Before and After with Temporal and Spatial Meaning in Language Acquisition

Veronika Harmati-Pap
Research Institute for Linguistics (HAS) | Pázmány Péter Catholic University

Research questions
Do Hungarian postpositions with a spatial meaning have primacy with respect to postpositions with a temporal meaning during language acquisition?

Előtt ‘Before/in front of’ – Után/Mőgött ‘After/Behind’

Frame-hypothesis: The conceptual interpretation of space predates the conceptual interpretation of time (Bowern, 1983)

Method
• Participants: 30 children, 3.6 – 7.5 (m=5.7) – 2 parts: spatial task – temporal task.
• Spatial task
  – Hide and Seek scene, 3 animals play (fig.1) + blindfolded puppet
  – TV/J: Hedgehog puppet (HP) made statements about the scenes.
  – 24 questions, 10 targets (5 before, 5 behind)
  “Experimenter: Where did the dinosaur find the wolf?”
  – Hedgehog: “Behind the bed” – Child: “Y/N” (fig 2)

Temporal task
• 3D cartoon, 4 scenes, 1.5 minute
• 2 sessions: full video first followed by scene by scene (questions)
• 16 questions, 4 targets (2 before, 2 after)
• Forced choice
  “When does the panther stretch? Before or after he falls down?”

Results
Correct identification of locations:
Előtt $r = 0.321^4$ (p=0.083)
Mőgött $r = 0.264$ (p=0.158)

Children have already learnt the correct usage of spatial postpositions for this age.

Temporal task
Correct identification of temporal relations:
Előtt $r = 0.383^*$ (p=0.037$^*$)
Után $r = 0.316$ (p=0.089)

Children learn the correct usage of after earlier

Conclusion
There is no significant difference between the youngest and the oldest children’s spatial production, but there is in the temporal production.
→ The age has a significant effect on the production of előtt, ’before’ in temporal meaning. The children tend to replace it with ’after’.

1. The acquisition of spatial meaning of these postpositions is completed by the pre-schooler age, but the temporal meaning is not completely acquired yet.
→ The spatial representation is easier.
2. Után ‘After’ appears to be easier in temporal dimension.

Additional conclusions:
Directionality might lead the acquisition of temporal meaning of these postpositions, same as in spatial dimension (Piéhé, 2014).

Main references

Acknowledgement
This research was supported by grant 108951 of OTKA, the Hungarian Scientific Research Fund.