The Basic Structure of Sign Language

There are the two main ways to form sentences in sign language:

1. TIME + TOPIC + COMMENT/ACTION
2. TOPIC + COMMENT/ACTION

Some common variations of the two main sentence structures:

1. TIME + TOPIC + REFERENT + ACTION/COMMENT
2. TOPIC + REFERENT + COMMENT
3. TOPIC + COMMENT + REFERENT
4. TIME + TOPIC + COMMENT + REFERENT
5. TIME + TOPIC + REFERENT + COMMENT + ACTION + REFERENT

Examples of translations:

Grammatically correct sequence of signs: **Tomorrow library I go.**

**TIME** = tomorrow

**TOPIC** = library

**COMMENT/ACTION** = go

**REFERENT** = I

Grammatically correct English translation:**I am going to the library tomorrow.**

### Grammatically correct sequence of signs: **My dog it small brown silly it**

**TIME** = none

**TOPIC** = DOG

**COMMENT** = MY, SMALL, BROWN, SILLY

**REFERENT** = IT

### Grammatically correct English translation: **My dog is small, brown, and silly.**

### Grammatically correct sequence of signs: **Fish** **do not - like I they gross**

**TIME** = none

**TOPIC** = fish

**COMMENT** = do not like, gross

**REFERENT** = I, they

### Grammatically correct English translation: **I** **do not really like fish,** **they are gross**

Questions about sign language:

* What is the basic word order of a sentence/is this consistent with English
  + The main form of sentence in ASL seems to be something called “topic-comment”. This form of sentence identifies the topic of the sentence, which is usually what we would refer to as the object of the sentence. Then the comment would be subject and the verb of the sentence. Examples of this sentence structure can be seen on the first page. One thing we have found is that it seems to be standard for people to briefly pause between the topic and the comment of sentences to better delineate between them.
* Where do we put time/tense in a sentence
  + If there is a specific time that an action happened/will happen at, then that specific time is put as the first word of the sentence (see example translation 1). If you want to sign a sentence in the future tense, you can sign the sentence as normal, but end the sentence with the word “will” to indicate future tense
* How is negation handled in a sentence (I like ice cream vs. I don’t like fish)
  + Negation in a sentence is typically conveyed by shaking your head ‘no’ as you sign the part of the sentence being negated
* How do you ask a question in ASL
  + There are two main forms of questions in ASL, wh- questions (who, what, when, etc.) and yes/no questions. For yes/no questions, you raise your eyebrows while asking your question, then point to the person you are asking to indicate you want a response. For wh- questions, you lower your eyebrows while asking your question, and again you point to the person you are talking to indicating you want a response.
* How many WPM do people using sign language use
  + Typically ASL can communicate words at a similar rate to spoken English, but the main difference is that they do less signs per minute but each sign communicates more words/information
* What are going to be the hardest aspects of sign language to translate
  + The two main things that are going to be hard for us to implement are checking facial expressions/gestures and handling variations in word order. The facial expressions/gestures are going to be tricky because they can dramatically alter the meaning/structure of the sentence. Shaking your head can mean the difference between “I like fish” and “I hate fish” which will be rather important when translating the user accurately. Facial expressions such as raising your eyebrows can also be the differentiator between whether something is a statement or a question, so that will also be very important to capture. Luckily for us, it seems that these facial expressions will be decently distinct from one another, so it might not be too difficult to identify them. The other major hurdle we will run into is the variations in word order. It seems like some sentences can be signed in multiple ways depending on the user’s preference. This means that the object/topic of the sentence might not be in the same place every time which will make it harder to identify.

Web Sources:

<https://aslrochelle.com/blog/sign-language-sentences-the-basic-structure>

<https://academic.oup.com/jdsde/article/10/1/3/361306?login=false>

https://en.wikipedia.org/wiki/American\_Sign\_Language\_grammar#Word\_order

https://www.youtube.com/watch?v=fDV9Al8Fgjk