



# Development of 3W1H device and Effect of Conversation with Aphasia

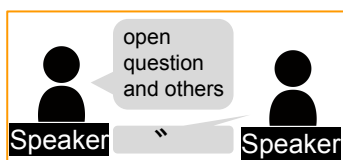
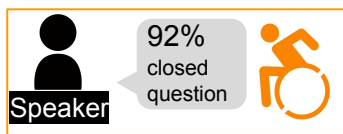


Introduction ~Making chat between aphasia and their family~



▷People with speech disabilities ...350,000 people  
▷The word of diversity is popular around the world

Issue of conversation



About one patient

▷Broca Aphasia can understand what they hear and see can't say what they want to say

▷Chief complaint

- Speaking
- Attention disorder
- Paralysis of the right part

Purpose

- make opportunity to talk for the patient
- Change speaker into the patient

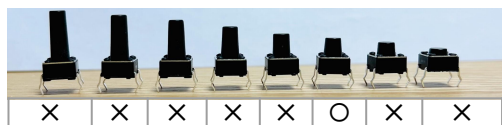
## Experiment & Results

In this study, I developed custom-made devices for the patient, taking into consideration the diversity of disabilities.

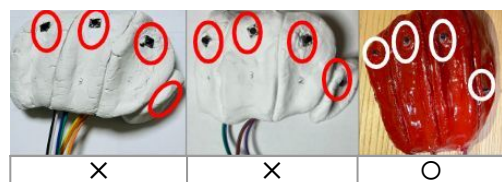
### ① Development of 3W1H device



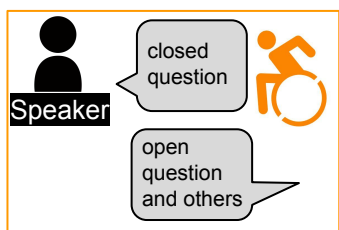
Designed to address post-stroke fatigue



Chose the easiest switch to use



Found the best position in using



Introduced 3W1H sounds



### ② Effect of using

Experimental Methods

• The patient talks with a family in a quiet room



• Recorded text of conversation using the "PLOUD NOTE"

	Ordinary	Using 3W1H device
Method of study	patient and other	//
Average word count	4 words	9 words
<b>Patient</b>		
Times of question	0	5
Speaking rate	0.17 word/s	0.28 word/s
Maximum phonation time	16 s	42 s
<b>Their family</b>		
Times of question	7	3
Speaking rate	0.51 word/s	0.42 word/s

- ① Speaking rate got sometimes faster than before.
- ② When they use the device, More opportunities for patients to speak
- ③ Main speaker changed into aphasia.



## Discussion

The device was developed based on patient feedback, and I found a new approach to helping aphasic patients talk. Physically, it has increased the duration of conversations between patients and their families.

① It is not certain about whether the same results can be achieved for all patients.

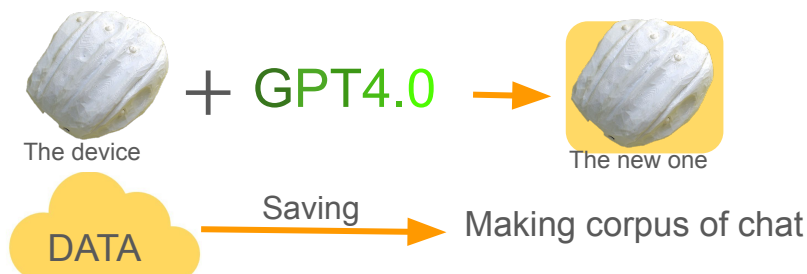
Different disorders require different designs and approaches, and therefore results are less universal.

② Since the topic was not assessed, the patient and family members may have different motivations for speech.

• I would like to deliver chats to many aphasia patients and their families.



## NEXT Plan



I participated in !

