

Stanford



Dora Demszky

Assistant Professor of Education and, by courtesy, of Computer Science
Graduate School of Education

CONTACT INFORMATION

- **Admin. Support**

Melissa Cromosini

Email melicro@stanford.edu

Bio

BIO

Dr. Demszky is an Assistant Professor in Education Data Science at the Graduate School of Education at Stanford University. She works on developing natural language processing methods to support equitable and student-centered instruction. She has developed tools to give feedback to teachers on dialogic instructional practices, to analyze representation in textbooks, measure the presence of dialect features in text, among others. Dr Demszky has received her PhD in Linguistics at Stanford University, supervised by Dr Dan Jurafsky. Prior to her PhD, Dr. Demszky received a BA summa cum laude from Princeton University in Linguistics with a minor in Computer Science.

ACADEMIC APPOINTMENTS

- Assistant Professor, Graduate School of Education

HONORS AND AWARDS

- Rising Star in AI for Social Good, Harvard CRCS (2021)

PROFESSIONAL EDUCATION

- Ph.D., Stanford University , Linguistics (2023)
- B.A., Princeton University , Linguistics (2017)

LINKS

- Personal website: <https://www.dorademszky.com/>

Research & Scholarship

RESEARCH INTERESTS

- Curriculum and Instruction
- Data Sciences
- Social and Emotional Learning
- Teachers and Teaching
- Technology and Education

Teaching

COURSES

2025-26

- Empowering Educators via Language Technology: CS 293, EDUC 473 (Win)
- Researching, Presenting and Publishing Work in AI & Education: CS 220, EDUC 481 (Spr)

2024-25

- Empowering Educators via Language Technology: CS 293, EDUC 473 (Win)
- Researching, Presenting and Publishing Work in AI & Education: CS 220, EDUC 481 (Spr)

2023-24

- Education Data Science Capstone Projects: EDUC 259D (Aut)
- Education Data Science Capstone Projects: EDUC 259E (Win)
- Education Data Science Capstone Projects: EDUC 259F (Spr)
- Empowering Educators via Language Technology: CS 293, EDUC 473 (Aut)

2022-23

- Education Data Science Capstone Projects: EDUC 259D (Aut)
- Education Data Science Capstone Projects: EDUC 259E (Win)
- Education Data Science Seminar: EDUC 259C (Spr)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Jim Malamut

Master's Program Advisor

Zion Asemota, Saad Ashraf, Ilaria Chen, Vishal Kumar, Hayden Kwan, Nchimunya Mwiinga, Daniel Shen, Teah Shi, Ziqi Shu, Arunima Srivastav

Doctoral (Program)

Alex Nam, Liliana Santos-Deonizio, Mei Tan

Publications

PUBLICATIONS

- **Automated feedback improves teachers' questioning quality in brick-and-mortar classrooms: Opportunities for further enhancement** *COMPUTERS & EDUCATION*
Demszky, D., Liu, J., Hill, H. C., Sanghi, S., Chung, A.
2025; 227
- **Scaffolding middle school mathematics curricula with large language models** *BRITISH JOURNAL OF EDUCATIONAL TECHNOLOGY*
Malik, R., Abdi, D., Wang, R., Demszky, D.
2025
- **Exploring the Benefit of Customizing Feedback Interventions For Educators and Students With Offline Contextual Multi-Armed Bandits**
Yun, J., Nie, A., Brunskill, E., Demszky, D., ACM
ASSOC COMPUTING MACHINERY.2025: 944-949
- **Does Feedback on Talk Time Increase Student Engagement? Evidence from a Randomized Controlled Trial on a Math Tutoring Platform**
Demszky, D., Wang, R. E., Geraghty, S., Yu, C., Assoc Computing Machinery

ASSOC COMPUTING MACHINERY.2024: 632-644

- **(sic) Edu-ConvoKit An Open-Source Library for Education Conversation Data**

Wang, R. E., Demszky, D.

edited by Chang, K. W., Lee, A., Rajani, N.

ASSOC COMPUTATIONAL LINGUISTICS-ACL.2024: 61-69

- **Backtracing: Retrieving the Cause of the Query**

Wang, R. E., Wirawarn, P., Khattab, O., Goodman, N., Demszky, D.

edited by Purver, M., Graham, Y.

ASSOC COMPUTATIONAL LINGUISTICS-ACL.2024: 722-735

- **Bridging the Novice-Expert Gap via Models of Decision-Making: A Case Study on Remediating Math Mistakes**

Wang, R. E., Zhang, Q., Robinson, C., Loeb, S., Demszky, D.

edited by Duh, K., Gomez, H., Bethard, S.

ASSOC COMPUTATIONAL LINGUISTICS-ACL.2024: 2174-2199

- **Kid-Whisper: Towards Bridging the Performance Gap in Automatic Speech Recognition for Children VS. Adults**

Attia, A., Liu, J., Ai, W., Demszky, D., Espy-Wilson, C., Association for the Advancement of Artificial Intelligence

ASSOC COMPUTING MACHINERY.2024: 74-80

- **Scaling High-Leverage Curriculum Scaffolding in Middle-School Mathematics**

Malik, R., Abdi, D., Wang, R., Demszky, D., ASSOC COMPUTING MACHINERY

ASSOC COMPUTING MACHINERY.2024: 476-480

- **Enhancing Tutoring Effectiveness Through Automated Feedback: Preliminary Findings from a Pilot Randomized Controlled Trial on SAT Tutoring**

Yun, J., Hicke, Y., Olson, M., Demszky, D., ASSOC COMPUTING MACHINERY

ASSOC COMPUTING MACHINERY.2024: 422-426

- **Reframing Authority: A Computational Measure of Power-Affirming Feedback on Student Writing**

Tan, M., Mah, C., Demszky, D., ASSOC COMPUTING MACHINERY

ASSOC COMPUTING MACHINERY.2024: 417-421

- **Using large language models in psychology** *NATURE REVIEWS PSYCHOLOGY*

Demszky, D., Yang, D., Yeager, D., Bryan, C., Clapper, M., Chandhok, S., Eichstaedt, J., Hecht, C., Jamieson, J., Johnson, M., Jones, M., Krettek-Cobb, D., Lai, et al

2023; 2 (11): 688-701

- **Can Automated Feedback Improve Teachers' Uptake of Student Ideas? Evidence From a Randomized Controlled Trial in a Large-Scale Online Course** *EDUCATIONAL EVALUATION AND POLICY ANALYSIS*

Demszky, D., Liu, J., Hill, H. C., Jurafsky, D., Piech, C.

2023

- **M-Powering Teachers: Natural Language Processing Powered Feedback Improves 1:1 Instruction and Student Outcomes**

Demszky, D., Liu, J.

edited by ACM

ASSOC COMPUTING MACHINERY.2023: 59-69

- **Towards the Future of AI-Augmented Human Tutoring in Math Learning**

Aleven, V., Baraniuk, R., Brunskill, E., Crossley, S., Demszky, D., Fancsali, S., Gupta, S., Koedinger, K., Piech, C., Ritter, S., Thomas, D. R., Woodhead, S., Xing, et al

edited by Rebolledo-Mendez, G., Dimitrova, Matsuda, N., Santos, O. C., Wang, N.

SPRINGER INTERNATIONAL PUBLISHING AG.2023: 26-31

- **MD3: The Multi-Dialect Dataset of Dialogues**

Eisenstein, J., Prabhakaran, V., Rivera, C., Demszky, D., Sharma, D., Int Speech Commun Assoc

ISCA-INT SPEECH COMMUNICATION ASSOC.2023: 4059-4063

- **Measuring Conversational Uptake: A Case Study on Student-Teacher Interactions** *Proceedings of the 59th Annual Meeting of the Association for Computational Linguistics (ACL)*

Demszky, D., Liu, J., Mancenido, Z., Cohen, J., Hill, H., Jurafsky, D., Hashimoto, T.
2021

- **Learning to Recognize Dialect Features**

Demszky, D., Sharma, D., Clark, J. H., Prabhakaran, V., Eisenstein, J., Assoc Computat Linguist
ASSOC COMPUTATIONAL LINGUISTICS-ACL.2021: 2315-2338

- **Measuring Conversational Uptake: A Case Study on Student-Teacher Interactions**

Demszky, D., Liu, J., Mancenido, Z., Cohen, J., Hill, H., Jurafsky, D., Hashimoto, T., Assoc Computat Linguist
ASSOC COMPUTATIONAL LINGUISTICS-ACL.2021: 1638-1653

- **Learning to Recognize Dialect Features** *Proceedings of the 19th Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL)*

Demszky, D., Sharma, D., Clark, J. H., Prabhakaran, V., Eisenstein, J.
2021

- **The Role of Verb Semantics in Hungarian Verb-Object Order** *Proceedings of the Linguistic Society of America (LSA)*

Demszky, D.
2021

- **Content Analysis of Textbooks via Natural Language Processing: Findings on Gender, Race, and Ethnicity in Texas US History Textbooks** *AERA OPEN*

Lucy, L., Demszky, D., Bromley, P., Jurafsky, D.
2020; 6 (3)

- **GoEmotions: A Dataset of Fine-Grained Emotions**

Demszky, D., Movshovitz-Attias, D., Ko, J., Cowen, A., Nemade, G., Ravi, S., Assoc Computat Linguist
ASSOC COMPUTATIONAL LINGUISTICS-ACL.2020: 4040-4054

- **Partelet: A Hungarian Corpus of Propaganda Texts from the Hungarian Socialist Era**

Kmetty, Z., Vincze, V., Demszky, D., Ring, O., Nagy, B., Szabo, M.
edited by Calzolari, N., Bechet, F., Blache, P., Choukri, K., Cieri, C., Declerck, T., Goggi, S., Isahara, H., Maegaard, B., Mariani, J., Mazo, H., Moreno, A., Odijk, J., Piperidis, S.
EUROPEAN LANGUAGE RESOURCES ASSOC-ELRA.2020: 2381-2388