Empirical Research on Mouth Patterns considering Sociolinguistic Factors:

A Comparison between the Use of Mouth Patterns of Deaf L1- and Hearing L2-Users of German Sign Language (DGS)

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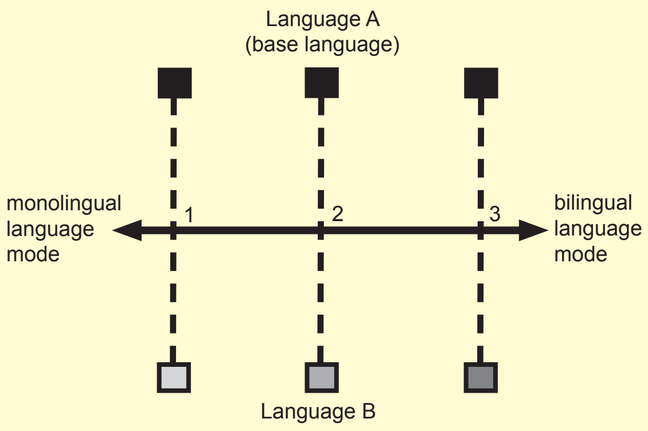
Theory

Mouth Patterns:

– mouth gestures genuine part of sign languages
– mouthings originating from speech contact;
part of the system of sign languages only to a certain extent (cf. Lucas/Valli 1992)

Continuum of Language Modes:



(cf. Grosjean 2008: 40)

Sociolinguistic Factors have an Effect on:

– the **sociolinguistic variation** in one language
– the occurence of **language contact phenomena** (*nonce borrowing, codeswitching* (cf. Boyes Braem 2001))

→Both variation and language contact phenomena have an effect on the occurence of mouth patterns.

→Contact between sign and spoken language leads to different phenomena than known for uni-modal language contact.

„A visual-gestural means of communication offers combinatory possibilities that a spoken language does not allow for."
(Ebbinghaus/Hessmann 2001: 150)

bimodal bilingualism (cf. Emmorey et al. 2008)

Sociolinguistic Factors having an Impact on Language Use:

– speaker, addressee, audience
(region, gender, age, ethnicity, socioeconomic status, hearing status, age of acquistion)
– setting
(style, content, and purpose of the conversation; in research: research question, elicitation material)

(cf. Labov 1970: 188; Lucas/Bayley/Valli 2003: 21; Grosjean 2008: 150)

Sign Language Interpreters:

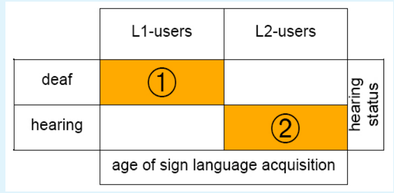
– often said to use a different kind of sign language than deaf sign language users
(cf. Meyenn/Wempe 2006)
– one possible reason: sociolinguistic factors – hearing status and (typically) sign language as L2

Hypotheses:

1. The occurences of mouthings and mouth gestures in the sign language productions of deaf natives and hearing L2-users differ both in quality and quantity.
2. Other factors such as the addressee's hearing status and the kind of text produced will also have an effect on the use of mouth patterns.
3. The stronger the influence of the spoken language in a setting, the higher the frequency of mouthings and the more codeswitches will occur.

Empirical Research – Pilot Study

5 Participants in 2 Groups

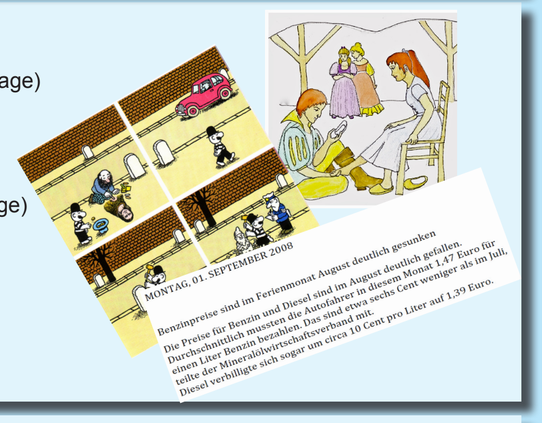


group 1:
deaf native signers
(n = 3)

group 2:
sign language interpreters
who acquired DGS as a second language
(n = 2)

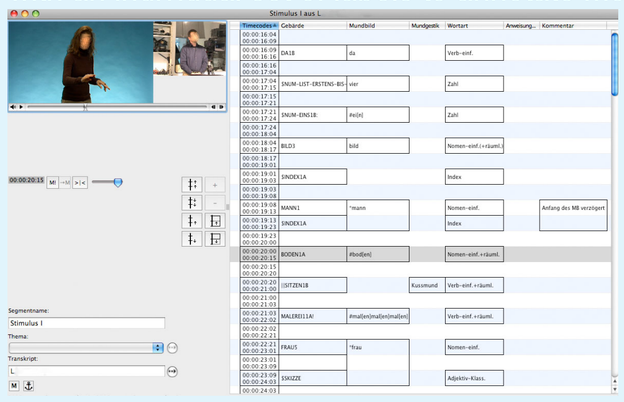
4 Stimuli

– picture story (Jakob story, no language)
→ narrated twice by the native signers, once to a deaf and once to a hearing addressee
– single picture (fairy tale, no language)
– text (short news report)
– interview (last holiday)



Transcription of the Data

using iLex (cf. Hanke/Storz 2008)
with an individual set of labels to annotate mouth gestures



tiers:
- signs
- mouthings
- mouth gestures
- parts of speech
- instructions (interviewer)
- remarks (transcriber)

elicitated data:
70 minutes;
full transtription and analysis of
21 minutes

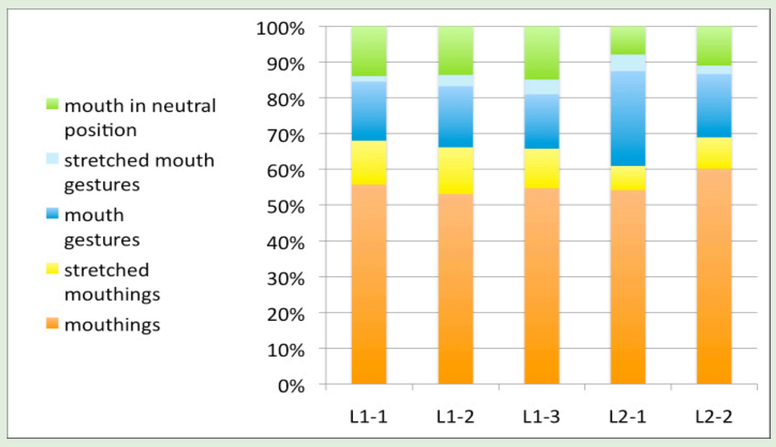
Evaluation

– **frequency and distribution** of mouth patterns with respect to
- the two groups of informants as well as the individuals
- the stimuli
- addressees with different hearing status
- parts of speech
- stretched and reduced mouthings

– **qualitative analysis** of combinations of signed & spoken components
(on base of categories established by Langer/Bentele/Konrad (2002))
– **research design and methodology**

Selected Results

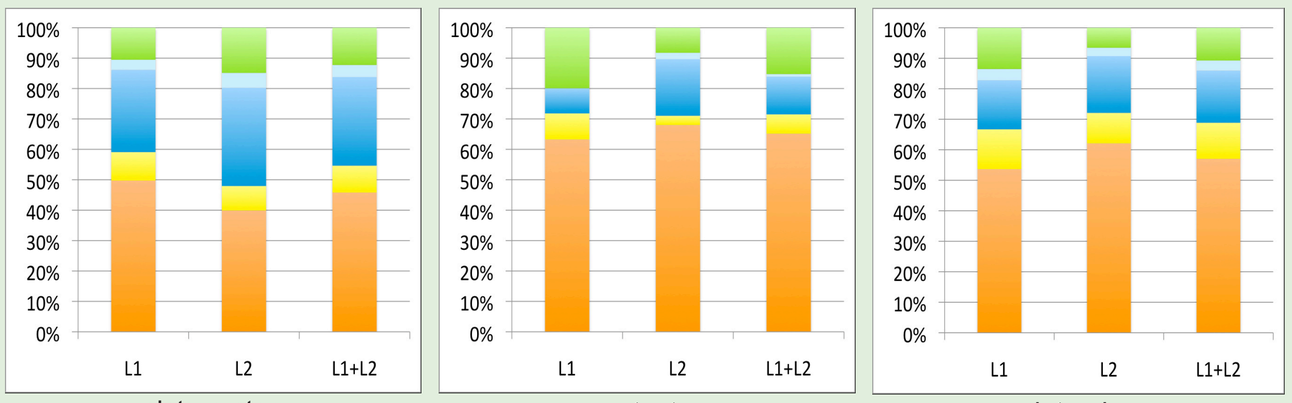
Quantitatively



percentage of signs accompanied by a class of mouth patterns or without any movement of the mouth

Hypothesis 1:

- There are no significant differences with regard to the averages for individual informants.
+ Responses to different stimuli show differences in the use of mouth patterns between hearing L2- and deaf L1-users of DGS.



picture story | text | interview

Hypothesis 2:

+ The frequency of mouth patterns depends on the type of text produced.
+ Narratives with addressees of different hearing status vary concerning the frequency of mouthings, but no pattern with regard to the hearing status is obvious.

→ Other factors seem to be decisive (*audience design* (cf. Myers-Scotton 2007: 155f.)).

Hypothesis 3:

+ The high frequency of mouthings in response to the text supports the hypothesis.
+ Hearing status and age of acquisition seem to have an influence, but the hearing L2-users of DGS did not use more mouthings than the deaf natives in each of the contexts.

Other Results:

– Parts of speech: 5 categories in which the L2-users use significantly more mouthing
– Native signers reduce and stretch mouthings nearly twice as often as the hearing L2-users.

Qualitatively

There are combinations of signed and spoken components – both in the productions of hearing L2- and deaf L1-users – which are not (yet) part of DGS and must be considered as codeswitches or nonce borrowings.

– Phrases or sentences need to be considered in addition to combinations of only one sign and one spoken component as some expressions might seem like pure sign language on the lexical level, but not on a syntactical level.
– Difficult to judge: Often it is not possible to draw a distinct line between what still is DGS and what is not.

→ need for deaf native judges (cf. Lucas/Valli 1992)

– Hearing L2-users seem to use mouthings to specify the meaning of a sign or give supplementary meaning the sign does not include.

Conclusions

– Sociolinguistic factors (e.g. hearing status, age of acquisition, addressee, type of text) do have an effect on sign language production and mouth patterns in particular and have to be considered with regard to the elicitation of data.
– More factors which are potentially crucial have to be identified by further research.
– Hypothesis: The education factor outweighs the other factors.

References:

Boyes Braem, Penny (2001): „Functions of the Mouthing Component in the Signing of Deaf Early and Late Learners of Swiss German Sign Language". In: Brentari, Diane (ed.): *Foreign Vocabulary in Sign Languages – A Cross-Linguistic Investigation Of Word Formation.* New Jersey: Erlbaum, 1–47.

Ebbinghaus, Horst/Hessmann, Jens (2001): „Sign language as multidimensional communication: Why manual signs, mouthings and mouth gestures are three different things". In: Boyes Braem, Penny/Sutton-Spence, Rachel (eds.): *The Hands are the Head of the Mouth.* Hamburg: Signum. 133–151.

Emmorey, Karen/Borinstein, Helsa B./Thompson, Robin/Gollan, Tamar H. (2008): „Bimodal Bilingualism". In: *Bilingualism: Language and Cognition* 11: 1, 43–61.

Grosjean, François (2008): *Studying Bilinguals.* New York: Oxford University Press.

Hanke, Thomas/Storz, Jakob (2008): „iLex - A Database Tool for Sign Language Corpus Linguistics and Sign Language Lexicography". URL: www.sign-lang.uni-hamburg.de/lrec2008/pdf/lrec2008_hanke.pdf

Labov, William (1970): „The Study of Language in its Social Context". In: Pride, John Bernard/Holmes, Janet: *Sociolinguistics. Selected Readings.* Harmondsworth: Penguin Books. 180–202.

Langer, Gabriele/Bentele, Susanne/Konrad, Reiner (2002): „Entdecke die Möglichkeiten. Zum Verhältnis von Mundbild und Gebärde in Bezug auf die Bedeutung in der DGS". In: *Das Zeichen* 59, 84–97.

Lucas, Ceil/Bayley, Robert/Valli, Clayton (2003): *What's Your Sign for Pizza? An Introduction to Variation in American Sign Language.* Washington, D.C.: Gallaudet University Press.

Lucas, Ceil/Valli, Clayton (1992): *Language contact in the American deaf community.* London: Academic Press.

Meyenn, Alexander von/Wempe, Karin (2006): „‚Wir verstehen uns als Serviceorganisation für die Landesverbände...'". In: *Das Zeichen* 72, 26–34.

Myers-Scotton, Carol (2007): *Multiple Voices. An Introduction to Bilingualism.* 2nd ed. Blackwell.