic Autobiography
- Experiential Learning: “active engagement between the inner world of the person and the outer world of the environment” (Beard, Wilson 2013)
- Personal language-related experiences + theory from lectures and materials
- 15 lectures



# Process

## 4 drafts

- Instructor feedback (1st and 4th draft)
- Peer feedback (2nd and 3rd draft)
- Final paper about 2000 words (4 drafts, introduction and summary, sources, appendix)
- 1st part of 2nd draft: students could choose between 3 tasks

# Task

*Ask a generative AI (e.g. ChatGPT) for **three words that are polysemous in Estonian** and let it explain, what are the relations between the meanings of the words.*

*Analyse the robot's answers with the help of linguistic sources – which of the words are **actually polysemous**? Are some of them **examples of homonymy instead**? Which of the **explanations** about the relations between meanings **make sense**? Add screenshots of prompts and output to the appendix and cite the robot properly in references.*

# Sources for the task

- **Notes from lectures:** 4.-7. loengu materjalid
- **Dictionaries**
  - EKSS
  - Sõnaveeb
- **Textbooks**
  - general linguistics: [Karlsson, Fred. 2002. Üldkeeleteadus. EKSA. Tallinn. lk 242](#)
  - semantics: [Pajusalu, Renate 2009. Sõna ja tähendus. Eesti keele sihtasutus 2009](#)
- **Classical book about metaphor theory:** Lakoff, George, Mark Johnson 1980. Metaphors We Live By. Chicago. The University of Chicago Press. Eesti keeles 2011: Metafoorid, mille järgi me elame. (tlk Ene Vainik) TLÜ kirjastus.
- **Articles in linguistic journal for secondary school and university freshmen**
  - [Tragel, Ilona 2002. Kognitiivsest lingvistikast. Mida kognitiivne tähendab ja mis tal keelega pistmist on? Oma Keel 1, lk 6-11.](#)
  - [Õim, Asta 2002. Metafoor ja juurikad. – Oma Keel 2. 27–35.](#)

# The concepts that the student has to use

- meaning
- referent
- polysemy, polysemous word
- homonym (homograph, homophone, inflectional homonymy)
- categorization
- prototype
- domain
- perspective
- image schema
- conceptual metaphor
- mapping

# The aim of the task

## Background

When we were experimenting with how generative AI reacts to such prompts, we saw that it commonly mixed up polysemy and homonymy

The students' task was to

- recognize both polysemy and homonymy
- use reliable sources to critically evaluate the words and the relations provided by AI

Thus the aim was to demonstrate that

- the output of GenAI – complex topics like polysemy is not reliable
- one could use reliable sources to make sense of output of the GenAI

# Material (1)

	<b>2023/2024</b>	<b>2024/2025</b>
<b>Task to use a chatbot (texts)</b>	116	94
<b>Prompt (pictures)</b>	97	74

# Material (2)

- Texts in Estonian
- Chatbot ChatGPT
- The prompts were mostly in Estonian
  - 2023/2024 (116): 105 in Estonian, 5 in English, 1 in Russian, 5 NA
  - 2024/2025 (94): 93 in Estonian, 1 in English
- Prompts in numbers
  - Minimum 1
  - Maximum 6 / 4
  - Average 1.7 / 1.3
  - Median 1

# Greetings in Prompts

2023/2024

- 3/97 (3,1%)
- *Tere!* 'Hello!'

2024/2025

- 3/74 (4,1%)
- *Tere!, tere!, tere*

***Tere!** Palun nimeta kolm eesti keeles polüseemset sõna ja selgita, millised on nende sõnade tähenduste vahelised seosed. (2024\_84)*

'Hello! Please name three polysemous words in Estonian and explain what are the relations between the meanings of the words.'

# Politeness in Prompts (1)

2023/2024

- *Palun* 'Please'
  - 34/97 (35,1%)
- *Aitäh* 'Thank you'
  - 0

*Nimeta **palun** kolm polüseemset sõna eesti keeles (2024\_4)*

'Please name three polysemous words in Estonian'

2024/2025

- *Palun* 'Please'
  - 30/74 (40,5%)
- *Aitäh* 'Thank you'
  - 1 (1,4%)

1. ***Palun** anna mulle 3 polüseemset sõna eesti keeles ning selgita nende sõnade tähenduste vahelisi seoseid.*
2. ***Aitäh!*** (2025\_62)
  1. Please give me 3 polysemous words in Estonian and explain the relations between the meanings of those words.
  2. Thank you!

# Politeness in Prompts (2)

## 2023/2024

- Imperative – 145 verbs
- Conditional – 4 verbs
  
- 2SG in 83 prompts
- 2PL in 2 prompts
- 4 prompts in English

## 2024/2025

- Imperative – 129 verbs
- Conditional – 2 verbs
  
- 2SG in 68 prompts
- 2PL in 1 prompt

# Politeness in Prompts (3)

palun nimeta kolm eestikeeles esinevat polüsemset sõna

Siin on kolm eestikeelset polüsemset sõna:

1. **Loo** - võib tähendada nii laulu (muusikateos) kui ka kirjutamist (nt loo kirjutamine).
2. **Kaar** - võib viidata nii arhitektuurilisele kaarele kui ka kaarekujule (nt kaarjalt hüppamine).
3. **Moor** - võib tähendada nii maapinda, mis on märg ja soine, kui ka vanemat naist (nt rahvalik nimetus).

Need sõnad omavad erinevaid tähendusi sõltuvalt kontekstist!

(2025\_52) **2SG**: 'please name three polysemous words that appear in Estonian'

*what are the definitions of "tuli" in Estonian? And can you explain how are they related with each other?*  
(2024\_56)

Näidake palun kolm eesti keeles polüsemset sõna ja selgitage, millised on nende sõnade tähenduste vahelised seosed.

(2025\_6) **2PL**: 'Please show three polysemous words in Estonian and explain what are the relations between the meanings of those words.'

# Personification in Texts (1)

2023/2024 (116 texts)

- *Tema* 'he/she' in 40 texts (34,5%)
- *See* 'it' in 15 texts (12,9%)
- Using a name or phrase to reference the chatbot in 115 texts

2024/2025 (94 texts)

- *Tema* 'he/she' in 37 texts (39,4%)
- *See* 'it' in 7 texts (7,4%)
- *Too* 'it' in 1 text (1,1%)
- Using a name or phrase to reference the chatbot in all texts

# Personification in Texts (2)

**Tema:** *Küsisin tekstirobotilt*

*(Microsoft Copilot, vt lisa 6, vestlus toimus 24.10.2024)*

*kolm eesti keeles*

*polüseemset sõna ja palusin*

*tal selgitada, millised on*

*nende sõnade tähenduste*

*vahelised seosed. Sõnad, mis*

*ta mulle kirjutas olid aken, hiir*

*ja koor, ning igale sõnale*

*andis ta kaks tähendust ja*

*seose. Akna esimeseks*

*tähenduseks sain, et aken*

*majas, mille kaudu saame*

*tuppa valgust ja õhku. Teiseks*

*tähenduseks andis ta arvuti*

*tarkvaras aken, mis kuvab*

*erinevat informatsiooni. [...]*

*(2025\_65)*

**See:** *Esitades ChatGPT-le palve, et see pakuks kolm eesti keeles*

*polüseemset sõna ning nende*

*sõnade tähenduste vahelisi*

*seoseid, olid vastused järgmised*

*(LISA 4-7): [...]* (2024\_19)

**Too:** *Küsisin robotilt, et too*

*esitaks mulle kolm eesti keelset*

*polüseemset sõna milleks ta andis*

*mulle "Üle", "Isa" ning "tigu". [...]*

*(2025\_17)*

**Naming:** Küsisin **tekstirobotilt** (kasutasin

**ChatGPT-d**), mis on kolm eesti keeles

polüseemset sõna (vt Lisa 4). Vastuseks sain

järgnevad sõnad: silm, jalg ja kinnas. **Tekstirobot**

kirjutas iga sõna järel lühidalt, miks just need on

polüseemsed sõnad. Silma kohta ütles, et see

võib tähendada inimese näo osa või hoopis

nööbi/nõela auku. Jala kohta ütles, et viitab

inimkeha osale, aga tähendab ka mööbli osa,

näiteks tooli- või lauajalg. Kinda kohta, kirjutas

**tekstirobot**, et tavaliselt viitab see

käesoojendajale, kuid tähendab ka vanasti

kasutatud piitsatüüpi. Seejärel palusin

**tekstirobotil** selgitada, millised on nende sõnade

tähenduste vahelised seosed (vt Lisa 5). Silma

kohta ütles **tekstirobot**, et kehasilm ja nõela silm

on seotud omadusega, sest mõlemad on

avaused, mille kaudu saab miski läbi minna või

millest saab läbi vaadata. Jala kohta kirjutati seda,

et inimese jalg ja mööbli jalg mõlemad toetavad ja

kannavad raskust. Seetõttu on inimese ja mööbli

jalal sarnane funktsioon. [...]

# Common names for chatbots

## 2023/2024

1.	ChatGPT	76,7%
2.	tekstirobot	62,1%
3.	robot	59,5%
4.	tekstirobot ChatGPT	19,8%
5.	tehisintellekt	12,1%

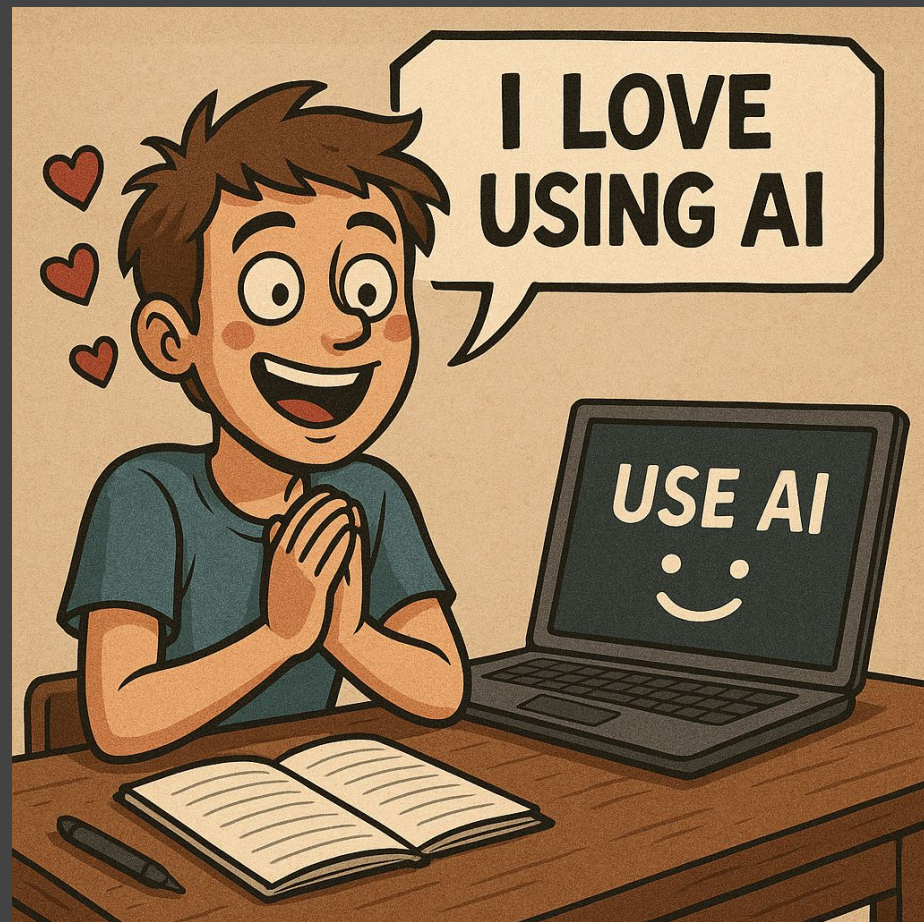
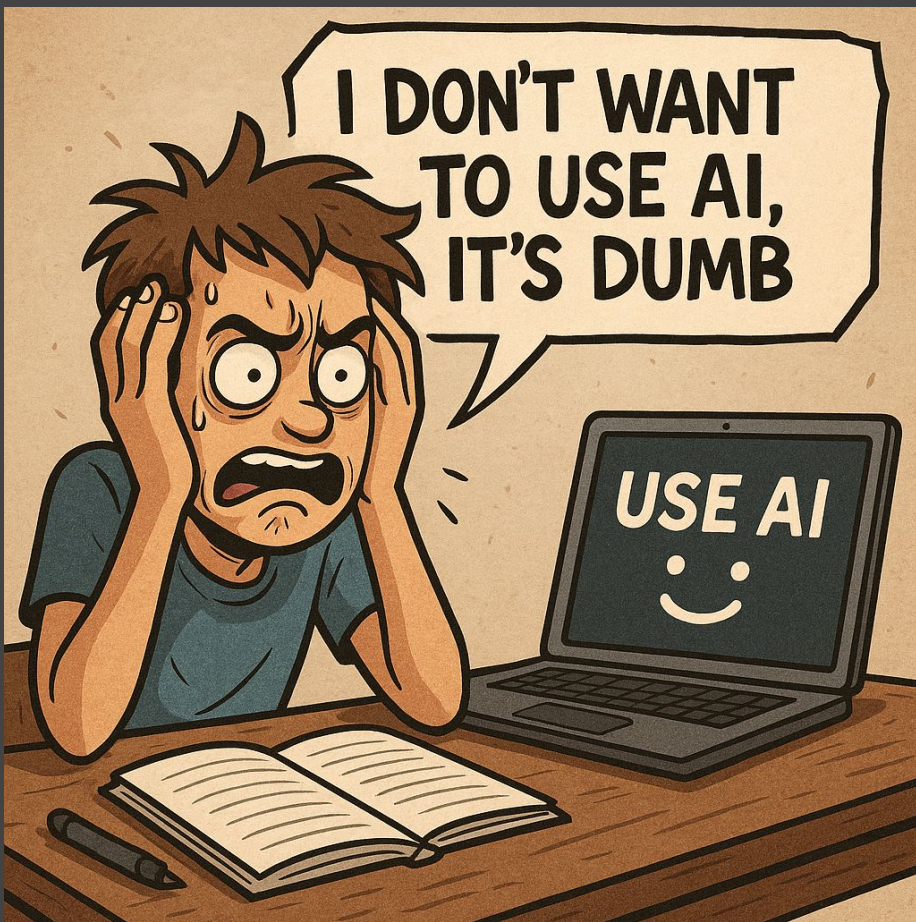
## 2024/2025

1.	tekstirobot	64,9%
2.	ChatGPT	59,6%
3.	robot	50%
4.	tekstirobot ChatGPT	18,1%
5.	tehisintellekt	16%

# Conclusion

- ❖ Greeting and thanking the chatbots is not that common
- ❖ Politely asking with *palun* 'please' is common and has increased
- ❖ Prompts are given as orders (but some do use conditional)
- ❖ Use of an animated pronoun or a name are the most popular ways of referencing chatbots
- ❖ Most common names for chatbots are associated with the overall terms or the particular chatbot a student uses for the task

What are the reasons for politeness and personification?



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