## D2.11 Report on the Atlas Questionnaire

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**Version 1.0 – 31/05/2018**

### Project title:
The SIGN-HUB: preserving, researching and fostering the linguistic, historical and cultural heritage of European Deaf signing communities with an integral resource

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### Work package:
WP2 Content

### Affected tasks:
Task 2.2 – The Atlas of sign language structures

<table>
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<th>Nature of deliverable¹</th>
<th>R</th>
<th>DEM</th>
<th>DEC</th>
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<td>Dissemination level²</td>
<td>PU</td>
<td>PP</td>
<td>RE</td>
<td>CO</td>
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</tbody>
</table>

¹ R: Report, DEM: Demonstrator, pilot, prototype, DEC: Websites, patent fillings, videos, etc., O: Other

² **PU**: public, **PP**: Restricted to other programme participants (including the commission services), **RE** Restricted to a group specified by the consortium (including the Commission services), **CO** Confidential, only for members of the consortium (including the Commission services)
## History of changes

<table>
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<th>VERSION</th>
<th>DATE</th>
<th>CHANGE</th>
<th>REVIEWER(S)</th>
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<td>1.0</td>
<td>31/05/2018</td>
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<td>Carlo Cecchetto, Carlo Geraci, Josep Quer, Jordina Sánchez Amat.</td>
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1. Scope of the document

This document reports on the pre-Pilot version of the Atlas Questionnaire which has been released on May 16th, 2018. In Section 3, we present screenshots of the pre-Pilot questionnaire which has been sent to colleagues working in other SIGN-HUB tasks for a first internal test run. In Section 4, we present an evaluation of their feedback and discuss some conclusions for the next steps.
2. Introduction

The SIGN-HUB Atlas of sign language structures is going to be built on the basis of a comprehensive data collection via an online questionnaire, called the Atlas Questionnaire. Since the Atlas Questionnaire includes about 200 questions in total, these will be categorized into four sub-Questionnaires: (1) Phonology + Lexicon, (2) Morphology, (3) Syntax, and (4) Pragmatics + Socio-History (see Deliverable 2.8. “Infrastructure of the Atlas”).

In order to test the software tool and to get feedback on the questionnaire design, we set up a Pilot questionnaire. By testing the Questionnaire first as a Pilot, we gain the advantage of:

- a close testing of the Atlas Software tool and how it works
- learning how to build and administer the Questionnaire from scratch
- getting feedback on the general handling of the Questionnaire
- getting feedback on the processing of the data collected
- getting feedback on the content of a representative set of questions from the perspective of users with different linguistic backgrounds
- getting feedback from deaf and hearing researchers
- getting feedback on the comprehensibility of the language

We decided to carry out two test runs: First a pre-Pilot test run for testing the software tool. This has been conducted internally with SIGN-HUB colleagues. Second, a Pilot phase with a representative group of external researchers, which are not members of SIGN-HUB.

This procedure enables us to include two steps of testing, each focusing on a different aspect: The aim of the pre-Pilot test run was to learn and to test the software tool. This gives us feedback on the building procedure of the questionnaire, as well as on the technical handling of the questionnaire from a content-providers perspective. The aim of the Pilot phase is to get feedback on the general design of the questionnaire and the presentation of the questions.

Here we present the feedback of the pre-Pilot test run. The pre-Pilot Questionnaire includes a total of 13 questions that come from the parts Phonology and Morphology.
3. Screenshots of the pre-Pilot Questionnaire

This section shows the pre-Pilot Questionnaire by presenting screenshots of the individual slides and gives an idea of the individual questions and the internal structure of the pre-Pilot (compare D2.10 “Design of the Questionnaire”). The pre-Pilot was created with the Atlas software tool in the same way as the final Questionnaire will be programmed. The structure of the pre-Pilot reflects the sequential order of the questions of the parts Phonology and Morphology. Prior to the actual linguistic questions, the pre-Pilot has an introductory section, which contains a general introduction explaining the SIGN-HUB project and the aim of the Atlas task, an instruction on how to navigate through the Pilot, a collection of meta information of the test-person, and a consent form.

The screenshots show the perspective of the test-person while filling in the pre-Pilot Questionnaire.
Introduction

Welcome.

Welcome to the Pilot Questionnaire of the ‘Atlas of Sign Language Structures’.

Thank you very much for participating in this online survey on the linguistic structures of the sign languages of the world. In the first couple of slides, we would like to introduce you to the Sign-Hub project; its general aims, and the background of this survey. We will let you know what you can expect from this survey; about the requirements, and the official status of your contribution. We hope to answer any of your questions and guide you through the survey as easily as possible.

The SIGN-HUB Project

The SIGN-HUB project is a European project which bundles the expertise of a group of researchers from seven different countries: Spain, Italy, Germany, Netherlands, Turkey, Israel, and France. It is a four-year project (2016-2020) funded by the European Commission within the research and innovation program Horizon 2020. The overall aim of the project is to develop, preservation and dissemination of the linguistic, cultural and historical heritage of European Deaf signing communities. By creating a digital open-access platform, we will incorporate the outcomes of test individual projects:

1. the creation of morpheme paradigms of six European sign languages;
2. an interactive online ATLAS of sign languages, providing grammatical information on European and non-European sign languages;
3. online tools for sign language assessment, to detect language disorders and assess the linguistic competence of signers;
4. a digital archive of life stories of elderly deaf signers, documenting their linguistic and cultural heritage through interviews.

Though the creation of sign language paradigms, the Atlas of sign languages, the tools for sign language assessment, and the archive of interviews with elderly signers, our research project promises to enhance recognition of sign languages and contributes to a better understanding of their linguistic properties. In addition, the digital open-access platform will be accessible for researchers working on other sign languages and will thus foster research on sign languages and deaf communities worldwide.
The ATLAS Project

This survey is part of the ATLAS project. The goal of this project is to componentize and document the linguistic structures of the sign languages of the world. Through a broadly distributed online questionnaire, we want to collect and rich data from European and non-European sign languages. Herein, we aim to address as many sign languages as possible, no matter whether they are well-investigated or less investigated. Based on these data, we will design an interactive ATLAS of the linguistic structures of the world’s sign languages. With annotated functional maps we will allow the grammatical structures of sign languages at the levels of phonology, morphosemantics, syntax, sociolinguistics, and pragmatics.

By participating in this online questionnaire, you contribute to the data collection, which provides the basis for the world’s first online atlas on sign language structures.
Deliverable D2.11: Report on the Questionnaire

Important issues (page 2/4)

Here we want to address a couple of important issues, regarding the linguistic perspective of the questionnaire, questions that draw upon personal estimations, authorship, and the technical procedure.

1. Regarding the linguistic background of us, who created the questionnaire and you, who provides your knowledge about your sign language.

We are aware, that sign language researchers and sign language experts can have different views of linguistic expertise and different theoretical perspectives, ranging between formal and functional approaches. Since our aim is to assess the grammatical aspects of the sign languages assessed on a descriptive basis, we intend to ask the questions as theoretically neutral as possible, within the range of both linguistic assumptions and terminologies. For a clarification of the terms we can and how we understand them, we provide a glossary of items. Please view your own explanations in the glossary are marked by a dotted underline. Moving the mouse over the term, opens the respective glossary entry on the right-hand side.

Important issues (page 3/4)

2. The objectivity and truthfulness of answering the questions, including personal estimations.

Since the questionnaire aims to include as many sign languages as possible, effort to integrate less investigated as well as well investigated sign languages. This means that not every question can be answered for every sign language. For example, for a sign language with a rather small community of researchers and almost no linguistic investigations available, many questions might not be answered on a reliable basis. Here, we encourage the readers to connect the answer to the context of the investigation carefully and (c) if an answer is not possible – press the “no answer” button.

In some cases, we specifically ask for your personal judgment. These are questions, where an answer based on scientific investigation is either not available or very unlikely. In those cases, we explicitly ask whether your judgment is based on a scientific investigation or on personal estimation. This group of questions have been mainly answered on the basis of personal estimations and will be explicitly marked in the ATLAS.

3. Authorship agreement.

We personally ask you to fill in the questionnaire below because you are an expert for your sign language. Hence, no one person will fill in a questionnaire about your sign language. Thus, by accepting this agreement and signing the Consent form (coming up next), you will fully be responsible for the truthfulness of the answers given by you or your team. We highly encourage you to ask a colleague to cooperate with you in filling in this questionnaire. Both you and your colleague (clearly one by one, one hearing) will then be mentioned as authors. Thus, you (and your colleagues) will have authorship rights and responsibilities for your questionnaire.
**Important Issues (Page 3/4)**

1. **General Procedure**
   
   When filling in the content form and the metadata data of you and your colleague, you can start filling in the questionnaire. When you have answered a question, please do so and press the “next” button. In order to get to the next question, you cannot answer the question, please press the “no answer” button. This will lead you to the next question. If you want to revise an answer, you can go back to the respective sections via the “bc” and change your answer. If you have done that, please press “save.”

   If you have any questions, please ask us to give you an example picture or an example video. If you have a picture or a video of the phenomenon under discussion, or if you can produce one, please upload it with the respective buttons (either “Upload PDF” or “Upload Video”). The program supports the following file formats:
   - for pictures: jpg, png, pdf
   - for videos: mov, mpg

   We estimate a time frame of 60-120 minutes for filling out the complete questionnaire. Hence, you don’t have to do it in one go.

**Important Issues (Page 4/4)**

2. **Pilot Questionnaire**
   
   The questionnaire in front of you is the pilot questionnaire of the ATHARI project. The pilot questionnaire has a smaller set of questions, but reflects the design and the full structure of the final questionnaire.

   The aim of the pilot questionnaire is to test the general handling of the questionnaire, i.e. how you as a contemplative can navigate within the questionnaire and then self-identify you found it to be. To get feedback on the structure and parts of the content of the questionnaire.

   Therefore, at the end of the pilot questionnaire, you will find a couple of questions regarding the questionnaire itself. These are meta questions on the handling and the structure of the questionnaire and will not appear in the final questionnaire.
PART A: Phonology

Introduction

The part PHONOLGY deals with the building blocks that signs are composed of, and the related phonological representations and processes. While this is the first analysis of the building blocks of ASL, it is often referred to as 'phonology' and "deafness" instead of "phonology" and "deafness", the term "phonology" is now more widely accepted in this domain of sign language grammar. We therefore adopt the strategy of using "phonology" in a modality-independent way, that is, as dealing with the syntactic elements of language that are not modality-specific but hold themselves entirely any meaning.
Section 1: Sublexical structure

Introduction

The section on sublexical structure deals with the phonology below the level of the syllable, which in sign language tends to overlap with simple monosyllabic signs. Hence, the sublexical phonological structure combines all the formal aspects of signs (in terms of phonological features) without reference to their morphological or other functions. A considerable part of the discussion about sublexical structures in sign languages is devoted to manual versus non-manual articulation, the address both in the upcoming question.

Section 1.2: Orientation

A change of hand orientation is distinctive if using one hand orientation instead of another hand orientation leads to a change of meaning in a sign. Is a change in hand orientation, i.e., the facing of the palm, distinctive in your sign language?

- Yes
- No

No answer
Section 1.4: Movement

Introduction

The movement component of signs can be described in terms of primary or path movements and secondary or articulatory-intramental movements. We treat these separately and ask questions with respect to each type of movement.

1.4.2.1

Secondary movements are movements of the fingers or changes in handshape and/or orientation during the articulation of a single sign. Which of the latter (i.e., simple movement changes), which of the following changes within a single sign are possible in your sign language?

- a single handshape change can occur as secondary movement within a single sign
- two or more handshape changes can occur as secondary movement within a single sign
- a single orientation change can occur as secondary movement within a single sign
- two or more orientation changes can occur as secondary movement within a single sign
- both a handshape change and an orientation change together can occur as secondary movement within a single sign
- there are no secondary movements in my sign language
Section 1.5: Two-handed signs

There are sign languages that equally use both hands as manual articulations and sign languages that predominantly use only one hand as manual articulation. Would you reorganize your sign language as mainly articulated by one hand or as mainly articulated by both hands? Please make an estimate on the following scale (1 = 'mainly articulated with one hand' and 6 = 'mainly articulated with both hands').

1 2 3 4 5 6

We are aware of the fact that this classification depends upon a personal estimation and is (most likely) not scientifically attested for sign languages. Please give feedback on the basis of your judgment. (Only one answer is possible.)

- Judgment based on a documented analysis
- Judgment based on personal estimation
Section 1.6: Non-manuals

Sign languages can differ with respect to the frequency in the lexical use of non-manual markers, such as facial expressions, brow rise, mouth gestures, head or body movements. Some sign languages have a very high use of lexical non-manual markers, whereas other sign languages have a very low use of non-manual markers. How would you rate your sign language with respect to the amount of lexical non-manuals used? (Only one answer is possible.)

- High use of non-manuals
- Medium use of non-manuals
- Low use of non-manuals

We are aware of the fact that this classification depends upon a personal estimation and is (most likely) not scientifically attested for sign languages. Please give feedback on the basis of your judgment. (Only one answer is possible.)

- Judgment based on a documented analysis
- Judgment based on personal estimation
PART C: Morphology

Section 6: Compounding

Under compounding, two stems or words (signs) are combined to create a new sign (lexeme). Compounds are morphological constructions which are made up of two (and sometimes more) juxtaposed units and which syntactically and semantically behave like a single unit (word(sign/lexeme)). The fact that the morphemes that participate in compound formation are stem distinguishables from affixation. These stems are often, but not always, freely occurring elements, and they may be complete or reduced. The components of a compound in sign languages are expressed by manual abbreviations. Specific to sign languages, morpghem-type elements may contain either stems in compound formation.
Section 6.2: Loan compounds

Loan compounds mirror the makeup of compounds found in the surrounding spoken language. For example, the ASL sign housework stems from the spoken noun housework, which describes regular work done in the house, especially cleaning and tidying. Does your sign language have loan compounds?

- Yes
- No

If you clicked "yes", please provide the glosses of an example:

If possible, please upload a picture of your example sign.

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In your sign language, is there a distinction – be it attested or assumed to exist – between compound type (loan compound vs. native compound) and a way of articulation (simultaneous vs. sequential)?

(Only one answer per compound type is possible. This is one answer for loan compounds and one answer for native compounds.)

- Most loan compounds are simultaneous compounds
  - Most loan compounds are sequential compounds
  - Loan compounds are equally simultaneous as well as sequential compounds
- Most native compounds are simultaneous compounds
  - Most native compounds are sequential compounds
  - Native compounds are equally simultaneous as well as sequential compounds

We are aware of the fact that this classification depends upon personal evaluation and is (most likely) not scientifically attested for sign languages. Please give feedback on the basis of your judgment. (Only one answer is possible.)

- Judgment based on a documented analysis
- Judgment based on personal estimation

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Section 8: Verbal inflection

While compounding and derivation are considered verbal word formation processes, inflectional word formation is relevant to and dependent on syntax. In lexical morphology, inflection is taken to realize (realize and certain morphosyntactic features, the most common of which per person, number, tense, aspect, and case in spoken languages). Just like derivation, inflection usually involves the combination of a stem and an affix. However, in contrast to derivation, inflection can never change the category of the stem and is semantically regular.

Section 8.1: Agreement

We are aware of the situation that the terminology for the phenomena investigated here is not uniform among sign language researchers. Without entering the theoretical debates we use the term "agreement" and "agreement word" in the following. Other terms are "dirivisibilily", "directional verb" or "indicating verb", which refers to the same phenomenon.
Section 8.1: Agreement

If you clicked “something else”, please specify here:

No answer

Section 8.1.1

In case your language shows the phenomenon of agreement (or directionality), how is agreement expressed in your sign language?

☐ Agreement (or directionality) can be expressed by a modification of movement alone

☐ Agreement (or directionality) can be expressed by a modification of orientation alone

☐ Agreement (or directionality) can be expressed by a modification of both movement and orientation

☐ Agreement (or directionality) can be expressed non-manually by eye glances

☐ Agreement (or directionality) can be expressed by other non-manual markers

If you clicked “other semi-manual markers”, please specify here:

No answer

Next
Section 8.1: Agreement

8.1.1.2

With regard to agreement (or directionality) in verbs, does your sign language systematically distinguish between verbs that show manual agreement (i.e. agreement verbs) and verbs that do not show manual agreement (i.e. plain verbs)?

(Only one answer is possible.)

☐ Yes, there is a difference between agreement verbs and plain verbs

☐ No, there are only agreement verbs in my sign language

☐ No, there are only plain verbs in my sign language

No answer

Next

Progress: 30%

8.1.1.3

In your sign language, within the group of verbs that show manual agreement, can you specify what these verbs agree with?

(No edge answers are possible.)

☐ Yes, agreement verbs can agree with persons

☐ Yes, agreement verbs can agree with animals

☐ Yes, agreement verbs can agree with inanimate objects

☐ Yes, agreement verbs can agree with locations

☐ Yes, agreement verbs can agree with something else (please specify in the textbox below)

If you checked "something else", please specify here:

No answer

Next

Progress: 30%
The sections Syntax, Pragmatics and Socio-Historical Background will be included in the next step.
4. Evaluation of the pre-Pilot Questionnaire

As a first step in the overall evaluation phase, we released the pre-Pilot Questionnaire to one deaf and three hearing SIGN-HUB colleagues (called ‘subject’, ‘content-provider’ or ‘test person’ below). We asked them three general questions from the content-providers view.

4.1. Procedure

Subjects had access to the pre-Pilot via a link and a personalized account and password (for example username “atlascp1@eclettica.net” and password “atlascp1”). After reading the introduction and instruction slides, subjects entered the questionnaire with the respective first part, here Section A: Phonology.

As can be seen in the screenshots in Section 3, the interface of the questionnaire is divided into three areas: On the left hand side, content-providers see the table of contents. By changing the color of the header from blue to red for the respective section, the table of contents indicates the part of the questionnaire where content providers actually are. In the main part of the questionnaire, i.e. the white area in the middle of the window, short introductory texts and the questions are presented. If a content-provider has answered a question, he/she can get to the next question by pressing the green button “Next”. If a question cannot be answered, the content-provider is requested to press the button “No answer”. Thereby, we get clear feedback that this information cannot be provided for the respective sign language. On the right hand side of the interface, a progress bar informs the content-provider about the percentage of questions that have already been answered. If the content provider wants to get more information on specific linguistic terms, the glossary of terms will additionally appear on the right hand side.

4.2. Feedback on the general design and layout of the questionnaire

Question: “Do you think the structure is clear and easily to understand? Do you think it is visually clear?”

Test persons reported that the visual structure of the Questionnaire is clear and easily to understand. However, the deaf colleague commented that it might be a little too much text, while another colleague answered that the font size might be too small.

Subject_2:
    “Yes and Yes but I found the font size a bit too small”

4.3. Feedback on the general handling of the questionnaire

Question: “How was the general handling of the questionnaire? Could you answer the questions easily? Could you navigate through the questionnaire (for example, going back to a previous question)? On a scale of 1-6, how did you find the navigation (1 = not good at all / 6 = very good and easy)?”

Overall, test subjects report low grades for navigation (about grade 2). This is due to the fact, that backwards navigation is not yet possible within the questionnaire software tool. Also, the
answers of the test subjects have not been automatically saved when they exited the questionnaire.

Subject 1:

“I must give a low grade, say 1 or 2. The reason is that backward navigation was very difficult. I did not find an obvious way to go back to the previous question, so I was tempted to use the back arrow of Chrome. But each time I used it, I needed to re-introduce my credentials (username and password). Most importantly: my answers are not registered. Each time I access the platform each page is blank.”

One subject tested to upload a picture and this procedure worked. Unfortunately, we could not test playing a video as an example within a question, because the software tool still has bugs in the video implementation.

Additionally, the glossary of terms (D2.8 “Infrastructure of the Atlas”, page 9) has not yet been implemented in the questionnaire. Correct navigation within the questionnaire, saving the answers, and the glossary of terms are essential conditions for the Questionnaire and it is imperative that they be implemented by the software developers as soon as possible.

4.4. Feedback on the format of the questions

Question: “Do you think the questions are appropriate for this purpose, i.e. to collect data for a typological Atlas on sign language structures?”

An important feedback by the subjects was that the English text is relatively complex, especially for someone without a linguistic background. This is also important, in order to include deaf content-providers, who are experts on a less investigated sign language but do not necessarily have a linguistic background.

Subject 2:

“If the target users include those who are not experienced linguists, I think the introductory texts still need to be made simpler and supported with examples and maybe visuals. The sentences can be made shorter, complex sentences can be avoided.

I had difficulty in understanding the phonology texts. Most of the questions do not provide examples of what is expected.

The text includes formal expressions such as “hereby” “thereby” which I think are not really necessary.

Here is a number of places where the English of the sentence/paragraph needs to be improved. I think getting the text of the pilot and then the entire questionnaire checked and improved by a native speaker would be good.”

This feedback also concerns the terminology of linguistic phenomena, which can be hard to understand without linguistic background knowledge. Here, we think that the glossary of terms will help the understanding. Also, as a consequence to this feedback, we plan to include many more pictures of signs, to be explicit on the phenomenon we are looking for.
4.5. Conclusions based on the evaluation of the pre-Pilot

From the feedback by the SIGN-HUB colleagues, we conclude the following needs for the Pilot and the final Questionnaire:

- Proofreading of the introductory texts and the questions by a native English speaker for easy English language.
- Including more pictures and videos as examples for linguistic phenomena without biasing the answers of the content-providers.
- Improving the handling of the software.

Creating the pre-Pilot was a good opportunity to test working with the software tool. The Atlas software tool is not working at the expected level yet. The following malfunctions need to be improved as soon as possible:

- The implementation of videos
- The implementation of the glossary
- The automatic save function
- The installation of the “Back” button
- Program internal bugs

4.6. The next steps

In the next step, we will include the feedback of our colleagues in the modulation of the Pilot Questionnaire. After the improvement of the software, we will finalize the Pilot Questionnaire with more questions of each linguistic part. The Pilot will then be released to external test persons.

The following list of external test persons of the Pilot represents the heterogeneous group of our expected content-providers of the final Questionnaire. These will be deaf and hearing researchers with different linguistic approaches investigating western and non-western sign languages. All have accepted to test the Pilot Questionnaire.

<table>
<thead>
<tr>
<th>Name</th>
<th>Language Description</th>
<th>Position</th>
<th>Status</th>
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<tbody>
<tr>
<td>Ronice Müller de Quadros</td>
<td>Brazilian Sign Language (Libras)</td>
<td>Prof.</td>
<td>hearing</td>
</tr>
<tr>
<td>Myriam Vermeerbergen</td>
<td>Flemish Sign Language (VGT)</td>
<td>Ass. Prof.</td>
<td>hearing</td>
</tr>
<tr>
<td>Jordan Fenlon</td>
<td>British Sign Language (BSL)</td>
<td>Ass. Prof.</td>
<td>deaf</td>
</tr>
<tr>
<td>Jens Cramer</td>
<td>German Sign Language (DGS)</td>
<td>Non-linguist</td>
<td>deaf</td>
</tr>
<tr>
<td>Nick Palfreyman</td>
<td>Indonesian Sign Language (BISINDO)</td>
<td>Post-doc</td>
<td>deaf</td>
</tr>
<tr>
<td>Diane Brentari</td>
<td>American Sign Language (ASL)</td>
<td>Prof.</td>
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