Transparency of signs
in a Flemish Key Word Signing system

Kristien Meuris¹, Bea Maes², Dirk Lembrechts³ and Inge Zink¹,4


Introduction

Key Word Signing (KWS) = means of Augmentative and Alternative Communication (AAC), in which key words in a spoken sentence are simultaneously supported by manual signs - used frequently in people with intellectual disabilities (ID) and communication disorders - advantages⁵:
  - unaided
  - natural form of communication
  - multimodality
  - slows down speech rate
  - simplifies language input
  - visually close to referent (iconic) (figure 1)

→ what is the iconicity of the signs of our Flemish KWS-system?
→ which influence does iconicity has on sign acquisition and recall?

Aim

To determine the transparency of the 500 basic signs of a Flemish KWS-system in normally developing adults to be able to study the influence of the transparency on sign acquisition and recall in adults with ID

Table 1: Iconicity-model

<table>
<thead>
<tr>
<th>Visual relation</th>
<th>Association</th>
<th>Cultural</th>
<th>Deictic</th>
<th>Manipulation</th>
<th>Shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Handshape</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Location</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phonics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

Method

Material, participants and protocol:
  - video clips of 500 basic signs, split screen frontal/profile (figure 2)
  - randomised in 10 lists of 50 signs, each sign shown twice
  - each list shown to group of 11 to 28 undergraduate students
  - Speech Language Pathology and Educational Sciences (total of 171 students, 91% female, age 17-26 with median = 18, no experience with KWS or sign language)

"Write down, in one word, what you think the sign means."
answer is considered correct if = gloss or synonym

Processing results:
  - quantitative:
    - transparency of sign = % of students who guess meaning correctly
    - amount of transparent signs = sign is transparent if ≥ 50% of students guess correctly (criterion Van Uden⁶)
    - transparency of KWS-system = mean transparency of all 500 signs
  - qualitative:
    - analysis of false answers with iconicity-model (table 1), based on models of Pietrandrea³ and Taub⁴

Results

Quantitative (figure 2)
  - 21.2% of all signs (106 of 500): transparent
  - 49.4% of all signs (247 of 500): non-transparent (no one guessed correctly)
  - mean transparency of remaining 29.4% of signs = 19% (SD 14%)
  - mean transparency of all 500 signs = 21.7% (SD 31.5%)

Qualitative (figure 3)
  - 58% of all false answers based on parameter “movement”
  - 48% of all false answers based on same parameter as correct answer

Discussion

The mean transparency seems rather low for a KWS-system (transparencies of 41-49% found in other systems such as Amerind³⁶), possible explanations:
  - other KWS-systems have less signs (Amerind has only about 100 signs)
  - many signs from our Flemish KWS-system are identical to signs from Flemish Sign Language
  - transparent signs in languages are typically lower than in KWS-systems (10-25%)
Even if a sign is not labeled correctly, the parameter carrying the meaning is often recognised. This might be linked to the translucency of a sign.

Conclusion

Transparency of our Flemish KWS-system is quite low, and half of the signs are non-transparent. This might have clinical implications on the selection of signs for use with adults/children with ID.
- Should we focus on the more transparent signs?
- Or is the impact of transparency on sign learnability not that important?
- Maybe translucency is of greater relevance?
Directions for further research:
  → find out translucency of the 500 basic signs
  → study the influence of transparency and translucency on sign acquisition and recall

References & Acknowledgements


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Stien.Meuris@med.kuleuven.be


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