

ISCL Hauptseminar (Summer semester 2023)

Analyzing Language Development

Abstract:

Going beyond tests designed to assess language abilities, how can we characterize the language proficiency of a first or second language learner and their development? What can the computational linguistic analysis of their language production reveal? In addition to fostering our understanding of language development and the practical goal of ecologically valid proficiency assessment, such analyses are also of immediate relevance for any approach designed to adaptively foster learning.

In this seminar we'll consider a range of approaches originating in different fields and using different methods. On the one hand, there is research on first language acquisition computing quantitative metrics such as the Mean Length of Utterances. Other approaches such as (Revised) Developmental Level (D-Level, Lu 2009; Voss 2005) or Developmental Scoring (DSS), or the Index of Productive Syntax (IPSYN, Sagae et al. 2005; Lubetich & Sagae 2014) identify the use and frequency of particular linguistic structures. On the other hand, second language acquisition (SLA) is systematically characterized in terms of Complexity, Accuracy and Fluency - with a broad range of complexity measures at all levels of linguistic modeling being identifiable by computational linguistic methods. Other SLA approaches define specific developmental sequences and rely on those to support the interpretation of relatively few observations about spontaneous language production in terms of a "Rapid Profile" of proficiency. In a related but more descriptive approach, the English Grammar Profile approach identifies a broad range of criterial features capturing the emergence of language forms and usage at different levels of proficiency. Depending on the interest of participants, we will also consider characteristics of the spoken language in addition to the analyses based on written language.

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- *Office hours:* Fridays, 9–10 (please arrange slot by email beforehand)

Course meets: 4 SWS

- Tue & Thu 8:30 – 10:00 (Wilhelmstr. 19, Room 0.01)
(first session 25.4.22)
- For people who for reasons beyond their control cannot be in class, the zoom room is: <https://zoom.us/j/96719107835>

Credit Points:

- Core Computational Linguistics Hauptseminar 6 CP, with term paper 9 CP.

Syllabus (this file):

- html-Version (<http://purl.org/dm/23/ss/hs>)
- pdf-Version (<http://purl.org/dm/23/ss/hs/syllabus.pdf>)

Moodle page: <https://moodle.zdv.uni-tuebingen.de/course/view.php?id=3303>

Please enroll in this course by logging into this Moodle course.

Nature of course and our expectations: This is a research-oriented Hauptseminar, in which we jointly explore the topic. Everyone is expected to

1. regularly and actively participate in class, read the assigned papers and post a meaningful question on Moodle to the “Discussion Forum” on each reading *at the latest on the day before the topic is discussed* in class.
2. explore and present a topic (individually or as part of a group)
 - thoroughly research the topic, mainly based on the mentioned reference
 - prepare the presentation with slides, send them to the instructor by email to discuss them by email *a week before the presentation*
 - start a new Moodle thread on the “Discussion Forum” specifying what every course participant should read to prepare for your presentation *a week before your presentation*
 - present and discuss the topic in class
3. if you pursue the 9 CP option, work out a project term paper
 - in the last week of the semester, select a topic and submit a one-page abstract (e.g., spelling out the analysis goal, data set, features and approach to be used).
 - Note for Computational Linguistics students: The term paper must be produced in LaTeX using the ACL conference format or the Computational Linguistics journal format; BibTeX must be used for the bibliography.

Academic conduct and misconduct: Research is driven by discussion and free exchange of ideas, motivations, and perspectives. So you are encouraged to work in groups, discuss, and exchange ideas. At the same time, the foundation of the free exchange of ideas is that everyone is open about where they obtained which information. Concretely, this means you are expected to always make explicit when you’ve worked on something as a team – and keep in mind that being part of a team always means sharing the work.

For text you write, you always have to provide explicit references for any ideas or passages you reuse from somewhere else. Note that this includes text “found” on the web, where you should cite the url of the web site in case no more official publication is available.

Class etiquette: Please do not read or work on materials for other classes in our seminar. All portable electronic devices such as cell phones and laptops should be switched off for the entire length of the flight, oops, class.

Sessions

- 25. April – 16. Mai: Introduction and Overview (Detmar)
- Tue 23. May: Phraseological Complexity (Celine Kimball)
- Thu 25. May: Morphological Complexity (Christiana Chaidaridou)
- Tue 13. June: Writing development (Yushan Li)
- Thu 16. June: Writing development (Chi Kuan Lai)
- Tue 20. June: Linguistic complexity and accuracy in academic language development (Annika Ott)
- Thu 22. June: Discourse Aspects and Cohesion/Coherence in Language Development (Hiu Yan Yip)
- Tue 27. June: Development of Sign Language (Svenja Schulze)
- Thu 29. June: Linguistic Complexity analysis in a tutoring system (Daniel Capkan) (Michaud & McCoy 1999)
- Tue 4. July: English Grammar Profile (Ayodeji Olupinla)
- Thu 6. July: Criterial Features (Daniela Verratti Souto)
- Tue 11. July: Longitudinal Analysis of Language Development (Megan Horikawa)
- Thu 13. July: Longitudinal Analysis of Language Development (Annica Skupch)
- Tue 18. July: Linguistic complexity analysis for adaptive Information Retrieval (Aron Winkler) (Chen & Meurers 2019; Chen et al. 2022)
- Thu 20. July: Proficiency classification (Diana-Constantina Höfels)
- Tue 25. July (finals week)
- Thu 27. July (finals week)

Topics (first sketch: this will develop as the semester proceeds)

- First Language Development
 - Revised D-Level (Lu 2009; Voss 2005)
 - IPSyn (Sagae et al. 2005; Lubetich & Sagae 2014)
 - Linguistic complexity and accuracy in academic language development (Weiss & Meurers 2019)
 - Traceback Method (Kol et al. 2014; Hartmann et al. 2021)
- Complexity in Second Language Acquisition research (background: Skehan 1989; Wolfe-Quintero et al. 1998; Ortega 2003; Housen & Kuiken 2009)
 - Lexical complexity (Laufer & Nation 1995) (more: Malvern et al. 2004; Read & Nation 2004; McCarthy & Jarvis 2010; Lu 2012; Kyle & Crossley 2015; Yoon et al. 2012)
 - Morphological complexity (Brezina & Pallotti 2019)
 - Phraseological complexity (Paquot 2019; O'Donnell & Römer 2009)
 - Distinguishing clausal from phrasal complexity (Kyle 2016)
 - Syntactic complexity (Covington et al. 2006; Lu 2010)
 - Discourse/Cohesion
 - Longitudinal analysis (Vyatkina 2012; Vyatkina et al. 2015)
 - Task effects (Alexopoulou et al. 2017)
 - Writing development (Lu 2011; Ai & Lu 2013; Lu & Ai 2015; Crossley & McNamara 2014; Kerz et al. 2020), Academic L2 writing development (Sladoljev-Agejev & Šnajder 2017)
 - Griebhaber Profilanalyse (Ehl et al. 2018; Griebhaber 2013, 2019)
 - Criterial Features (Hawkins & Buttery 2010; Hawkins & Filipovic 2012; Tono 2013; Wisniewski 2017)
 - English Grammar Profile (Harrison 2015), Profile Deutsch (Glaboniat et al. 2002)
 - Rapid Profile (Mackey et al. 1991; Keßler 2007; Alshahrani 2008)
 - Miscellaneous proficiency classification (Arhiliuc et al. 2020; Kerz et al. 2021; Pilán et al. 2016; Horbach et al. 2015; Gotsoulia & Dendrinos 2011)
 - In a tutoring system context (Michaud & McCoy 1999)
 - Estonian (Vajjala & Lõo 2013, 2014), Swedish (Volodina et al. 2016)
- Language testing from a psychometric perspective (Farhady 1982; Powers et al. 1985; Wolf et al. 2008; Zhang 2010; Carroll & Bailey 2016)

References

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Example learner corpus: NOCE (Díaz Negrillo 2007)

- Short essays written by Spanish 1st and 2nd year students of English, annotated with editing and error tags
- 998 texts, 337.332 tokens (149.256 types)
- Some text on the importance of knowing a foreign language:
 - <http://purl.org/dm/projects/noce/release/plain/GR-A-4-468-1.xml>

- <http://purl.org/dm/projects/noce/release/plain/JA-A-3-301-1.xml>
- <http://purl.org/dm/projects/noce/release/plain/JA-A-4-419-1.xml>
- <http://purl.org/dm/projects/noce/release/plain/JA-A-4-428-1.xml>