

Complexity in Asynchronous CMC Agreement and Disagreement

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Greg Kessler
Ohio University

General research into Agreement & Disagreement

- General preference for agreement (or appearance of agreement) in oral exchanges (Brown & Levinson, 1987)
- Foppa (1995) Disagreement always requires justification...& it contains no information, but rather the information is contained within the justification.
- Disagreement in online exchanges can easily be seen as impolite (Angouri & Tseliga, 2010)

Agreement & Disagreement Research

- Morand and Ocker (2003) identify disagreement as one of many face threatening act.
- Scollon & Scollon (1983) identify the significance of solidarity in agreement.
- Holtgraves (1997) employed politeness theory to explore agreement, avoidance of disagreement, and seeking common ground in discussion of controversial topics.

Disagreement in Online Communication

- Chu-Carroll & Carberry (1998) observed attempts at reconciliation following disagreement.
- Walker (1996) focused on the acceptance and rejection of disagreements.
- Di-Eugenio (2001) utilized a holistic perspective to identify solutions to disagreements.

Agreement & Disagreement in Language Learning

- Discussion boards can support students' ability to agree and disagree within language learning contexts (Opp-Beckman & Kieffer, 2004).
- Sotillo (2000) Students in APMC devoted 49% of their postings to responding to the teacher.
- Student responses to each other, “suggested agreement and disagreement in indirect ways” (p. 104).
- Anecdotal observation of superficial APMC
- No explicit previous research into agreement and disagreement in online language learning

Guiding Research Regarding Complexity

- Various approaches to investigating CAF
- ACMC and SCMC comparison, Sotillo (2000)
 - ACMC Promotes reflection & opportunity for elaboration
- Multidimensional “organic” perspectives, Norris & Ortega (2009)
 - Comparison of measures
 - Caution in interpretation/extrapolation
- Balanced complexity, Schulze (2010)
 - Combining measures

Questions

- What is the nature of (dis)agreement and directness in online ACMC?
- What is the relationship between syntactic complexity and (dis)agreement in ACMC?
- How do complexity measures compare across these discourse functions?
- How does human vs automated complexity compare?

Methodology

- 40 NNES in 15 week online course
- Weekly discussions on culture related topics
- All response posts were included
 - 1662 response posts consisting of 228,060 words
- Two independent trained raters identified direct and indirect agreement and disagreement acts (as outlined by B & L,1998)

Methodology

- Syntactic complexity was observed in terms of three conventional measures:
 - General Complexity (Mean length of T-unit)
 - Hunt, 1965
 - Phrasal Elaboration (Mean length of clause)
 - Elder & Iwashita, 2005
 - Subordination (Clauses per T-unit)
 - Scott, 1988
- Anova across the agreement types & measures
- Multicollinearity correlation comparing measures
- Discriminant analysis

Results

- 1010 instances of agreement and disagreement
 - 964 of agreement
 - 831 direct
 - 133 indirect
 - 46 of disagreement
 - 31 indirect
 - 15 direct

WEEK	Response Post	Direct Agreement	Indirect Agreement	Indirect Disagreement	Direct Disagreement
1: Culture	35	50	2	8	4
2: Technology	37	58	5	4	2
3: US	34	50	2	3	0
4: England	36	52	13	0	0
5: Canada	35	34	13	2	1
6: Australia	34	55	14	1	2
7: Food	38	57	13	1	3
8: Clothes	37	61	8	3	1
9: Art	32	51	18	0	0
10: Music	31	85	9	1	0
11: Slang	36	69	11	4	1
12: Gestures	31	55	6	1	0
13: Accents (and idioms)	33	46	9	2	1
14: American dialects I	34	53	2	0	0
15: American dialects II	34	55	7	1	0
16: Future of English Speaking Culture	3	0	1	0	0
Totals	520	831	133	31	15

Results

- Significant difference in complexity between agreement and disagreement (sub: clauses/ t-unit)
- Indirect agreement was more syntactically complex than direct agreement across all measures
- Indirect disagreement was more syntactically complex than direct disagreement

Results

- Results vary according to selected measure
 - Consistent with Norris & Ortega, 2009
- Complexity measures demonstrated significant multicollinearity
 - Mean length of T-unit and mean length of clause correlated at .665
 - Comparing complexity measures revealed redundancy of use of measures
 - Length of clause removed from study
- Discriminant analysis provided insight into comparison across agreement types and measures

Conclusions Q1

- Students may benefit from expectations for demonstrating disagreement
- Students may benefit from suggestions & guidance on how to appropriately disagree
- Students may benefit from explicit exposure to findings of Sotillo (2000)

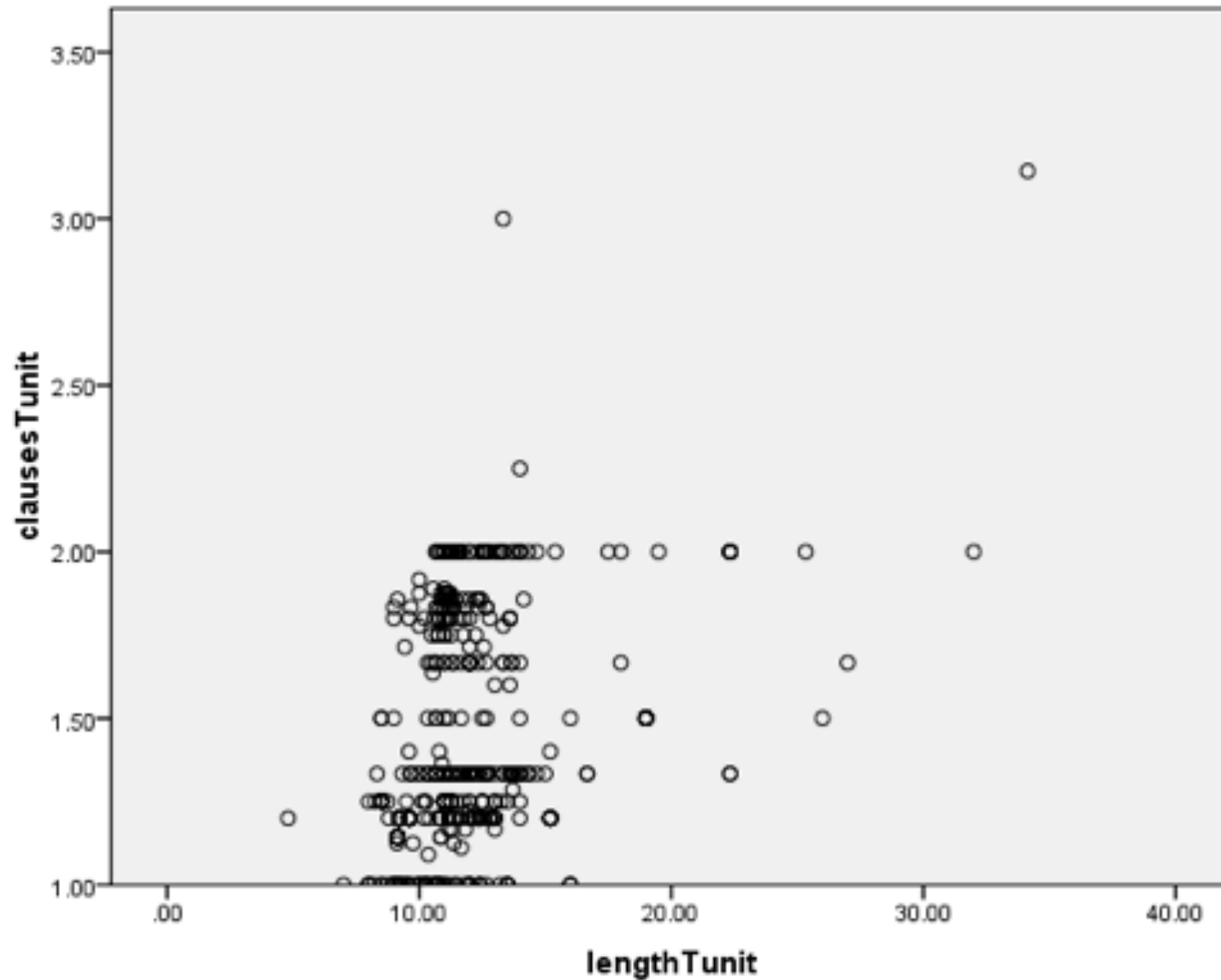
Conclusions Q2

- Complexity varies across acts of agreement and disagreement
- Statements of disagreement are more complex than statements of agreement
- Indirect statements are more complex than direct statements

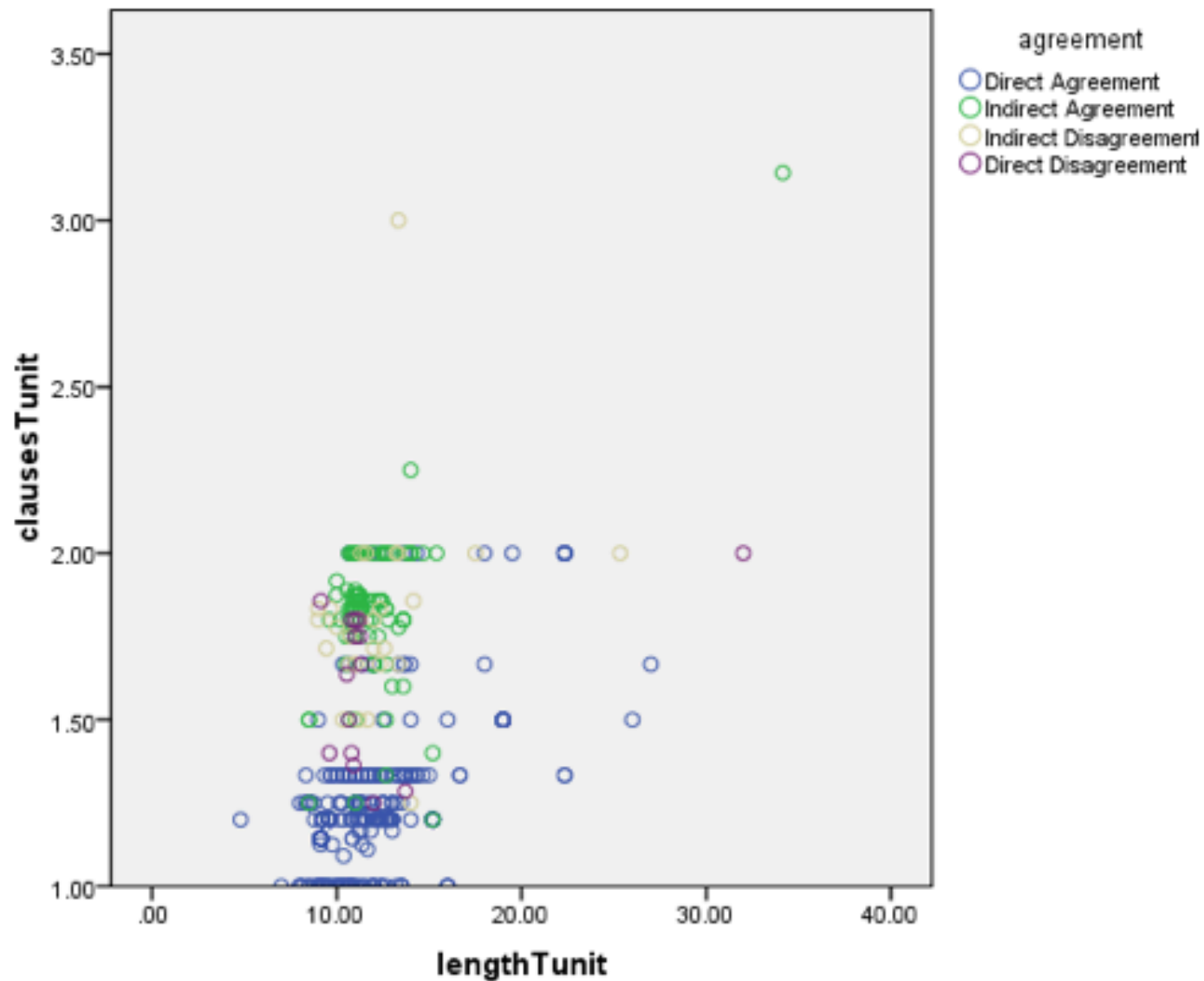
Conclusions Q3

- Different complexity measures offer different results
 - Varied measures should be employed
- Combinations of complexity measures can be beneficial or redundant
- Measure choice should be influenced by nature of discourse functions

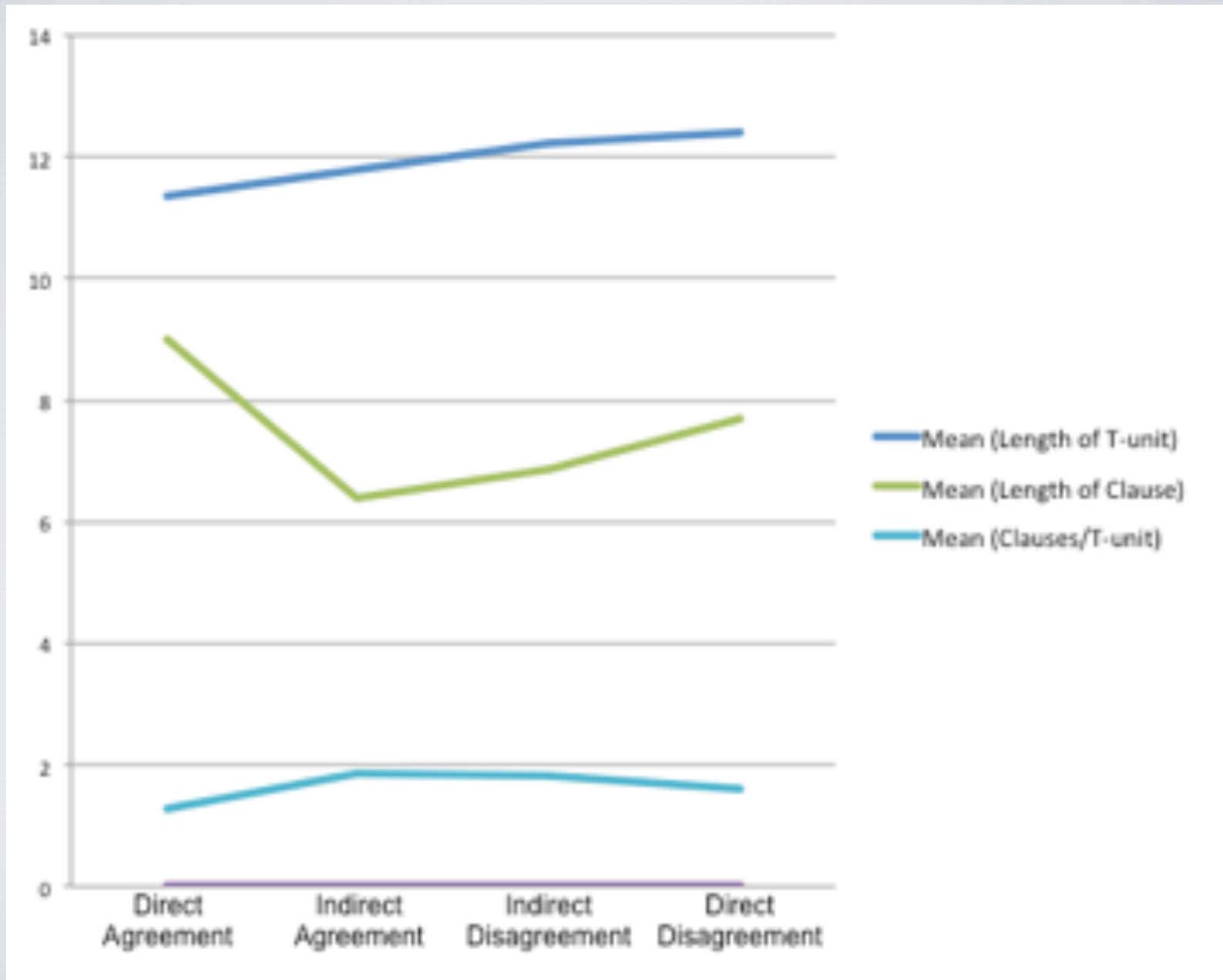
Looking at the entire text...

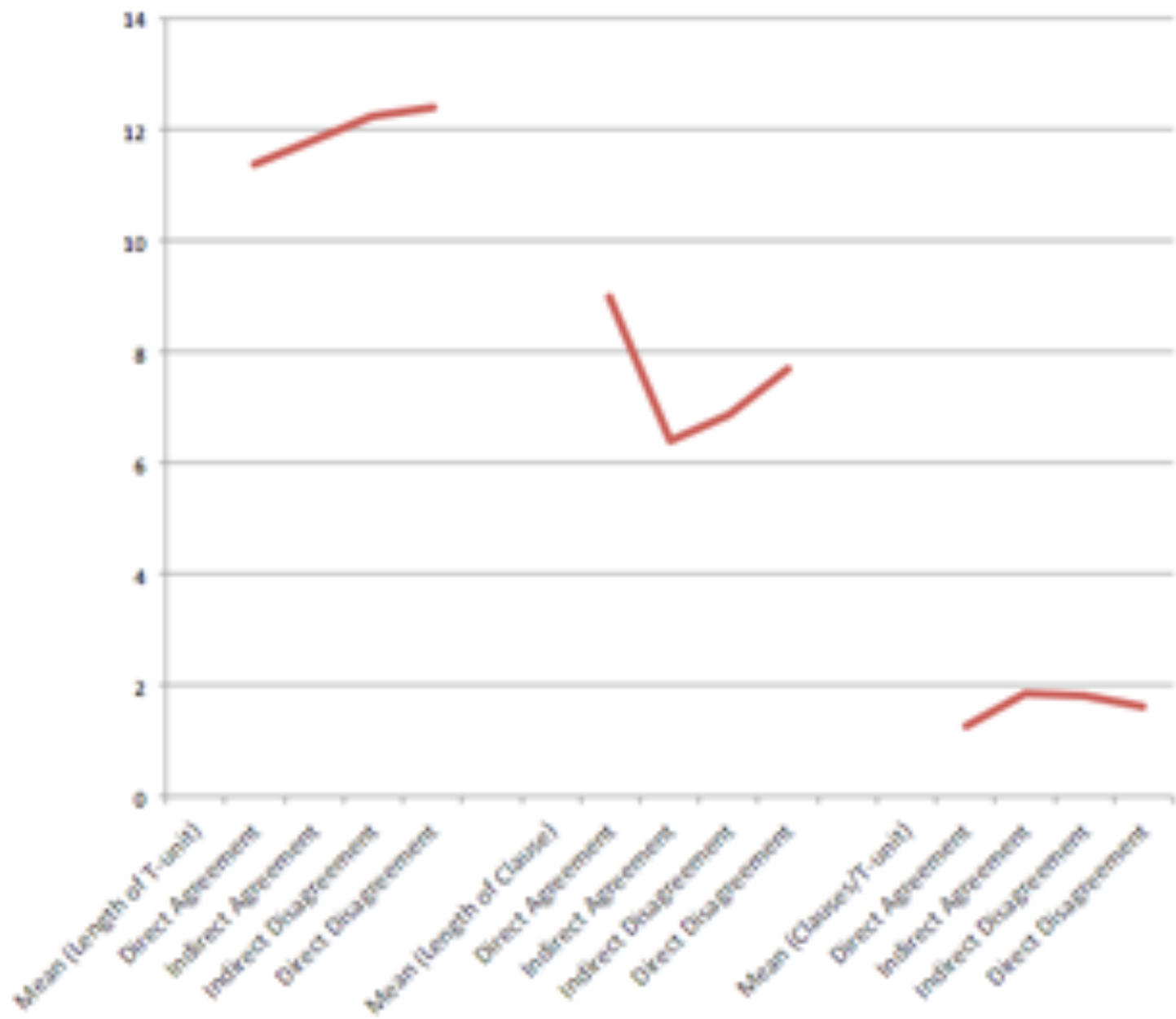


...or organized by discourse function



Scale and orientation can also influence interpretation





Conclusions Q4

- Automated analysis of complexity is reliable

Length T unit	Length Clause	Clauses per T unit
IRR 0.95	IRR 0.98	IRR 0.97

Automated Syntactic Complexity

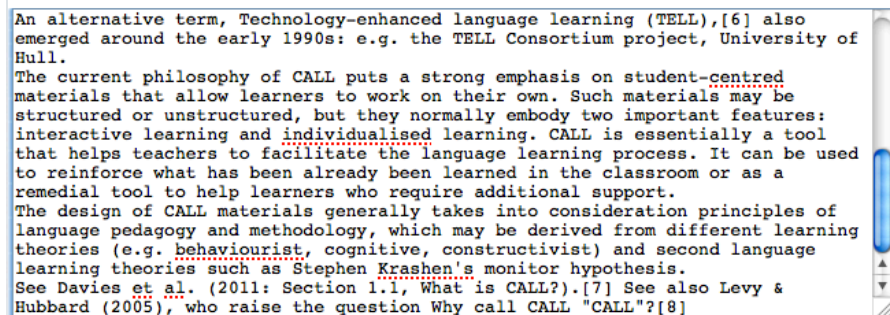
L2 Syntactic Complexity Analyzer

This web-based L2 Syntactic Complexity Analyzer takes an English text as input, counts the frequency of 9 grammatical structures in the text, and computes 14 indices of syntactic complexity of the text. You may choose to see the results of any or all of the 23 counts and indices, and the system will create a graphical representation to visualize the results. You may also copy and paste two different texts to compare their syntactic complexity. Please note that each text should have a maximum of 1000 words.

The L2SCA utilizes Stanford Parser, which requires a certain amount of memory to parse longer sentences. The current web-based version however, is limited in its memory allocation. This will likely result in longer sentences being analyzed. Please refer to <http://www.personal.psu.edu/xx113/downloads/l2sca.html> for full access to the analyzer. In the meantime, we are working on solving this issue.

It will take about **a minute or two** to process two texts. Grab some coffee :-)

Step 1: Enter text #1



An alternative term, Technology-enhanced language learning (TELL),[6] also emerged around the early 1990s: e.g. the TELL Consortium project, University of Hull.
The current philosophy of CALL puts a strong emphasis on student-centred materials that allow learners to work on their own. Such materials may be structured or unstructured, but they normally embody two important features: interactive learning and individualised learning. CALL is essentially a tool that helps teachers to facilitate the language learning process. It can be used to reinforce what has been already been learned in the classroom or as a remedial tool to help learners who require additional support.
The design of CALL materials generally takes into consideration principles of language pedagogy and methodology, which may be derived from different learning theories (e.g. behaviourist, cognitive, constructivist) and second language learning theories such as Stephen Krashen's monitor hypothesis.
See Davies et al. (2011: Section 1.1, What is CALL?).[7] See also Levy & Hubbard (2005), who raise the question Why call CALL "CALL"?[8]

Step 3: Select measure(s)

Tip: Press CTRL or SHIFT to select multiple measures

Syntactic structures

- Word count (W)
- Sentence (S)
- Verb phrase (VP)
- Clause (C)
- T-unit (T)
- Dependent clause (DC)
- Complex T-unit (CT)
- Coordinate phrase (CP)
- Complex nominal (CN)

Syntactic complexity indices

- Mean length of sentence (MLS)
- Mean length of T-unit (MLT)
- Mean length of clause (MLC)
- Clause per sentence (C/S)
- Verb phrase per T-unit (VP/T)
- Clause per T-unit (C/T)
- Dependent clause per clause (DC/C)
- Dependent clause per T-unit (DC/T)
- T-unit per sentence (T/S)
- Complex T-unit ratio (CT/T)
- Coordinate phrase per T-unit (CP/T)
- Coordinate phrase per clause (CP/C)
- Complex nominal per T-unit (CN/T)
- Complex nominal per clause (CN/C)

Analyze Syntactic Complexity

<http://aihaiyang.com/synlex/syntactic/>

Lu, Xiaofei (2010). Automatic analysis of syntactic complexity in second language writing. *International Journal of Corpus Linguistics*, 15(4):474-496.

Thanks!

Questions?

<http://call.ohio.edu/calico11a.ppt>

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