



ONE GESTURE IS ENOUGH

GUIDELINE
1

The Development of a Technical Sign Language Repertoire (TSLR)



With the support of the
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Scope:

The process to be referred to as 'the development of a technical sign language repertoire' (TSLR) in this document entails the following steps and approaches.

Definitions

Persons working in the field (team): D/deaf and/or hearing impaired (HoH) Individuals with 'on-the-job experience' in the field that the TSLR is required for.

Linguist: Deaf sign language expert with C2 level proficiency (common European framework of reference for languages- native level proficiency) in the designated sign language.

Technical sign language repertoire: Includes sign language equivalents for tools, machines, devices, gadgets, technical processes etc. that a professional may use in the act of or for the completion of a specific task or work in a predesignated work environment.

Process: For the context of this guideline refers to the development of the repertoire.

Engineers: Team of hearing experts (mechanical engineers) drafting the initial list of elements to be included within the scope of the project and preparing the technical language written draft input to be redrafted and used.

End-users: D/deaf and HoH individuals who work in the field, potential employees or newcomers to the field; end-users may also include users of the designated sign language (sign language community)

Final output of the project: An application and website where the TSLR is shared with end-users. (This is not the only output of the project but this is the output referred to within the context of this guideline)



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We resort to the development of a TSLR in two scenarios:

a. Signs do not exist in a given language to designate technical elements that are necessary for communication among those working in the field: When there is no equivalent in the sign language for components, parts, elements, and etc. with and through which they conduct their work, D/deaf and hearing impaired, Hard of Hearing (HoH) professionals employed in workplaces that require technical skill and know-how during work processes may encounter communication problems. Most in-house and other training in professional fields is designed for the hearing individual; professional interaction is conducted through spoken language; furthermore in many cases accessible training is not provided for D/deaf and HoH individuals. As a result, these individuals may not possess the technical contextual information to complete work in a professional manner; thus, negatively affecting the quality of work output. Also, advancement in a workplace is hindered by such a setting. In these cases, it becomes imperative for the designated group to be given the same opportunities as their colleagues; and this is only possible if a clear communication flow is established within the group and with hearing colleagues.

b. Some sign language equivalents exist for items in the repertoire to be developed, but the use of these is neither widespread nor widely known: In most cases, the D/deaf and HoH working in a specific setting will have naturally developed a set of signs that they use during work processes. For this naturally developed repertoire to be sustainable, it becomes necessary to identify these signs and create a system through which they can be passed on to others working in similar fields. This will not only increase efficiency in professional communication but will also help in the development of technical sign language vocabulary.



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Team composition:

Team composition is of vital importance in the process as the team members must be:

- Representative of the group of professionals
- Guided by a professional linguist through a predesignated set of norms and steps to draft the repertoire
- Oriented/guided during the process without being dictated to.

Team selection:

It is imperative that the team is composed of individuals conducting work in the field, who can provide sign language input. The following criteria ensures that the team provides the best possible and most comprehensive input during the process.

1. Demographic distribution should be a primal factor in selecting the team. Different profiles (age, gender, education etc.) should be represented
2. The linguist should pre-screen team members in a communicative setting in terms of their linguistic abilities and profiles (their proficient use of sign language)
3. Team members should be volunteers.
4. Team members should have the technical resources (computers, screens, internet, and etc.) and the time to contribute efficiently to the process.
5. The process, the purpose, the steps of the process and the outputs should be explained in detail to the team to ensure that all participants are on the same page from the go.



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The linguists' guidelines:

1. The linguist works with a predetermined 'list of concepts' provided by hearing engineers; and - in cases where it is necessary - may expand the lists with input provided from the team.
2. The linguist should determine and identify the established and accepted terminology input from the team (mining the terminology from the team),
3. The linguist should arbitrate in cases where multiple signs have been developed to designate a single element, part, and etc. The guidance provided by the linguist should result in the selection of the linguistically and functionally most viable option.

Aids for the Linguist (and Team):

Since, in the setting detailed above, the linguist also (in a sense) functions as a team trainer, this professional must be equipped and aided to fulfill the task. The following are issues of importance:

- The linguist should be presented with a standard machine element list and other resources that detail the elements in plain and accessible language (It should be kept in mind that the linguist is not an engineer and this professional is also a member of the Deaf community).
- Should the accessible resources provided not allow the linguist to internalize/access the information to be shared with the team, the linguist and engineers should communicate with the help of a professional sign language interpreter cognizant in the field and the project to ensure that the linguist has been able to internalize the information provided.
- The linguist should also be provided with visual resources to facilitate terminology mining and terminology development. Provision of technical or other types of visual drawing is essential. Mining and developing input cannot be undertaken with the sole use of written material.



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The linguists' norms during the process:

- The sign designated for the element is a (linguistically speaking) natural sign in the sign language in question and will be embraced by native users.
- In all cases where a sign has already been used without mishap by the team this sign should be added to the repertoire.
- Options for signs for the elements in question in other sign languages may serve as a reliable and effective resource; thus, the linguist also needs to research such signs across other sign languages.
- The team should be separated into smaller working groups by the linguist to ensure that the most common and the acceptable option is designated and approved.
- The linguist must also ensure that the signs developed (both structurally and contextually) are acceptable to the larger Deaf community. The linguist must coordinate team efforts with other Deaf community representatives within the project group.
- The linguist must also be able to confirm that all signs and materials (fingerspelling, visual aids, written information etc.) to be included in the final output of the project (the online application and web site through which the information will be accessed) should be complementary and supplementary and furthermore accessible for the end-users.

Issues to be considered by the linguist in the development of the TSLR:

1) Using multiple resources to ensure effective and correct communication:

The linguist has three resources/recourses during the input mining process: a) visual aids to point to the element or concept, b) fingerspelling of the element or concept, c) the plain language text providing an expert input about the element or concept.

The linguist will need to decide through which communication channel (online, face to face, skype, Zoom etc.) and what type of a communicative flow (focus group work, semi-structured question/answer etc.) the process should be run and furthermore how these resources will be best used to elicit the necessary input.



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Some of the options available to the linguist are as follows:

- Should the team be able to identify the element in question when the linguist uses fingerspelling and be able to unanimously designate a single sign language equivalent, the use of written and visual aids becomes moot. It is clear that the element is well-known and the equivalent is well established.
- Should the team not be able to designate an equivalent for the element in sign language or should multiple options be available, the linguist may:
 - Use the visual aids provided to elicit the most associative signs and discuss this with the team
 - Present the equivalent sign in other sign languages to provide food for thought for the team
 - Present the plain language written text as a functional description to develop a functional equivalent and work with the team to develop a sign that has the associative sense.

2) By virtue of his/her profession the linguist will be able to use a larger native vocabulary than that used by the team members. Furthermore, this individual will be well-versed in the development of technical terminology. Thus, it falls to this professional to ensure the following:

- The sign developed does not overlap with other technical signs (term autonomy)
- The sign must be easily discernable and distinguishable
- Terminology must entail a specific meaning as opposed to a 'word'
- The term must be expandable to be used in communication
- The term development must consider the meta term (if it is a machine, a machine element, a tool etc.) under which the element falls. When necessary, meta terms must also be defined and added to the terminology repertoire.



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- The process of creating a new term commonly includes these steps:
 - Proposal
 - Verification
 - Validation
 - Release
- It is necessary to validate and ensure that the terminology and discourse developed serve the purposes of the end-users, and they also serve the purposes of the project and employers and the work cycle of the team.