Researching relations between hearing Sign Language interpreters and their deaf clients: Methodological considerations on empirical data collection with prelingually Deaf participants

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Abstract

The present paper discusses necessary adaptations in research methodology to include Deaf Sign Language users in a survey on Sign Language interpreting. Prelingually Deaf Sign Language users have, on average, lower literacy levels than their hearing counterparts. Many of them disfavour reading and writing texts and prefer to be addressed with, and communicate in Sign Language. The present paper reports on a survey among hearing Sign Language interpreters and Deaf Sign Language users that included qualitative expert interviews and a questionnaire with multiple choice as well as free text answers. In total, the questionnaire was processed by 771 participants, 325 of whom are hearing Sign Language interpreters and 446 Deaf Sign Language users. The paper reports on how the data was collected among the Deaf participants including the use of Sign Language and Sign Language oriented Easy Language Plus in order to meet their communicative preferences. The paper is a contribution to the current efforts in Accessible Communication research to adapt methodology according to the participant's communicative needs.

1 Introduction

Sign Language interpreting has experienced a significant upswing in Germany during the last two decades, with various legal regulations paving the ground for the financing of Sign Language interpreters and academic training being included in various university locations. Currently, Sign Language interpreters are academically trained at the universities of Hamburg (Prillwitz 1992; Feist et al. 2012), Berlin, Magdeburg Stendal, Zwickau, Köln, Landshut, Heidelberg and Idstein (the latter in the privately financed Fresenius Institute; cf. Verlag Karin Kestner).

After Sign Language received its official status as the language of the Deaf community in 2002 (1999 in Berlin), we have seen an expansion of contexts with interpretation as well as a professionalisation of the interpreters. At the moment, there is still a considerable lack of interpreters to respond to the needs of Deaf clients (for Baden-Württemberg, for example, cf. Hennies/ Fertig 2019; for the situation in Berlin, cf. Sequeira Gerardo 2019).

At the same time, there are pervasive communicative disruptions between the hearing Sign Language interpreters and their Deaf clients (Loidl 2021), not least because of the discrepant power situation of Deaf clients in a hearing majority society and the resulting difficult role of the hearing interpreters (Grbić 2020; Ziebart 2016; Shores Herman 2012). These disruptions may negatively affect interaction between the partners in the interpreting situation or often lead to complaints by the Deaf clients. However, concrete problems or impediments are rarely named or localised. In order to further professionalise co-operation, it is essential to understand the reasons for and mechanisms of these conflicts. The project reported here (Maaß, L. M., forthcoming), therefore, examines the co-operation between hearing Sign Language interpreters and their Deaf clients. It is situated in translation research where the interaction of the different agents (translators, contractors, clients) in the translation process has been a subject of research at least since Risku's ([3]2016) seminal work on translation management. But we do not, as of now, have any reliable results for this perspective with regard to Sign Language interpreting.

Research on German Sign Language can be situated in the field of Accessible Communication research. The Research Centre for Easy Language (University of Hildesheim) is leading in this field and is therefore the home institution for the present research project. Hearing Sign Language interpreters and their Deaf clients were invited to participate in the survey in order to elicit answers on the current state of their co-operation. The survey was conducted via questionnaire with ample room for free text input in order to open up a quantitative as well as a qualitative perspective. In total, 771 persons took part, consisting of 325 Sign Language interpreters and 446 Sign Language users. The questionnaire was generated on the basis of semi-structured expert interviews with activist and professional organisations as well as Sign Language interpreters and users of Sign Language interpreting services (Maaß, L. M., forthcoming).

The challenge in this case is that prelingually Deaf Sign Language users often have low literacy profiles (Hennies 2009, 2020; and Deilen 2022 see below, Chapter 3); therefore some of the survey participants might disfavour written text reception and production. This touches on a more general issue: To include test participants with disabilities in empirical research projects is not straightforward and requires adaptations in established methodology (Rathmann/ Dadaczynski 2020; Rathmann et al. 2021; Rink/Schulz 2022; see below, Chapters 4 and 5). The present paper focusses on these challenges with regard to the methodology of data acquisition and proposes solutions that were implemented in the project.

2 Sign Language interpreting

Sign Language interpreting is a relatively new profession (Hillert/Leven 2012; Benner/Böhm 2017), even if it has been executed in predominantly non-professional settings, whenever non-hearing and hearing members of a community exchange information (Napier/McKee/Goswell [2]2010). It is mostly situated in the field of Community interpreting (cf. Estévez Grossi 2018 for a comprehensive overview on Community interpreting; for a critical review of the relation between Community interpreting and Sign Language interpreting, cf. Ostrycharczyk 2001; for the different forms of Sign Language interpreting, cf. Benner/Herrmann 2020) and occurs mainly in two different settings: It can be executed between a natural spoken language and a Sign

Language or between different Sign Languages. The latter is predominantly executed by Deaf Sign Language interpreters, the former predominantly by hearing Sign Language interpreters. Situation-bound interaction roles are discussed in Llewellyn-Jones/Lee (2016).

Research on Sign Language interpreting belongs to translation studies but is also part of the upcoming field of Accessible Communication research. Maaß/Hansen-Schirra (2022: 38-39) have pointed out that there is an interconnection between Accessible Communication research and translation studies; the two authors define "translation as overcoming barriers": "Oral or written texts can constitute barriers of different types for the intended users. In order to enable them to access the content, the barriers have to be removed. Translation thus means removing communication barriers with the aim of making the contents accessible to the users." (Maaß/Hansen-Schirra 2022: 38)

Communication barriers arise on different steps of the comprehension process, as depicted in the Hildesheim model of communication barriers:

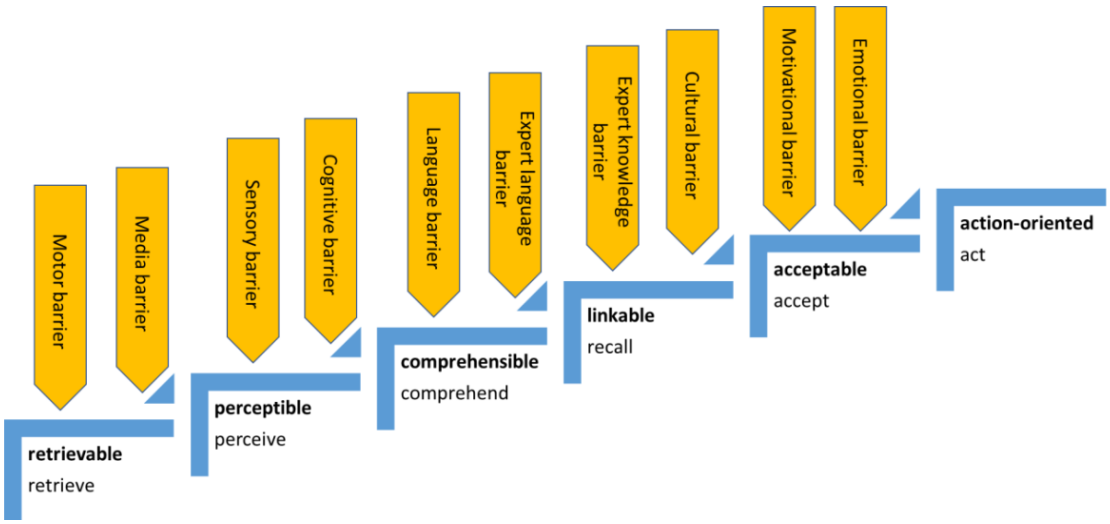

Figure 1: Communication barriers and accessibility features
(Hildesheim model according to Maaß (2020); Hernández Garrido/Maaß (2022: 67)

Accessible communication aims at removing the barriers on the different steps of the comprehension process. Every one of these barriers can make it impossible for the users to work with the content of the text that has been addressed to them. Translation thus means to remove or reduce the existing barriers in order to enable successful communication.

- A media barrier as Sign Language explores codes other than sound waves and written characters on paper, but is a visual, manual resource.
- A perception barrier, as Deaf people do not have access to sound waves and need a transformation to the visual channel.
- A language barrier, as German Sign Language and German language are both natural languages and content has to be transferred from one to another and back in an interpreting situation.
- A cultural barrier, as the Deaf community has only limited access to the various discourses of the majority society and has established a culture in itself, of which the majority society takes little notice. Misunderstandings can, therefore, also have a cultural background.

The Hildesheim model helps to understand that comprehensibility is not the only possible hazard to successful communication or even interaction; barriers may occur on various levels, acceptability being one of the major obstacles in Accessible Communication (Maaß 2020: 205 – 209 et passim).

3 Reading competences of prelingually Deaf Sign Language users

As research across the different Sign Language communities has extensively shown, prelingually Deaf persons have, on average, a significantly lower literacy level than their hearing counterparts with similar conditions (Hennies 2009, 2020; and Deilen 2022). The competencies of school leavers with profound hearing loss are, on all linguistic levels of written German language including morphology, vocabulary, syntax and text, considerably lower than their comparison group (Wudtke 1993: 212; Krammer 2001: 31–34, 78–79; Hennies 2020: 207; Deilen 2022). Hennies (2009) proves the relation between literacy level and hearing ability: the more restricted the hearing abilities are, the lower, on average, is the literacy level both in reading and writing of the students. The reading competence of most of the students in the study was below the basic level, which corresponds to the minimum standard (Hennies 2009: 21). The extent of the hearing loss can be accompanied by other factors that further aggravate the situation; Deilen (2022: 300) enumerates a non-German language background of the family or other impairments and disabilities. Deilen's findings are confirmed by international research like the Stanford Achievement Test, a survey on the reading competences of students age 8 to 18 with varying degrees of hearing loss. It confirms the link between hearing loss and reading competence (Holt 1993; Holt/Traxler/Allen1997; Mitchell/Karchmer 2003). The Stanford Achievement Test shows that the reading competence of Deaf school leavers corresponds to thatof hearing fourth graders (Deilen 2022: 300), which is also in line with the findings of Krammer (2001).

4 Methodological challenges in Accessible Communication research

The low literacy of the average prelingually Deaf Sign Language user has implications on the present study as it is to be expected that a considerable part of the Deaf Sign Language users addressed in this survey will also have that profile. A standard survey is a written resource in the form of a questionnaire that requires a reading and understanding of the questions and the proposed answers. In this case, moreover, participants are encouraged to respond to the free text sections. But Deaf Sign Language users, again on average, prefer not to be confronted with a reading or writing task. This had to be considered in the methodology of the study.

As already stated, Sign Language belongs to the field of Accessible Communication. This field has been increasingly explored by research during the last decade (for an overview, cf. the *Handbuch Barrierefreie Kommunikation*, Maaß/Rink 2020/2019; the English translation as *Handbook of Accessible Communication* is forthcoming). The desideratum to include people with communication disabilities as survey participants has been repeatedly proposed (Rathmann et al. 2021; Maaß/Hansen-Schirra 2020; Hansen-Schirra/Maaß 2019; Rink/Schulz 2022), as well as considerations on the hardships this poses for the established research methodology. Rink/Schulz (2022: 209) call for an adaptation of existing survey instruments to their target group with communicative disabilities. Only recently has this desideratum been

systematically addressed. Hansen-Schirra/Maaß draft a "target group-specific methodological battery" (Hansen-Schirra/Maaß 2020: 25) that has partly been implemented by their research teams.

To include persons with disabilities in empirical research designs poses a considerable challenge, for more than one reason:

- Researchers do not gain easy access to those groups for reasons of organisation and communication (Lang 2015; Gutermuth 2020).
- Researchers are often in need of mediation and/or interpreting by gatekeepers which may influence the research results (Lang 2015; Bredel/Lang/Maaß 2016).
- Research instruments are usually calibrated to match the needs and abilities of people without communicative impairments, such as standardised questionnaires (cf. Rathmann et al. 2021 for first attempts to implement survey instruments in Easy Language with test persons with cognitive impairment).
- Researchers are confronted with an increased ethical hazard if participants are potentially not able to consent or understand the conditions of participation (for example, data protection or early drop out).

In the case of the present study, text reception (reading the instruction and the questionnaire) as well as text production (replying to free text answers) are concerned. Rink/Schulz (2022: 211) point out that Accessible Communication research can provide answers to those challenges. They state for their research participants (people with cognitive impairments):

> However, texts have certain features that are not yet being taken into account in research with people with special communicative needs. Recent studies show that the research on accessible communication can contribute to the adaptation of data collection methods to the linguistic and cognitive abilities and special communicative needs of people with cognitive impairments.
>
> (Rink/Schulz 2022: 211)

Research on Accessible Communication that includes test participants from the primary target groups can contribute to methodology as well as to the research field as such. Some studies in the area of Accessible Communication research have already done so and paved the way for further research:

> Lang (2015) researches the reading proficiency of prelingually Deaf children in an Easy Language setting. The methodological gain of her study is, inter alia, that direct contact with the prelingually Deaf test participants was not possible and that the teachers in their role as gatekeepers interfered with the study results in their intent to make their students perform better.
>
> (Bredel/Lang/Maaß 2016).

Gutermuth (2020) included, in her groundbreaking work on empirical Easy Language research with a mixed method approach, test participants from the primary target groups of Easy Language, namely test participants with cognitive impairments, with German as a second language and senior citizens. In addition to the finding on the actual subject, the comprehensibility of written Easy and Plain Language texts for groups with different impairment profiles, her study delivered important insights into the methodological implications when including people with divergent profiles in highly standardised survey situations. Gutermuth (2020: 259–262) extensively reflects the implications of the test participant's profiles on her research design: In her

eyetracking study, there were, for instance, problems with visual aids, especially the varifocals of the senior citizens. She points to the reduced attention span of her test participants with cognitive disabilities and she states that the non-accomplishment of given tasks might discourage the test participants. As part of the solution, she uses Easy Language for the instructions of her test participants, a strategy that is modified for and adapted to the present study. Finally, she points out that the increased vulnerability of her test participants requires high ethical standards for the conducting of the survey.

In her study, Deilen (2022) works with children with various degrees of prelingual hearing loss; she states that the variation in her results is due to the extreme heterogeneity within her test group. In fact, hearing loss is linked to low literacy only statistically, that is, the actual reading proficiency will vary widely within the group. This makes it difficult to adequately address each individual. It is, however, neither recommendable to address them in too difficult a language nor in Easy Language, as both ways will potentially deter participants. Deilen (2022), like Gutermuth (2020), points out how difficult it was to find test participants and to motivate them to participate until the end of the study.

Schulz (forthcoming) conducts a multi-method study including eyetracking on Easy Language and Easy Language Plus with test persons with cognitive impairments. Easy Language Plus is a comprehensibility enhanced variety of a natural language proposed by Maaß (2020) that is slightly more complex than Easy Language. Schulz shows that it is almost identical to Easy Language with regard to comprehensibility but much more acceptable. Like Gutermuth (2020), she uses Easy Language instructions and has to cope with heterogeneous data quality due, for example, to the inability of her test participants to sit still.

Most important for the present study's methodological approach is the paper by Rink/Schulz (2022). The authors evaluate the applicability or adaptation need of various methods to research settings with people with cognitive impairments. Methods taken into consideration are neuropsychological assessment tools (like Trail Making Tests, Repeating Sequences of Numbers tests, Multiple-Choice Vocabulary Tests, Word Fluency Tests and more), eyetracking, free recall, rating and the use of questionnaires. They propose linguistic, conceptual and medial strategies to adapt existing methodologies to the test participant's needs. The proposed tools will be evaluated for the present study while bearing in mind that the two test groups differ in the fact that Deaf Sign Language clients usually do not have a cognitive impairment or if they do, the cognitive impairment is a form of disability that is separate from their hearing loss. The point the two groups have in common is, however, their significantly reduced reading and writing proficiency and the low preference for written communication, be it in reading or writing (for reading proficiency of people with cognitive impairment, cf. Ratz 2013).

5 Methodological challenges in the present study

The present study is conducted with Deaf Sign Language users and hearing Sign Language interpreters. In Chapter 3, I have mentioned that the Deaf Sign Language users have, as a whole, lower literacy than the average population, and, again on average, disfavour written communication (reading and text production). The present study therefore faces more than one hazard with regard to its methodological design:

1. Participants might not understand the conditions of participation, including their right to quit at any time or the management of their data. This poses an ethical hazard.
2. The questionnaire might be too difficult to understand for many potential participants, if not adapted to their needs. This might lead to a situation where they do not answer or do not answer correctly because they misunderstood the question or choice of answers. This threatens to compromise the correctness and reliability of the findings.
3. The disfavouring of written communication might deter participants from taking part at all. This aspect is detrimental to the representative status of the study.
4. Potential participants might be inclined to interrupt and terminate before completing the questionnaire.
5. Participants might abstain from filling in the free text parts because they disfavour typing text. This aspect is detrimental to the qualitative aspect and would deprive the study of potentially valuable information.

These hazards might therefore compromise the research project in different ways: with regard to research ethics; with regard to the number of participants; with regard to the quality and quantity of the answers; with regard to the reliability of the results. In the following, I will discuss how the listed hazards were addressed in the present research project.

6 Solutions

The ethical problem was addressed by drafting a detailed plan of procedure for the ethics committee of the University of Hildesheim. In the plan of procedure, the potential hazards were named and addressed. The ethics committee gave consent to the proposed course of action in October 2022 (Statement No. 2209/1). Steps were taken to guarantee accessibility and understanding for Deaf participants. The Deutscher Gehörlosenbund (= German Association of the Deaf) as the community's central activist association was included in the first stage of the study in form of expert interviews that led to the drafting of the questionnaire (Maaß, L. M., forthcoming).

The questionnaire, called *Die Große Dolmetscher-Umfrage 2022*, could be accessed via a webpage that addressed both groups: hearing Sign Language interpreters and Deaf Sign Language users. As the current research report is centred around the methodology adaptations with regard to participants with communication disabilities, the paper will focus, in the following, on the Deaf Sign Language users.

The part of the webpage that is addressed to Deaf Sign Language users contained several videos in Sign Language. The videos gave information on the aims of the project, on the ways of data collection and management, on the possibility to quit at any time and on how to navigate through the questionnaire as well as on the possibility to submit Sign Language videos (see below). The Sign Language videos were recorded with a renowned peer group member: the Deaf Sign Language interpreter Katja Fischer. For the community members, Sign Language is more than just a means of communication; it is a token of Deaf culture (Kusters et al. 2015; Ladd 2008). To work with a Deaf Sign Language interpreter therefore is a key factor to enhance the acceptability of the survey. The videos were therefore used to make sure all the necessary information reaches potential participants, and to increase the acceptability of the survey as a

whole (cf. Maaß 2020 on the importance of the factor "acceptability" for user-oriented communication).

In order not to lose participants but, at the same time ask them as many questions as possible in order to explore the unique situation that was given with this survey, the questionnaire was separated into two sections that can be answered successively and independently. Thus all participants were able to decide whether they wanted to stick to the survey and also hand in the second part or whether they had enough after the first part of the questions and preferred not to answer the second section of the survey. In the end, a considerably smaller part of the participants stayed on to do the second part: 115 Sign Language interpreters and 99 Deaf Sign Language users completed the second part.

In Chapter 3, I addressed the reading competence of Deaf readers that on average remains below their hearing counterparts in similar conditions. To use Easy Language (Bredel/Maaß 2016) in the survey could have been a possible solution to this problem; this path was chosen by Gutermuth (2020) and Schulz (forthcoming) in their studies following a mix-method approach.

This solution was, however, discarded for the present study. The reason is that Easy Language is often felt to stigmatise its users as it is visibly different from the standard and presupposes poor understanding on the side of the addressed readers (Maaß 2020; Maaß 2019; Bredel/Maaß 2020). In fact, the Deaf community has repeatedly rejected being addressed in Easy Language, even if weak readers in the community would surely benefit from Easy Language, as it addresses readers with low literacy profiles (on Easy Language for prelingually hearing impaired users, cf. Bredel/Maaß 2016: 158–163). During the last years, Easy Language in Germany has taken a direction where the difference to standard texts is stressed even more in order to give visibility and representation to the group of people with cognitive impairments; see, for example, the efforts to draft a corresponding DIN Spec PAS norm for Easy Language. These efforts have led to a rejection of Easy Language by other groups that would otherwise have benefitted from its comprehensibility. It is therefore problematic to use Easy Language for the survey.

In order to avoid these problems but nevertheless provide highly comprehensible texts, the questionnaire and all surrounding written texts for the Deaf participants were drafted in Easy Language Plus. This variety is assumed to be almost as comprehensible as Easy Language but more acceptable (Maaß 2020; first empirical proof in Schulz forthcoming), in line with the still more complex Plain Language (Bredel/Maaß 2016: 526–542). Easy Language Plus does not have the features of Easy Language that are strikingly different from standard texts, their origin in Accessible Communication is less obvious and therefore, the potentially stigmatising presupposition that readers might need comprehensibility enhanced texts is offset. At the same time, the questionnaire and surrounding texts have pronounced comprehensibility features which makes it less probable that participants misinterpret questions or multiple-choice-answers. This measure is aimed at enhancing the quality of the answers.

For those participants who prefer the questionnaire in a signed form, a web conference was offered where users could participate anonymously (without video and name). In this web conference, all questions were translated into German Sign Language and participants were navigated through the questionnaire in Sign Language.

All participants were encouraged to hand in Sign Language videos instead of free text if they preferred to do so. The videos could be sent via a messenger service of the participant's choice. The participants chose freely from the existing messengers services. This implies that they might have chosen services that are ill-reputed for their data protection policy. But as it is the participants who decide which messenger to use, the ethical implications remain manageable, as the Ethics committee of the University of Hildesheim confirmed.

The videos were to be sent to a telephone number and physical telephone that was reserved exclusively for the purposes of the study. This poses a data protection hazard as the faces of the Sign Language users that send in the videos are disclosed. In order to minimize this hazard, the videos were to be voiced, that is, transformed from Sign Language to audio by professional interpreters that are bound by confidentiality obligations. Through the voicing, the data is anonymized; in the further steps of the survey, it would have been exclusively the anonymous voiced material to be processed, thus guaranteeing full anonymity to all participants.

The option to hand in Sign Language videos was applied to meet the participants' communication preference in order to secure qualitative information, which is important for the research question. However, while some participants sent some emojis or gifs to the telephone number, not a single Sign Language video was submitted. Instead, many participants used the free text option and handed in detailed written comments. It was nevertheless an important signal to make it possible to participate in Sign Language and provide the questions and explanations in Sign Language as well, as the discussions in the community that accompanied the study made obvious.

The use of Easy Language Plus and Sign Language (in addressing the participants as well as in the option to submit videos) are instruments to improve participation, data quality and adherence to the survey in the hope of receiving high-quality data. The data was collected via SoSciSurvey, a professional platform for surveys with high data protection standards. The participation in the survey was advertised through social media.

7 Discussion and outlook

Linguistic strategies:
- Use of Sign Language
- Use of Easy Language Plus
- Reduction of the absolute number of questions to reduce the burden on the text level

Medial strategies:
- Information spreading via the social media channels preferred by potential participants
- Website with information in Sign Language as entrance page to the survey
- Use of SoSciSurvey as a professional platform with high data security and accessibility
- Offer to upload Sign Language videos via the messenger services preferred by the participants

Conceptual strategies:
- Expert interviews with the National Association of the Deaf and Deaf Sign Language users as input for the questionnaire
- Use of Sign Language videos produced by a Deaf stakeholder

- Waiver of Easy Language and preference for Easy Language Plus for reasons of a good balance between comprehensibility and acceptability
- Implementation of a two-step survey in order to lower the burden for participants

This combination of strategies are steps toward a user-oriented approach aimed at including people with communication disabilities in Accessible Communication research with a translation research profile. There is no viable alternative: We need research that includes the users in various ways in order to develop matching communication offers and further professionalise services.

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