

Revised Gloss Labels for Signs from the WLASL Dataset: Preliminary Version

Carol Neidle and Carey Ballard, Boston University

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< <http://www.bu.edu/asllrp/wlasl-alt-glosses.pdf> >

This document offers an explanation of the spreadsheet with revised gloss label annotations for 19,672 video examples of ASL citation-form signs from the WLASL dataset [1]. Some WLASL videos were excluded from this selection based on issues including—but not limited to—the following: the quality of the video, the lack of visibility of the hands in the video, the quality of the sign production (as judged by native ASL signers), or the presence of a sequence of more than one sign in the video.

Columns A through K contain information distributed with the WLASL data. In particular, Column B contains the gloss labels provided; and Column J represents information that about forms that are claimed to be “dialect variants”.

Column L identifies signs that were produced by left-handed signers (in cases where the 2 hands are not symmetrical).

Column O shows the **lexical variant** label, and Column N, the **main entry** label, used in the American Sign Language Linguistic Research Project (ASLLRP) Sign Bank <<https://dai.cs.rutgers.edu/dai/s/signbank>>, following the conventions explained in [4, 5] – with further details in [2, 3]. In cases where the signs did not exist in that Sign Bank, new labels were assigned in a manner consistent with the ASLLVD glossing conventions and fitting with existing ASLLRP Sign Bank annotations [5].

These conventions group **lexical variants** (which have distinct gloss labels) together under a single **main entry** label, which is essentially what is used for sign recognition, as discussed below. Although it can be a matter of judgment as to when differences in articulation and meaning are sufficient to consider that two productions represent distinct signs vs. variants of a single sign, there is no way around having to make such decisions. Considerations are discussed in [5]. Here we simply adopt the classifications from the ASLLRP Sign Bank.

The **class** label in Column M is what we have used for purposes of sign recognition. In almost all cases, the “class” label is taken from the “main entry” label in the following column. However, in a few cases, we have collapsed forms that are very similar, assigning a single class

label to multiple main entry labels. In most cases, this occurs when there are very similar compound and non-compound forms, which are distinguished linguistically, and rightfully in their glossing, but which need not be distinguished for purposes of sign recognition. Examples include, for example, the sign for “believe,” which can be produced either as a compound consisting of the sign **THINK** followed by the sign **MARRY**, or else as a non-compound lexical sign, derived from that compound, with the initial handshape of **BELIEVE** at the place of articulation for **THINK**, and remaining throughout the articulation. Thus, there is handshape assimilation, turning the compound into a single lexical sign. This is illustrated in Figure 1. Examples of this kind are grouped under a single class label. In cases where the class label differs from the main entry label, the class label appears in a red font.



Figure 1. Signs that mean ‘believe’, and that are assigned the same class label:

the compound **THINK+MARRY** and the lexical sign **BELIEVE**;
images taken from WLASL videos with the ID numbers indicated.

The WLASL data are available from: <https://dxli94.github.io/WLASL/>

The ASLLRP data are available from: <https://dai.cs.rutgers.edu/dai/s/signbank>

Further information about the ASLLRP gloss labeling is also available from the ASLLRP Sign Bank download page: [4].

Since the gloss labels are consistent, the main entries from the two datasets can be merged for purposes of sign recognition research. The only situation in which it is not possible to simply merge signs that have the same **main entry** label and to treat them equivalently involves index signs (variations on IX, POSS, and SELF). For those signs, the ASLLRP glossing conventions make more distinctions than can be readily discerned from citation-form signs. (For example, it is not possible to readily distinguish 2nd from 3rd person agreement on index signs in isolated sign

examples.) If these datasets are to be combined for recognition of index signs, we recommend merging the data as indicated in Table 1, using *only* the ASLLRP index signs with the variant labels listed in this table.

CLASS LABEL	WLASL main entry label	ASLLRP <i>variant</i> label
IX	IX	IX:i
IX-1p	IX-1p	IX-1p
IX-pl	IX-pl	IX-pl-arc <i>or</i> IX-3p-pl-arc <i>or</i> IX-3p-pl-circle
POSS	POSS	POSS:i
POSS	POSS-2p	POSS-2p
POSS-1p	POSS-1p	POSS-1p
POSS-pl	POSS-pl	POSS-pl-arc
SELF	SELF	SELF:i
SELF	SELF-2p	SELF-2p
SELF-1p	SELF-1p	SELF-1p
SELF-pl	SELF-pl	SELF-3p-pl-arc

Table 1. How index signs from the ASLLRP data set can be merged with the WLASL data as annotated here

Disclaimer: These annotations are offered without guarantees of accuracy. Although we have made our very best attempt to categorize these thousands of signs, it is inevitable that an occasional error will have crept in. We anticipate that corrected versions of this document may be made available in the future. If so, then the new versions will be identified by successive version numbers, and corrections will be documented and explained.

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