	Final recoding	index	Tokens_originals_count	Conceptual definitions for each syntactic role (called "type")	Tokens_originals
69	ACCURATE	ACCURATELY	2	Verb_quality: precision	{'correctly': 1, 'exactly': 1}
18	fuse to "FEELINGS" or "IMPRESSION" ?	AESTHETICS	2	Subject_quality: visual appearance, pleasing	{'awesome': 1, 'pleasing': 1}
49		AFFECT	4	Verb: has an impact on / occured and had an impact	{'makes': 1, 'make': 1, 'impact': 1, 'made': 1}
79	VIS ELEMENTS	ALL	1	Object: complete	{'everything': 1}
12	REFERENCE STRUCTURES	ANNOTATION	0	Subject: annotation	[]
19	ANNOY / fuse to to "FEELINGS" or "IMPRESSION"? (with AESTHETICS maybe)	ANNOYANCE	2	Subject_quality: annoyed, irritated (same source)	{'irritated': 1, 'annoyed': 1}
4	ENCODINGS	ARRANGE	0	Subject: cf Munzner idioms visual encoding (sub of ENCODINGS)	[]
112	KNOW	AWARE	0		[]
80		BALANCE	1	Object: adequate proportion	{'balance': 1}
81	REFERENCE STRUCTURES	CAPTION	0	Object: (sub of VIS TEXT)	[]
59		CHANGE	1	Verb: edit	{'change': 1}
20	CLARITY	CLEAR	1	Subject_quality: clear	{'clear': 2}
67	CLARITY	CLEARLY	1	Verb_quality: clarity	{'clearly': 1}
82		CLUTTER	0	Object: clutter (sub of UNCLEAR)	[]
21	CLUTTER	CLUTTERED	0	Subject_quality: (sub of UNCLEAR)	[]
58	DETERMINE	COMPARE	2	Verb: Subtask of Munzner "Query" task (sub of DETERMINE) / Subtask of Munzner "Query" task (sub of DETERMINE)	{'abnormal': 1, 'similar': 1}
22	"= COMPLEX	COMPLEX	0	Subject_quality: (sub of UNCLEAR)	[]
23		concept	0	Subject_quality: definition	[]
68	CONCISE	CONCISELY	4	Verb_quality: condensed - summarized	{'consisely': 1, 'one': 1, 'paragraph': 1, 'sentence': 1}
6	TAKEAWAY	CONCLUSION	5	Subject: takeaway, message / takeaway, summarized analysis, formulated insight... results	{'message': 2, 'messages': 1, 'takeaways': 1, 'insight': 1, 'results': 1}
104	SPECIFIC	CONCRETE	1	Object_quality: concrete	{'concrete': 1}
24		CONFIDENT	1	Subject_quality: confident, certain	{'confident': 1}
105	EXPECTATION	CONFIRM	1	Object_quality: expected because given beforehand	{'given': 1}
25	CLARITY	CONFUSING	0	Subject_quality: (sub of UNCLEAR)	[]
83		CONSUME	0	Object: cf Munzner's tasks > Analyze > Consume	[]
115		CONTEXT	0		[]
52		CONVEY	7	Verb: to be the vector of (information, meaning, message...)	{'convey': 2, 'conveys': 2, 'wants': 1, 'tells': 1, 'present': 1, 'says': 1, 'communicate': 1}
106	DESIGN	CREATION	1	Object_quality: moment of visualization conception	{'creation': 1}
84		DATA	4	Object: data, source of information	{'data': 2, 'points': 1, 'entities': 1, 'one': 1}
85	DATA FEATURES	DATA FEATURE	13	Object: significant characteristic of data (maybe subest of INFORMATION?) Object_quality: patterns, relationships, group?(= communities) values?	{'patterns': 2, 'relationships': 2, 'trends': 1, 'outliers': 1, 'pattern': 1, 'features': 1, 'trend': 1, 'clusters': 1, 'groups': 1, 'communities': 1, 'activity': 1, 'level': 1, 'characteristics': 1}
86		DESIGN	1	Object: designer's choices	{'design': 1}
9		DESIGNER	1	Subject: vis designer	{'designer': 1}
26	WANT + FOCUS	DESIRE	2	Subject_quality: want to... / Verb: to feel attraction	{'want': 2, 'attracting': 1}
87		DETAILS	1	Object: details of data or visualization	{'details': 1}
46	QUERY	DETERMINE	9	Verb: cf Munzner "Query": identify, compare, summarize differentiation	{'differentiate': 2, 'identify': 1, 'rank': 1, 'determine': 1, 'recognize': 1, 'ability': 1, 'another': 1, 'recover': 1, 'extract': 1}
70	EASINESS	DIFFICULTLY	3	Verb_quality: with difficulty	{'difficult': 1, 'effort': 1, 'hard': 1}
88		DISCOVER	0	Object: cf Munzner tasks Consume > Analyze > Discover / unexpected cf Munzner Analyze > Consume > Discover	[]
13		DISTORTION	1	Subject: not sure what they meant...	{'distortion': 1}
65	EASINESS	EASILY	2	Verb_quality: without effort	{'easily': 1, 'easy': 1}
101	EASINESS	EASY	2	Object_quality: without effort	{'easier': 1, 'easy': 1}
27	EASINESS	EASYNESS	3	Subject_quality: easy + difficult (concept of easiness)	{'easy': 1, 'difficult': 1, 'challenging': 1}
2	ENCODINGS / CONTEXT for geo-spatial info in statement [31] / REFERENCE STRUCTURES for units, axes, labels	ENCODINGS	20	Subject: marks & channels (= encode in Munzner "How" to design)	{'encodings': 2, 'color': 2, 'encoding': 2, 'shapes': 2, 'colors': 2, 'spatial': 2, 'ordering': 1, 'marks': 1, 'variables': 1, 'presentation': 1, 'arrangement': 1, 'units': 1, 'axes': 1, 'labels': 1, 'structure': 1, 'hierarchy': 1, 'mapping': 1, 'items': 1, 'lines': 1, 'encoded': 1}

#	Family	Term	Count	Description	Counts
28		ENOUGH	3	Subject_quality: sufficient in quantity / adequate amount / sufficient amount	{'enough': 2, 'amount': 1, 'sufficient': 1}
89	DATA	ENTITY	0	Object: data point (sub of DATA)	[]
90		EXPERTISE	2	Object: skills / knowledge of expert person	{'expertise': 1, 'skills': 1}
47	VERBALIZE	EXPRESS	6	Verb: to translate thoughts into words (internal or external)	{'generate': 1, 'explain': 1, 'summarize': 1, 'iterate': 1, 'described': 1, 'communicate': 1}
91	TAKEAWAY	EXPRESSION	2	Object: ideas formalized in language (written or spoken)- result of EXPRESS	{'description': 1, 'story': 1}
113		FEELING	0		[]
60	FOCUS	FOCUS	2	Verb: concentration/distraction / attention	{'distracted': 1, 'attention': 1}
114	OVERVIEW	GENERAL	0		[]
92	GOAL ok	GOAL	3	Object: user goal, task goal	{'questions': 1, 'decisions': 1, 'question': 1}
107		GOOD	1	Object_quality: good	{'good': 1}
93		GUIDANCE	3	Object: guidance	{'entry': 1, 'point': 1, 'direction': 1}
29	GUIDANCE	GUIDING	2	Subject_quality: with guidance	{'drawn': 1, 'saliently': 1}
53		IDENTIFY	0	Verb: Subtask of Munzner "Query" task (sub of DETERMINE)	[]
30	KEY	IMPORTANT	3	Subject_quality: key, necessary / Object: main, key, major	{'main': 2, 'key': 1, 'major': 1}
111	INFORMATION	INFORM	1	Object_quality: bring information (necessary / useful for task)	{'know': 1}
5	values to DATA FEATURES	INFORMATION	3	Subject: reading output / reading output, data useful for the task	{'information': 2, 'values': 2, 'fact': 1}
31	INFORMATIVE	INFORMATIVE	5	Subject_quality: is it maybe a sub of USABLE or USEFUL or RELEVANT ?	{'informative': 1, 'unexpected': 1, 'interesting': 1, 'interested': 1, 'expected': 1}
72	INFORMATIVE	INFORMING	1	Verb_quality: informative way (for task)	{'informative': 1}
14	DESIGNER	INTENT	2	Subject: intention behind design (linked to DESIGNER) / Object_quality: designer's goal	{'intended': 2, 'choices': 1}
32		INTUITIVE	1	Subject_quality: intuitive	{'intuitive': 1}
55		KNOW	1	Verb: to be certain, not confused	{'know': 1}
15	REFERENCE STRUCTURES	LABEL	0	Subject: (sub of TEXT)	[]
102	VERBALIZE	LANGUAGE	2	Object_quality: textual or verbal expression	{'verbal': 1, 'textual': 1}
61		LEARN	3	Verb: learn / gain information	{'learn': 1, 'learned': 1, 'communicated': 1}
94	REFERENCE STRUCTURES	LEGEND	0	Object: (sub of VIS TEXT)	[]
73		LONG	0	Verb_quality: long time (sub of TIME)	[]
108		LOW	1	Object_quality: low	{'low': 1}
95	KEY	MAIN	0	Object: most important (sub of IMPORTANT)	[]
96	OPERATION	MANIPULATE	1	Object: cf Munzner in "How" to design	{'selection': 1}
3		MAP	0	Subject: cf Munzner idioms visual encoding (sub of ENCODINGS)	[]
109		MARK	0	Object_quality: geometric element representing a data entity (cf Munzner book chap. 5) (sub of ENCODINGS)	[]
74		MAYBE	1	Verb_quality: uncertainty	{'maybe': 1}
97	TAKEAWAY	MEANING	5	Object: understanding, semantic content (maybe sub of UNDERSTAND ?)	{'meaning': 1, 'understanding': 1, 'understand': 1, 'means': 1, 'represent': 1}
103		OVERALL	0	Object_quality: (sub of OVERVIEW)	[]
98		OVERVIEW	2	Object: overview	{'overview': 1, 'overall': 1}
16	OTHER PEOPLE	PEOPLE	2	Subject: other people (not reader not designer)	{'others': 2, 'friend': 1}
33		PROBLEMATIC	1	Subject_quality: issue	{'issue': 1}
116		PROPERTIES	0		[]
50		READ	2	Verb: - / act of reading	{'read': 1, 'reading': 1}
34	READ	READABLE	2	Subject_quality: readable, easy to read	{'readable': 1, 'read': 1}
0		READER	2	Subject: = "I" in statements / "me" in statements	{'viewer': 3, 'reader': 1}
17	READER	READER EYES	1	Subject: eyes of the reader	{'eyes': 1}
51		REASON	5	Verb: mental reasoning (e.g., infer) / extract insight	{'process': 1, 'answer': 1, 'form': 1, 'infer': 1, 'extracted': 1}
35	key, necessary to KEY (link with GOAL?) RELEVANT	RELEVANT	4	Subject_quality: is it maybe a sub of USABLE or USEFUL? / Object_quality: is it maybe a sub of USABLE or USEFUL? or a main concept here?	{'appropriately': 1, 'key': 1, 'necessary': 1, 'relevant': 1}
62	REQUIREMENT	REQUIRE	1	Verb: to need	{'require': 1}

	KEY for needed (in regard of task, taking about extracted information)			Verb_quality: pre-requisite	
71	+ REQUIREMENT for take time	REQUIREMENT	2	!!! was aggregating different concepts	{'needed': 1, 'take': 1}
100	RELEVANT for obkect qualities, express relevancy to task = need	REQUIREMENT	3	Object_quality: needed for goal	{'needed': 1, 'required': 1, 'needs': 1}
45	QUERY	RETRIEVE	1	Verb: extract from visual representation Object_quality: extract (value, low-level information) from visual representation Object	{'extract': 1}
56		SEARCH	3	Verb: cf Munzner "Search": locate, lookup, browse, explore cf Munzner "Search" tasks Object_quality: look, expected - cf Munzner "Search" tasks	{'find': 1, 'explore': 1, 'look': 1}
66		SHORT	0	Verb_quality: short time (sub of TIME)	[]
54		SHOW	3	Verb: top present to the viewer	{'show': 1, 'shows': 1, 'provides': 1}
36	SHOW	SHOWN	2	Subject_quality: presented Object_quality: presented, displayed	{'presented': 1, 'represented': 1}
99		SIMILAR	0	Object: (sub of COMPARE) qulity of being similar or different	[]
110		SPECIFIC	1	Object_quality: specific to task	{'special': 1}
44		STATE	2	Verb: to be (sentences without objects)	{'be': 1, 'state': 1}
63		SUMMARIZE	0	Verb: Subtask of Munzner "Query" task (sub of DETERMINE)	[]
57		SUPPORT	3	Verb: help, support Verb_quality: supportive manner	{'help': 1, 'support': 1, 'allows': 1}
37	SUPPORT	SUPPORTED	1	Subject_quality: enabled to achieve task ("I can...")	{'able': 1}
64		TIME	11	Verb_quality: time efficiency	{'glance': 1, 'immediately': 1, 'long': 1, 'manner': 1, 'quickly': 1, 'rapidly': 1, 'seconds': 1, 'time': 1, 'timely': 1, 'timespan': 1, 'took': 1}
75		TRY	2	Verb_quality: attempting attempted	{'trying': 2, 'try': 1}
38	CLARITY	UNCLEAR	7	Subject_quality: disorienting, confusing, cluttered, complex Object_quality: confused	{'complex': 1, 'overwhelming': 1, 'confusing': 1, 'cluttered': 1, 'disorienting': 1, 'clutter': 1, 'confused': 1}
43		UNDERSTAND	9	Verb: comprehend meaning	{'understand': 1, 'clue': 1, 'interpret': 1, 'makesense': 1, 'grasp': 1, 'decipher': 1, 'understanding': 1, 'comprehend': 1, 'relate': 1}
39	UNDERSTAND meaningful to MEANING	UNDERSTANDABLE	5	Subject_quality: understandable, comprehensible, identifiable, meaningful, interpretable...	{'meaningful': 2, 'understand': 1, 'comprehend': 1, 'identifiable': 1, 'interpret': 1}
41	RELEVANT	USEFULNESS	2	Subject_quality: useful and useless (concept of usefulness)	{'useful': 1, 'useless': 1}
76	USE	USING	1	Verb_quality: as a mean to achieve something	{'using': 1}
77		VERY	1	Verb_quality: strongly	{'far': 1}
48		VIEW	2	Verb: see, view and look at action of looking, seing, viewing seen	{'look': 2, 'see': 2}
78	ENCODINGS	VIS	1	Verb_quality: visualization	{'layout': 1}
117		VIS ELEMENT	0		[]
11		VIS ELEMENTS	4	Subject: parts of the visualization	{'parts': 1, 'representations': 1, 'elements': 1, 'components': 1}
10	VIS APPEARANCE	VIS GENERAL ASPECT	5	Subject: scale, aesthetic appearance Subject_quality: related to the visual appearance of the visualization	{'scale': 1, 'appearance': 1, 'sized': 1, 'blurring': 1, 'quality': 1}
7	REFERENCE STRUCTURES + VIS ELEMENT for text	VIS TEXT	5	Subject: text of the visualization (including LABEL, ANNOTATION) Object: text of the visualization (including LEGEND)	{'text': 1, 'labels': 1, 'annotations': 1, 'legend': 1, 'caption': 1}
8		VISUAL	1	Subject: visual (multiple items associated)	{'visual': 3}
1		VISUALIZATION	7	Subject: visualization, graph, plot, image, etc. related to the visualization visualization, chart, graph, image	{'visualization': 4, 'chart': 3, 'graph': 3, 'picture': 2, 'plot': 2, 'image': 2, 'graphic': 1}
42	VISUAL	VISUALLY	1	Subject_quality: visual visually	{'visually': 2}