

## Piloting a new assessment tool for data science education researchers

MATTHEW D. BECKMAN, Penn State University, USA

MINE ÇETINKAYA-RUNDEL, Duke University, USA

MINE DOGUCU, University College London, USA

EVAN DRAGICH, Duke University, USA

CHELSEY LEGACY, University of Minnesota, USA

MARIA TACKETT, Duke University, USA

ANDREW ZEIFFLER, University of Minnesota, USA

With the growing popularity of introductory data science courses, there is a need for quality research assessment tools developed and validated for general use across institutions and programs in order to compare and contrast curriculum interventions, pedagogical innovations, etc. This project has set out to develop a research assessment to measure learning outcomes for introductory data science students before and after a first course. A team of statistics and data science education researchers examined syllabi and resources in use by experienced introductory data science instructors, and then drafted and revised an assessment tool aligned with the core knowledge, skills, and abilities. The team then conducted structured interviews with experienced data science instructors with expertise in statistics education, computer science education, and/or educational measurement. Interviews invite both holistic feedback (e.g., essential topics for a data science assessment) as well as a detailed critique of each item and its contribution. This lightning talk discusses current successes and challenges in the assessment development process, progress toward a larger scale pilot of the assessment tool, and invite both feedback and participation from colleagues in the ICER network.

Additional Key Words and Phrases: data science education, statistics education

### ACM Reference Format:

Matthew D. Beckman, Mine Çetinkaya-Rundel, Mine Dogucu, Evan Dragich, Chelsey Legacy, Maria Tackett, and Andrew Zeiffler. 2022. Piloting a new assessment tool for data science education researchers. In *ICER '22: ACM Conference on International Computing Education Research, August 07–11, 2022, Lugano, Switzerland*. ACM, New York, NY, USA, 1 page. <https://doi.org/XXXXXXXX.XXXXXXX>

---

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from [permissions@acm.org](mailto:permissions@acm.org).

© 2022 Association for Computing Machinery.

Manuscript submitted to ACM