Towards Measuring Linguistic Creativity in Literary and Non-Literary Text.

FIRST RESULTS AND INSIGHTS

Emilie Sitter, Sina Zarrieß, Berenike Herrmann



INTRODUCTION

- Can human raters assess and disentangle different dimensions of creativity in spatial descriptions?
- How does the literary framing of the rating task affect their ratings of different dimensions of creativity?
- How does **reading experience** influence readers' creativity perception (Grolig, Tiffin-Richards, and Schroeder 2020)?
- Do **experts'** creativity ratings differ from lay readers' (Kaufman et al. 2013)?

Standard Definition of Creativity (Runco & Jaeger 2012):
Originality + Communicative Success

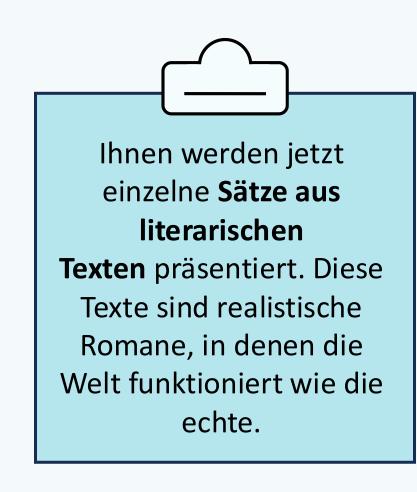
ASSESSING LINGUISTIC CREATIVITY

Hypotheses in Pilot

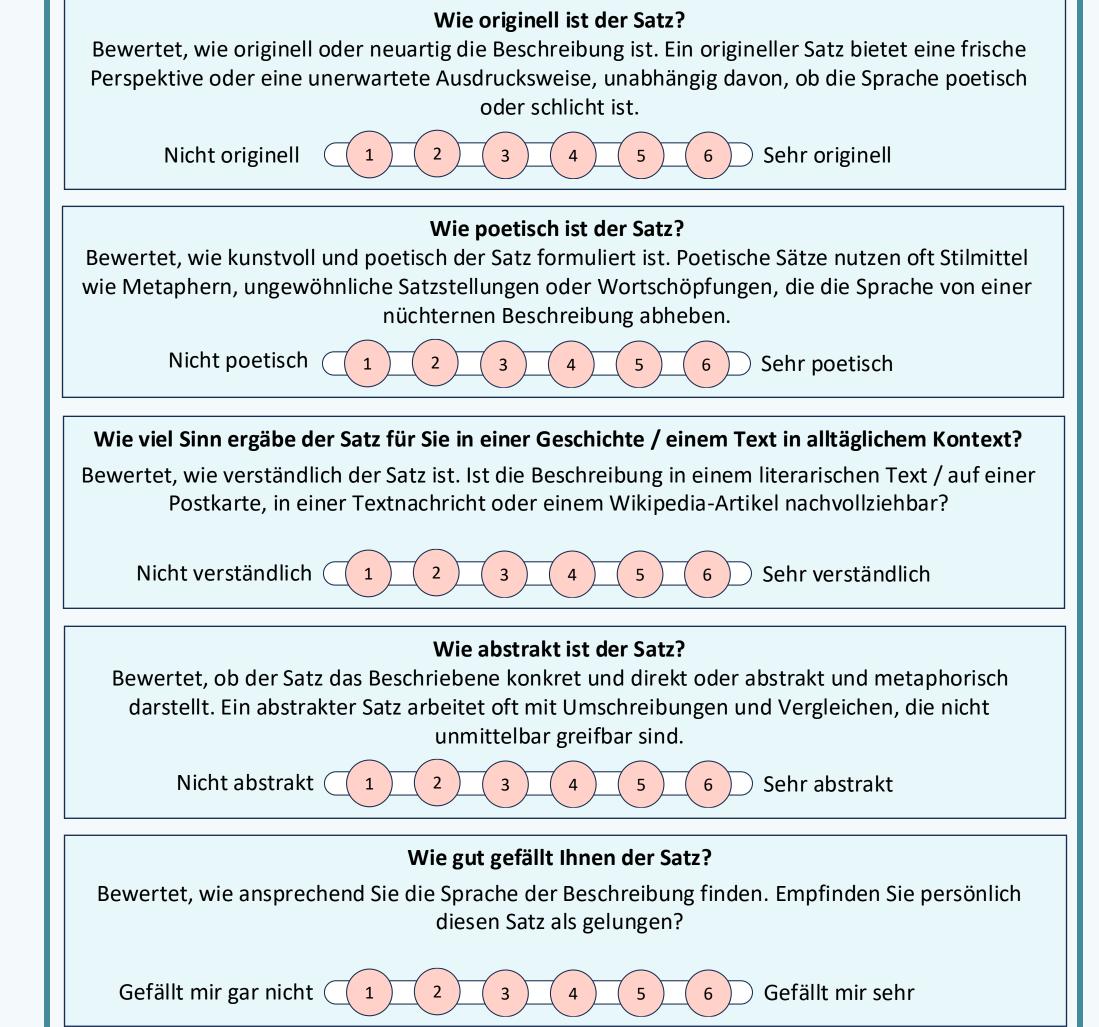
H1: Aesthetic language use is not necessarily original (poeticity and appreciation ratings differ significantly from originality ratings)

H2: In a literary framing, readers have higher originality expectations (originality ratings are lower when genre information is provided)

H3: In a literary framing, readers are more willing to fully comprehend the sentences' meaning (meaningfulness ratings are higher when genre information is provided)



Ihnen werden jetzt
einzelne Sätze präsentiert.
Die Sätze stammen
aus Kontexten des
alltäglichen Lebens, wie
Postkarten,
Textnachrichten oder
Wikipedia.



PILOT EXPERIMENTS

Pilot Experiment

- **Data:** set of 100 spatial descriptions (German) 50 sentences from literary texts (KOLIMO: Herrmann and Lauer 2018; Beek and Herrmann 2022), 50 synthetic sentences generated with ChatGPT
- **Setting:** 2 groups of 5 people each (student assistants) one grouped primed with literary context, one group without any specified context

Research interests in the pilot

- How do participants rate the **synthetic samples**?
- Inter-rater reliability in the individual rating categories
- Influence of given or disguised context/genre information on the ratings

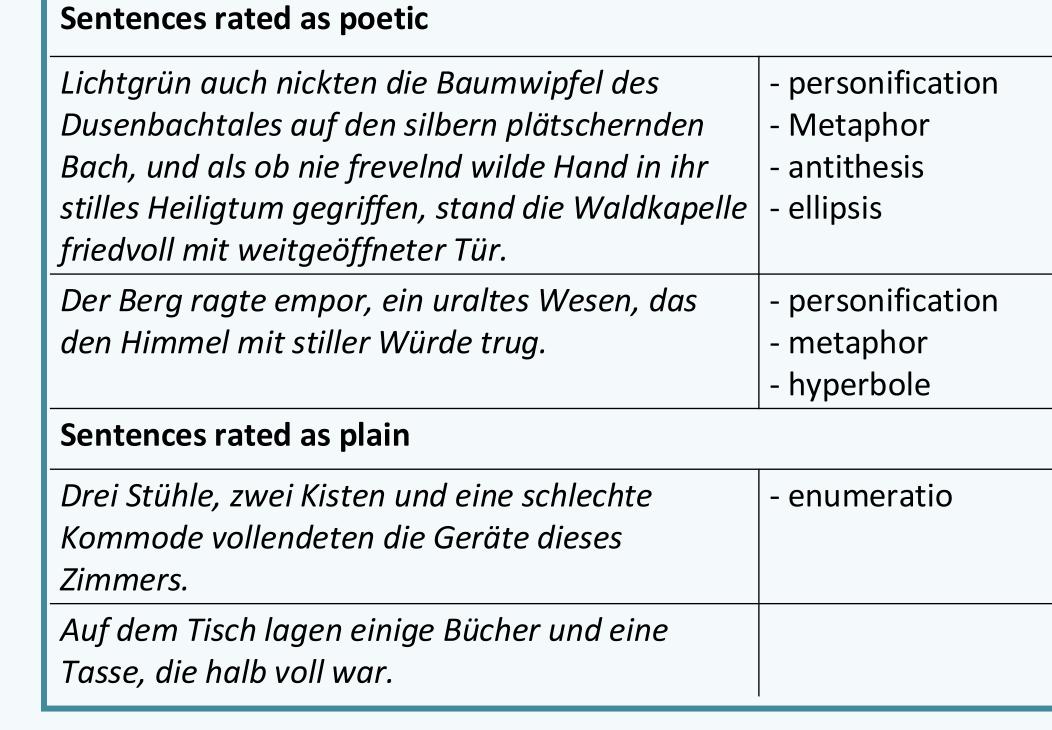
First Observations

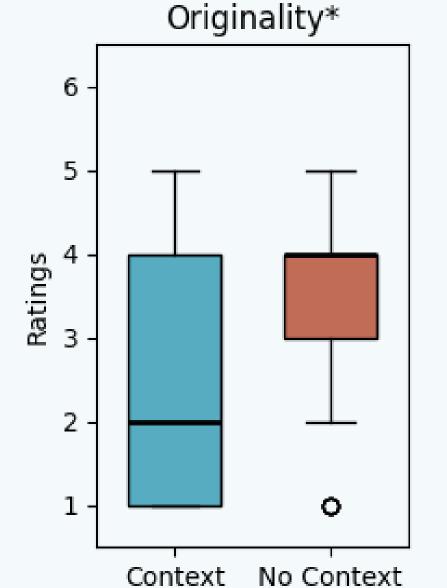
- Originality and poeticity: in both groups no significant difference between ratings (context: p = .55, no context: p = .63)
- No given context: most participants still inferred a literary context
- Originality ratings: significantly higher in literary context $(U = 854.0, p = .005, \delta = -0.31)$
- **Poeticity ratings:** higher in literary context (since we aim for a context-independent concept of poeticity, we need to refine the poeticity definition)
- Inter-rater reliability: higher for the synthetic sentences; especially aesthetic appreciation is highly subjective
- Rhetorical devices: more frequent in the sentences rated as poetic than in those rated as plain

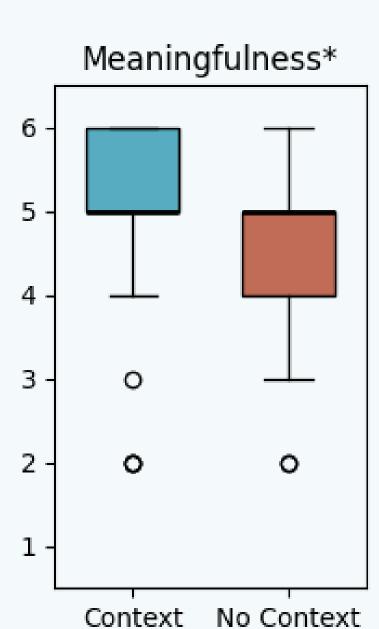
Inter-Rater Agreement (Krippendorff's Alpha)

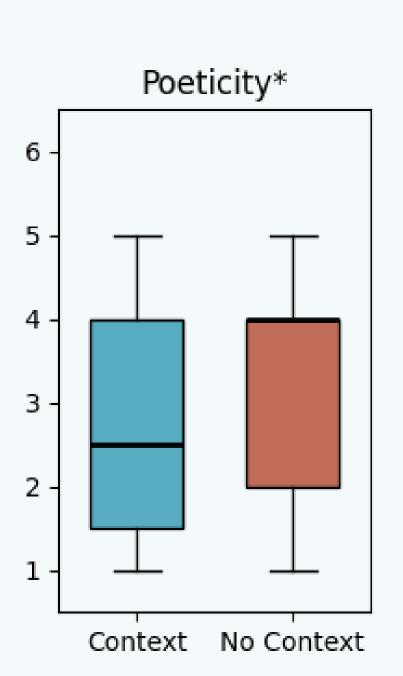
		Original	Abstract	Meaningful	Poetic	Appreciated
with context information	Corpus	0.54	0.15	0.20	0.46	0.22
	Synth.	0.59	0.74	0.42	0.78	0.34
without context information	Corpus	0.24	0.58	0.43	0.48	-0.17
	Synth.	0.71	0.77	0.62	0.64	-0.04

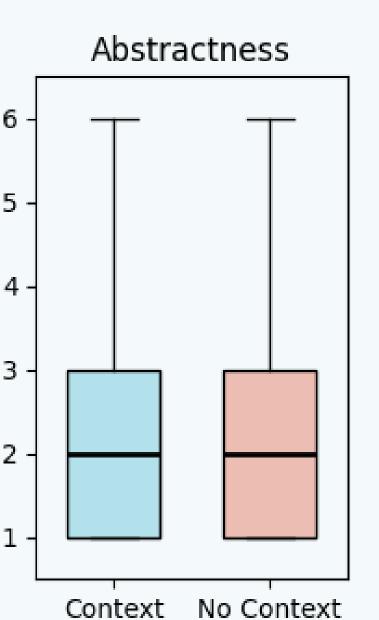
Poeticity and Rhetorical Devices

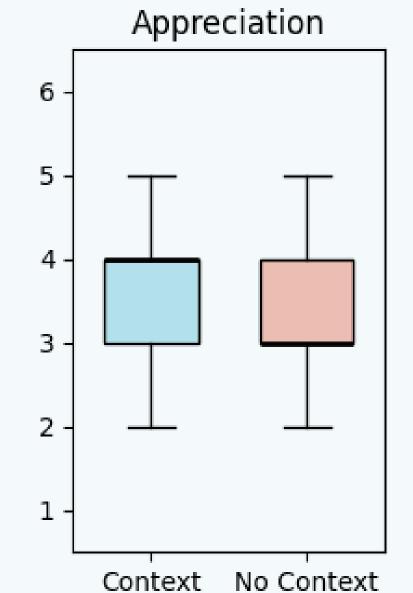












OUTLOOK

- Refinement of the rating categories and their definitions: how can we make the difference between originality and genre-independent poeticity clearer to our participants?
- Extend our dataset with stimuli from non-literary text: will these be rated differently than the corpus sentences and the synthetic sentences?
- Long-term goal: automatically identify creative signs in accordance with the human creativity ratings
- Measure linguistic creativity: approach it from the perspective of rhetorics, stylistics, and NLP, using computational models and metrics

REFERENCES

- Beek, Alan Lena van, and Berenike Herrmann. 2022. "KOLIMO+: Optimierung und Offene Publikation des Korpus der literarischen Moderne." Poster at Text+ Plenary 2022, Mannheim.
- Grolig, Lorenz, Simon P. Tiffin-Richards, and Sascha Schroeder. 2020. "Print Exposure across the Reading Life Span." *Reading and Writing* 33 (6): 1423–41.
- Herrmann, Berenike, and Gerhard Lauer. 2018. "Korpusliteraturwissenschaft. Zur Konzeption und Praxis am Beispiel eines Korpus zur literarischen Moderne."

 Osnabrücker Beiträge zur Sprachtheorie 92:127–56.
- Kaufman, James C., John Baer, David H. Cropley, Roni Reiter-Palmon, and Sarah Sinnett. 2013. "Furious Activity vs. Understanding: How Much Expertise Is Needed to Evaluate Creative Work?" *Psychology of Aesthetics, Creativity, and the Arts* 7 (4): 332–40.
- Runco, Mark A., and Garret J. Jaeger. 2012. "The Standard Definition of Creativity." Creativity Research Journal 24 (1): 92–96.

Emilie Sitter: emilie.sitter@uni-bielefeld.de, ORCID iD: 0009-0001-2180-1443; Sina Zarrieß: sina.zarriess@uni-bielefeld.de, ORCID iD: 0000-0002-1384-1218; Berenike Herrmann: berenike.herrmann@uni-bielefeld.de, ORCID iD: 0000-0002-5256-0566

Projekt A05: https://www.uni-bielefeld.de/sfb/sfb1646/projekte/a05/