

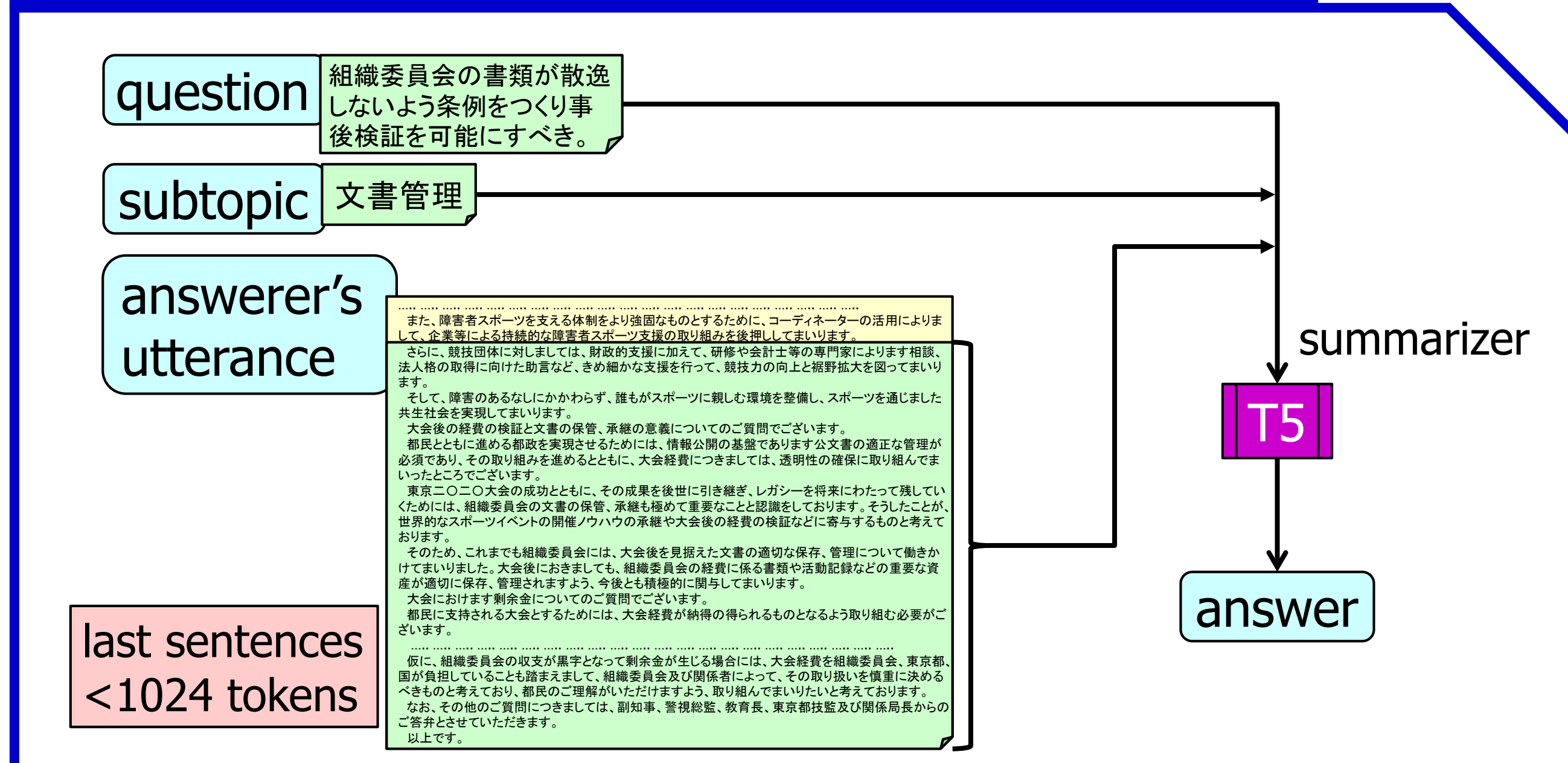
nukl's QA System at the NTCIR-16 QA Lab-PoliInfo-3

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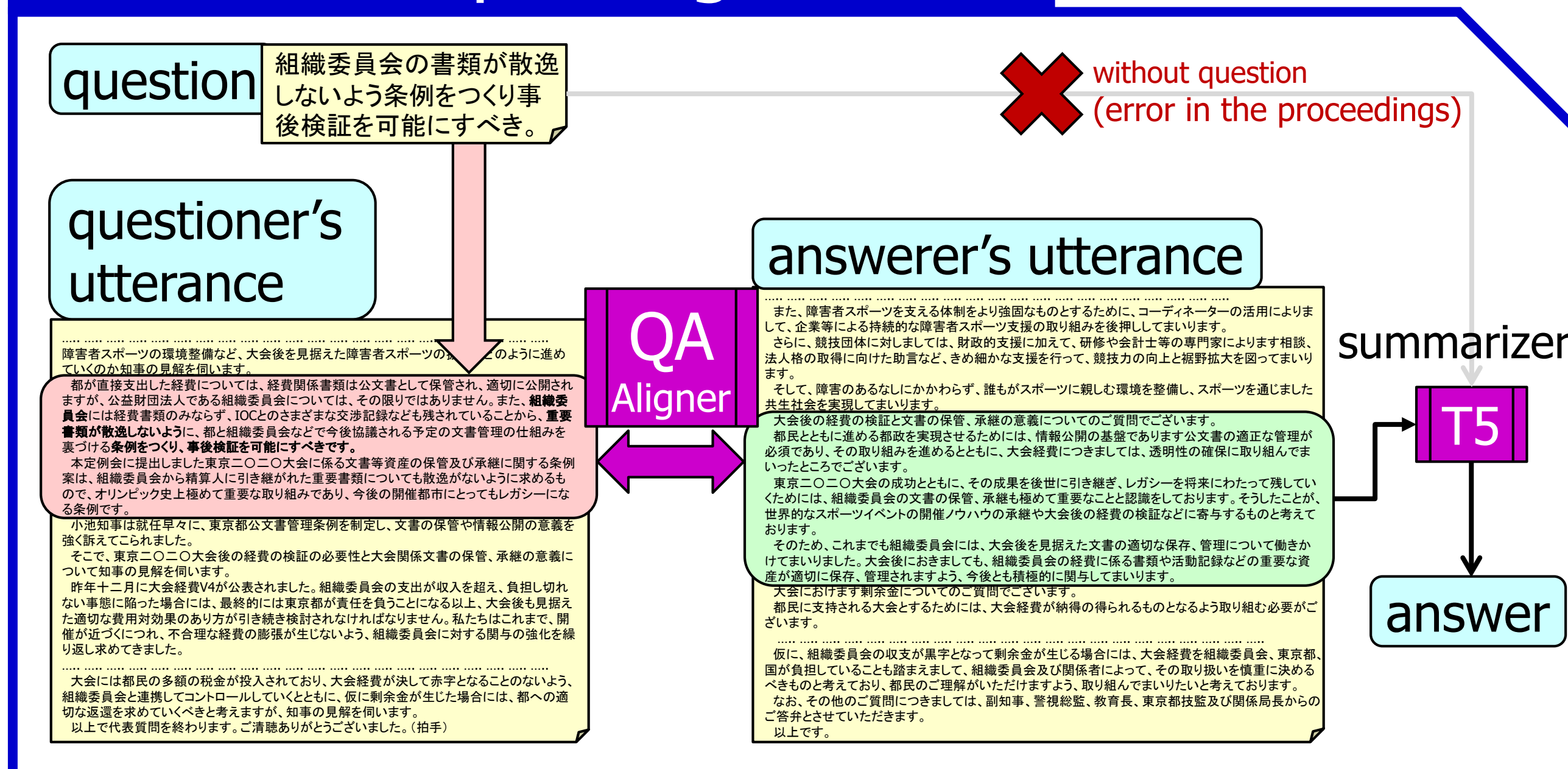
Outline: Question Answering subtask

- Using T5 as a summarizer
- Two input types
 - Answerer's entire utterance
 - Answer text corresponding to the question
- Achieved the highest score**

Method 1: Input the Entire Utterance



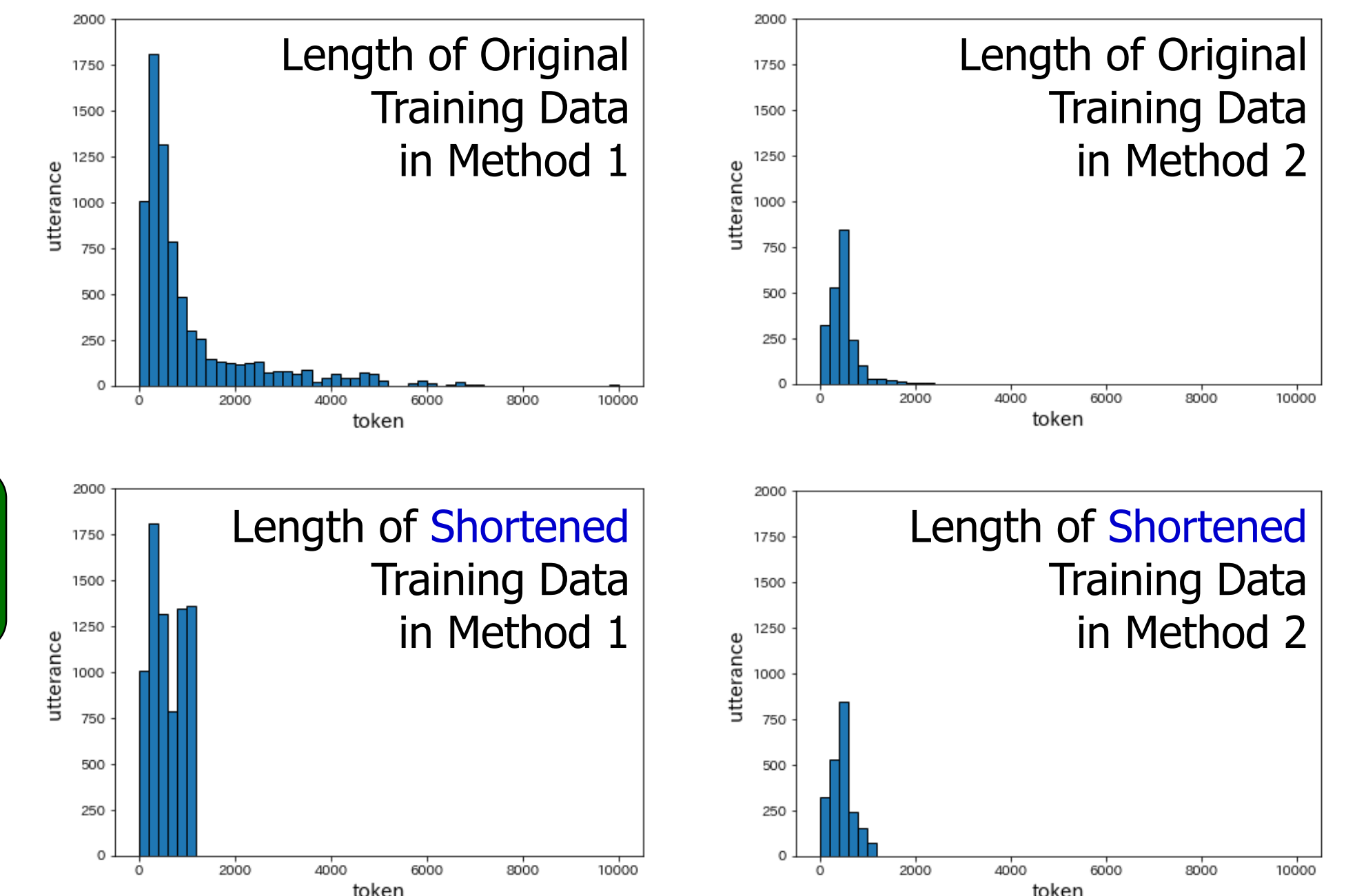
Method 2: Input Aligned Text



Future Works

- Increase training data for Method 2
- Determine a correct value for "this year"

Distribution of Training Data



Proposed: Mixed

Select the answer by the utterance's length (threshold θ)

answer output

Experimental Setting

Pre-trained T5 model	https://huggingface.co/sonoisa/t5-base-japanese
Tokenizer	SentencePiece
Maximum input length	1,024 tokens
Maximum output length	64 tokens
Number of epochs	4
Batch size	2
Threshold θ (characters)	1,000, 2,000, 2,500
Training data (Method 1)	7,627 tuples (2001 – 2019)
Training data (Method 2)	2,171 tuples (2011 – 2016)
QA Aligner	AKBL team's system (ID 235) Gold data

Experimental Results (A.E.)

ID	System	ROUGE-1-F	Selected Method		
			Method 1	Method 2	Ratio
310	Proposed ($\theta = 2,000$ characters)	0.3132	277	139	0.67
313	Proposed ($\theta = 2,500$ characters)	0.3129	296	120	0.71
311	Proposed ($\theta = 1,000$ characters)	0.3051	184	232	0.44
266	Method 1	0.2823			
316	Method 2	0.2787			
288	ditlab	0.3031			
190	AKBL	0.2306			
	Proposed ($\theta = 2,000$) with GD	0.3333			
	Method 2 with GD	0.3049			

Additional Experiment

less training data

better QAA, better answers

Experimental Results (Human Evaluation)

ID	Team	Correspondence				Content				Well-formed				Overall			
		A	B	C	Score	A	B	C	Score	A	B	C	Score	A	B	C	Score
	Gold	377	20	3	774	208	170	22	586	391	8	1	790	217	164	19	598
310	nukl	363	25	12	751	138	211	51	487	381	19	0	<u>781</u>	148	203	49	499
288	ditlab	348	33	19	<u>729</u>	138	200	62	<u>476</u>	379	17	4	775	142	200	58	<u>484</u>
269	ditlab	346	31	23	723	129	209	62	467	384	16	0	784	136	207	57	479
190	AKBL	320	42	38	682	104	196	100	404	381	6	13	768	103	203	94	409