

		Utterances			1C	FP	C2P	Help	hint	spss	Mark			Const.			FC			Inference		BC			Total			
		Student	Tutor	Total							PP	S	W	PP	S	W	PP	S	W	VI	II	PP	S	W	PP	S	W	All
Solved	201	102	87	189	1	11	19	0	0	1	7	5	0	7	4	0	20	3	0	9	0	1	0	0	35	12	0	47
Assisted	207	61	97	158	6	5	20	3	5	2	5	0	0	2	0	0	17	4	0	8	3	0	0	0	24	4	0	28
	209	66	68	134	21	11	20	0	1	1	5	0	0	2	2	0	18	4	0	8	2	0	0	0	25	6	0	31
Guided	202	90	100	190	2	15	15	1	5	0	5	3	0	2	3	0	9	8	0	1	2	0	0	0	16	14	0	30
	205	142	164	306	97	19	19	1	13	0	4	0	0	2	0	0	13	2	2	2	2	0	0	2	19	2	4	25
	208	75	101	176	11	29	29	2	17	0	4	3	3	5	4	1	7	2	6	7	5	0	0	0	16	9	10	35
Wrong	206	51	65	116	30	10	10	0	0	1	3	3	2	2	0	1	6	0	4	2	3	0	0	0	11	3	7	21
Failed	203	86	75	161	-	-	13	0	1	0	4	3	1	3	2	1	1	5	3	2	1	0	0	0	8	10	5	23
	204	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

1C: # utterances observed before the 1st commitment to proof was made. (representing exploration/floundering, but marks on given might be noise)

FP: Steps in the very first proof

C2P: Number of commitments to proof (could be PP + S + W. Why S? Because a student might use a sound proposition in a wrong inference)

hint: Gave a hint to achieve specific subgoal (could be more than the ones you see in the solution for some hints could provided multiple times at different level)

Help: Help requested by student

spss: Suggested to prove a step skipped.

Solved: The students found a proof all by himself.

Guided: The students found a proof by receiving hint and scaffolding.

Wrong: The students reached a wrong proof. Tutor didn't correct it.

Failed: The students couldn't complete a proof within a give amount of time (about 20 min).

PP: Part of Proof

S: Sound, but not a part of proof

W: Wrong proposition

VI: Valid inference

II: Invalid inference