

## OKAN BULUT

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### CONTACT INFORMATION

University of Alberta  
6-110 Education Centre North  
11210 87 Ave Edmonton, AB T6G 2G5 CANADA  
Work Phone: (780) 492-3668  
E-mail: [bulut@ualberta.ca](mailto:bulut@ualberta.ca)  
Website: [www.okanbulut.com](http://www.okanbulut.com)

### EDUCATION

**University of Minnesota**, Minneapolis, MN, USA

Ph.D., Educational Psychology - Quantitative Methods in Education, June 2013

M.A., Educational Psychology - Quantitative Methods in Education, January 2010

**Adnan Menderes University**, Aydin, TURKEY

B.A., Elementary Education, June 2006

### ACADEMIC POSITIONS

#### **Professor**

July, 2024 to Now

University of Alberta (Edmonton, AB)

Faculty of Education

Program: Measurement, Evaluation, and Data Science (MEDS)

#### **Associate Professor**

July, 2018 to June, 2024

University of Alberta (Edmonton, AB)

Faculty of Education

Program: Measurement, Evaluation, and Data Science (MEDS)

#### **Assistant Professor**

September, 2014 to June, 2018

University of Alberta (Edmonton, AB)

Faculty of Education

Program: Measurement, Evaluation, and Data Science (MEDS)

### NON-ACADEMIC POSITIONS

#### **Psychometrician**

May, 2013 to October, 2014

American Institutes for Research (Washington, DC)

Assessment Program

Project: Statewide Alternate Assessments for Students with Disabilities

#### **Research Fellow**

September, 2012 to May, 2013

Pearson Assessments (Bloomington, MN)

Clinical Assessments

Project: Technical Evaluation of Behavioral and Intelligence Tests

### RESEARCH INTERESTS

Educational data mining, learning analytics, computerized and digital assessments, psycho-educational assessments, and statistical programming using the R programming language

### TEACHING EXPERIENCE

- Instructor and course developer, *Analyzing Survey Data with R* (Pluralsight)
- Instructor and course developer, *Reshaping Data with R* (Pluralsight)
- Instructor and course developer, *EDPY 607 Measurement Theory II* (U of Alberta)
- Instructor and course developer, *EDPY 504 Survey Design & Implementation* (U of Alberta)
- Instructor, *EDPY 303 Educational Assessment* (U of Alberta)
- Instructor, *EDPY 507 Measurement Theory I* (U of Alberta)

- Instructor, *EDPY 605 Quantitative Methods II* (U of Alberta)
- Instructor, *EDPY 501 Introduction to Data Analysis in Educational Research* (U of Alberta)

CURRENT  
RESEARCH  
GRANTS  
(TOTAL AMOUNT:  
\$1,434,319)

**Improving Canadian Teachers' Assessment Literacy and Decision-Making through Self-Directed Professional Development**

- **Role:** Principal Investigator
- **Grant Title:** Insight Grant
- **Funding Source:** Social Sciences and Humanities Research Council of Canada
- **Awarded Amount:** \$241,984 (2023-2028)

**Enhancing Students' Reasoning and Decision-making Skills: Science, Values, and Contradictions in Socioscientific Contexts**

- **Role:** Co-PI (PI: Mijung Kim - University of Alberta)
- **Grant Title:** Insight Grant
- **Funding Source:** Social Sciences and Humanities Research Council of Canada
- **Awarded Amount:** \$140,379 (2023-2028)

**Identifying the Predictors of Mathematics Anxiety, Confidence, and Performance in Canada: An Educational Data Mining Approach**

- **Role:** Principal Investigator
- **Grant Title:** Research Partnership Grant
- **Funding Source:** Alberta Education
- **Awarded Amount:** \$14,960 (2022-2024)

**Examining Scoring Variability of the Casper Test: An Application of Explanatory Item Response Modeling**

- **Role:** Principal Investigator
- **Grant Title:** Alo Grant
- **Funding Source:** Altus Assessments Inc.
- **Awarded Amount:** \$20,000 USD (2021-2024)

**Factors Influencing Observers' Interpretations of School Principals' Gestures**

- **Role:** Co-PI (PI: Darryl Hunter - University of Alberta)
- **Grant Title:** Killam Research Fund Research Cornerstone Grant
- **Funding Source:** University of Alberta
- **Awarded Amount:** \$48,000 (2023-2024)

**Climate Change Surveillance for Chronic Health Effects in Vulnerable Populations**

- **Role:** Co-Investigator (PI: Shelby Yamamoto - University of Alberta)
- **Grant Title:** Enhanced Surveillance for Chronic Disease Program
- **Funding Source:** Public Health Agency of Canada
- **Awarded Amount:** \$962,322 (2020-2024)

PREVIOUS  
RESEARCH  
GRANTS  
(TOTAL AMOUNT:  
\$635,542)

**Preparing Cities for Climate Change**

- **Role:** Co-Investigator (PI: Shelby Yamamoto - University of Alberta)
- **Grant Title:** Operating Grants: Data Analysis Using Existing Databases and Cohorts
- **Funding Source:** Canadian Institutes of Health Research
- **Awarded Amount:** \$98,271 (2022-2023)

**Providing Students with a Voice: A Measure of Students' Socio-Emotional Well-Being to Optimize Learning for All Students**

- **Role:** Principal Investigator
- **Grant Title:** Research Partnership Grant
- **Funding Source:** Alberta Education
- **Awarded Amount:** \$45,123 (2019-2022)

**Automatic Generation of Passages for Reading Comprehension: An Artificial Intelligence Approach**

- **Role:** Principal Investigator
- **Grant Title:** Support for the Advancement of Scholarship (SAS) Grant
- **Funding Source:** University of Alberta
- **Awarded Amount:** \$6,895 (2020-2021)

**Integrating Theory and Practice to Enhance Inclusive Education in an Undergraduate Teacher Program**

- **Role:** Co-Investigator (PI: Denyse Hayward - University of Alberta)
- **Grant Title:** Alberta Education Conditional Grant Funding
- **Funding Source:** Alberta Education
- **Awarded Amount:** \$49,276 (2018-2022)

**Public Health Messaging Insights in Alberta During Wave 1 of COVID-19: A Complexity-Informed Mixed Methods Design for Rapid Response to Big Data Integration**

- **Role:** Co-Investigator (PI: Cheryl Poth - University of Alberta)
- **Grant Title:** Support for the Advancement of Scholarship (SAS) Grant
- **Funding Source:** University of Alberta
- **Awarded Amount:** \$7,000 (2020-2021)

**Climate Change, Older Adults and Immigrants: Exploring Community Vulnerability and Resilience**

- **Role:** Co-Investigator (PI: Shelby Yamamoto - University of Alberta)
- **Grant Title:** Cities IPCC Legacy Research Grant Program
- **Funding Source:** The City of Edmonton & Alberta Ecotrust
- **Awarded Amount:** \$50,000 (2019-2021)

**Improving the Quality and Quantity of Feedback via Interactive Score Reporting**

- **Role:** Principal Investigator
- **Grant Title:** Teaching and Learning Enhancement Fund (TLEF)
- **Funding Source:** University of Alberta
- **Awarded Amount:** \$62,521 (2018-2021)

**Building Community Climate Change Knowledge and Resilience in Older Adults and Immigrants**

- **Role:** Co-Investigator (PI: Shelby Yamamoto - University of Alberta)
- **Grant Title:** North American Partnership for Environmental Community Action (NAPECA)
- **Funding Source:** Commission for Environmental Cooperation
- **Awarded Amount:** \$155,000 (2019-2021)

**Developing an Interactive Score Reporting System to Improve the Quality of Formative Feedback in Higher Education**

- **Role:** Principal Investigator
- **Grant Title:** Insight Development Grant
- **Funding Source:** Social Sciences and Humanities Research Council of Canada
- **Awarded Amount:** \$59,994 (2016-2019)

**Effect of Detailed Score Reporting on Student Learning**

- **Role:** Co-Investigator (PI: Vijay Daniels - University of Alberta)
- **Grant Title:** Teaching and Learning Enhancement Fund (TLEF)
- **Funding Source:** University of Alberta
- **Awarded Amount:** \$59,171 (2017-2019)

**Examining the Measurement Properties of What Albertans Know about Fetal Alcohol Spectrum Disorders Survey**

- **Role:** Principal Investigator
- **Grant Title:** SAGE Secondary Data Use Grant
- **Funding Source:** PolicyWise for Children & Families
- **Awarded Amount:** \$5,000 (2018-2019)

**Trajectories in Student Mathematics Performance**

- **Role:** Research Partner (PI: Lynn McGarvey - University of Alberta)
- **Grant Title:** The Research Partnership Program
- **Funding Source:** Alberta Education
- **Awarded Amount:** \$24,100 (2017-2018)

**Improving Instructors' Understanding of Universal Student Ratings of Instruction (USRI) at the Faculty of Education: A Pilot Study**

- **Role:** Principal Investigator
- **Grant Title:** Support for the Advancement of Scholarship (SAS) Grant
- **Funding Source:** University of Alberta
- **Awarded Amount:** \$6,807 (2017-2018)

**Understanding Nonresponse Behaviours of Special Education Students in Reading and Mathematics Assessments Using Cognitive Diagnostic Modelling**

- **Role:** Principal Investigator
- **Grant Title:** Support for the Advancement of Scholarship (SAS) Grant
- **Funding Source:** University of Alberta
- **Awarded Amount:** \$6,384 (2015-2016)

TRAVEL &  
PROFESSIONAL  
DEVELOPMENT  
GRANTS**Teaching and Learning Enhancement Fund**

- **Funding Source:** University of Alberta
- **Awarded amount:** \$2,860 (2018-2019)

**Killam Research Fund – Cornerstones Grant Program**

- **Funding Source:** University of Alberta
- **Awarded amount:** \$4,200 (2017-2018)

**Support for the Advancement of Scholarship (SAS) Travel Grant**

- **Funding Source:** University of Alberta
- **Awarded amount:** \$1,200 (2015-2016)

## AWARDS

- Martha Cook Piper Research Prize by the University of Alberta 2023 to 2024
- Journal of Intelligence Young Investigator Award 2022 to 2023
- Coutts-Clarke Fellowship by University of Alberta 2021 to 2022
- Distinguished Paper Award by AERA 2017 to 2018
- Alicia Cascallar Outstanding Paper Award by NCME 2015 to 2016
- John P. Yackel/Pearson Assessment Graduate Fellowship 2012 to 2013
- Research Grant from Applied Psychological Measurement, Inc. 2012 to 2013

- Mary Corcoran Graduate Fellowship at the University of Minnesota 2011 to 2012
- Graduate Scholarship from the Turkish Ministry of National Education 2007 to 2009

#### BOOKS

- [1] **Bulut, O.**, Shin, J., Yildirim-Erbasli, S., & Desjardins, C. D. (In preparation). *Educational data mining: Applications in digital assessments*. Boca Raton, FL: CRC Press.
- [2] **Bulut, O.** (2020). *Conducting Monte Carlo simulations in R*. University of Alberta Education and Research Archive. doi:10.7939/r3-y066-fs55
- [3] Desjardins, C. D., & **Bulut, O.** (2018). *Handbook of educational measurement and psychometrics using R*. Boca Raton, FL: CRC Press.

#### BOOK CHAPTERS

- [1] **Bulut, O.** (In press). Creating value from process data: Implications for multistage testing. In D. Yan, A. von Davier, & D. Weiss (Eds.), *Research for practical issues and solutions in computerized multistage testing*. Routledge.
- [2] **Bulut, O.** (2024). From adaptive testing to personalized adaptive testing: Applications of recommender systems. In H. Jiao & R. W. Lissitz (Eds.), *Machine learning, natural language processing, and psychometrics* (pp. 177-199). Information Age Publisher.
- [3] **Bulut, O.**, Gorgun, G., & Yildirim-Erbasli, S. (2024). Assessment analytics for digital assessments: Identifying, modeling, and interpreting behavioral engagement. In D. Ifenthaler & M. Sahin, *Assessment analytics in education - designs, methods and solutions* (pp. 35-60). Springer. doi:10.1007/978-3-031-56365-2\_3
- [4] Yildirim-Erbasli, S., Gorgun, G., & **Bulut, O.** (2024). Enhancing self-regulated learning with artificial intelligence-powered learning analytics. In N. Kavaklı Ulutaş & D. Höl, *Emergent practices of learning analytics in K-12 classrooms* (pp. 57-83). Charlotte, NC: IGI Global. doi:10.4018/979-8-3693-0066-4.ch004
- [5] **Bulut, O.**, & Cui, Y. (2021). Validating the findings of a survey research study. In U. Luhanga & A. G. Harbaugh (Eds.), *Basic elements of survey research in education: Addressing the problems your advisor never told you about* (pp. 719-746). Information Age Publishing.
- [6] Gierl, M. J., **Bulut, O.**, & Zhang, X. (2018). Using computerized formative testing to support personalized learning in higher education: An application of two assessment technologies. In R. Zheng (Ed.), *Digital technologies and instructional design for personalized learning* (pp. 99-119). IGI Global.

#### NON-REFEREED ARTICLES

- [1] **Bulut, O.** (2021). Lexicon-based sentiment analysis using R. *Towards Data Science*. <https://towardsdatascience.com/>.
- [2] **Bulut, O.** (2021). Likert scales: Friend or foe? *Towards Data Science*. <https://towardsdatascience.com/>.
- [3] **Bulut, O.** (2021). AI can bring fairness to assessments but are we ready for it? *Towards AI*. <https://medium.com/towards-artificial-intelligence>.
- [4] **Bulut, O.** (2021). How AI will end the one-size-fits-all approach in human assessment. *Towards AI*. <https://medium.com/towards-artificial-intelligence>.
- [5] **Bulut, O.** (2021). Too many survey questions? Let ant colony optimization handle it. *Towards Data Science*. <https://towardsdatascience.com/>.
- [6] **Bulut, O.** (2021). Effective feature selection: Recursive feature elimination using R. *Towards Data Science*. <https://towardsdatascience.com/>.

- [7] **Bulut, O.** (2020). Testing for measurement invariance in R. *Towards Data Science*. <https://towardsdatascience.com/>.
- [1] **Bulut, O.**, Casabianca, J. M., Slater, S. C., Jiao, H., Song, D., Ormerod, C. M., Fabiyi, D. G., Ivan, R., Walsh, C., Rios, O., Wilson, J., N., S., Wongvorachan, T., Liu, J. X., Tan, B., & Morilova, P. (In press). The rise of artificial intelligence in educational measurement: Opportunities and ethical challenges. *Chinese/English Journal of Educational Measurement and Evaluation*.
- [2] **Bulut, O.**, Gorgun, G., & Yildirim-Erbaşlı, S. N. (In press). The impact of frequency and stakes of formative assessment on student achievement in higher education: A learning analytics study. *Journal of Computer Assisted Learning*. doi:10.1111/jcal.13087
- [3] Lu, C., & **Bulut, O.** (In press). Does higher endorsement with collaboration lead to better performance on collaborative problem solving?: An explanatory item response approach to cross-cultural comparisons. *Frontiers in Psychology*, 15, 1468533. doi:10.3389/fpsyg.2024.1468533
- [4] Liu, X., **Bulut, O.**, Cui, Y., & Gao, Y. (In press). Uncovering adults' problem-solving patterns from process data with Hidden Markov model and network analysis. *Journal of Computer Assisted Learning*. doi:10.1111/jcal.13089
- [5] Öz, E. **Bulut, O.**, Cellat, Z. F., & Yürekli, H. (2024). Stacking: An ensemble learning approach to predict student performance in PISA 2022. *Education and Information Technologies*. Advance online publication. doi:10.1007/s10639-024-13110-2
- [6] Lu, C., **Bulut, O.**, Epp, Carrie Demmans, & Gierl, M. J. (2024). Impacts of engagement on academic outcomes in technology-enhanced learning. *Distance Education*. doi:10.1080/01587919.2024.2373297
- [7] **Bulut, O.**, Wongvorachan, T., He, S., & Lee, S. (2024). Enhancing high-school dropout identification: A collaborative approach integrating human and machine insights. *Discover Education*, 3, Article 109. doi:10.1007/s44217-024-00209-4
- [8] Tan, B., Armoush, N., Mazzullo, E., **Bulut, O.**, & Gierl, M. J. (2024). A review of automatic item generation techniques leveraging large language models. *EdArXiv*. doi:10.35542/osf.io/6d8tj
- [9] Lu, C., **Bulut, O.**, Epp, Carrie Demmans, & Gierl, M. J. (2024). Impacts of engagement on academic outcomes in technology-enhanced learning. *Distance Education*. Advanced online publication. doi:10.1080/01587919.2024.2373297
- [10] Gorgun, G., & **Bulut, O.** (2024). Exploring quality criteria and evaluation methods in automated question generation: A comprehensive survey. *Education and Information Technologies*. Advanced online publication. doi:10.1007/s10639-024-12771-3
- [11] Wongvorachan, T., **Bulut, O.**, Liu, J. X., & Mazzullo, E. (2024). A comparison of bias mitigation techniques for educational classification tasks using supervised machine learning. *Information*, 15(6), 326. doi:10.3390/info15060326
- [12] Sayin, A., & **Bulut, O.** (2024). The difference between estimated and perceived item difficulty: An empirical study. *International Journal of Assessment Tools in Education*, 11(2), 368–387. doi:10.21449/ijate.1376160
- [13] Bulut, H. C., **Bulut, O.**, & Clelland, A. (2024). A psychometric network analysis approach for detecting item wording effects in self-report measures across subgroups. *Field Methods*. Advanced online publication. doi:10.1177/1525822X241247444

- [14] Poth, C., Wongvorachan, T., **Bulut, O.**, & Otto, S. (2024). Adaptive case study-mixed methods design practices for researchers studying complex phenomena. *Journal of Mixed Methods Research*. Advanced online publication. doi:[10.1177/15586898241250217](https://doi.org/10.1177/15586898241250217)
- [15] Madland, C., Irvine, V., DeLuca, C., & **Bulut, O.** (2024). Developing the technology-integrated assessment framework. *The Open/Technology in Education, Society, and Scholarship Association Journal*, 4(1), 1–19. doi:[10.18357/otessaj.2024.4.1.63](https://doi.org/10.18357/otessaj.2024.4.1.63)
- [16] Madland, C., Irvine, V., DeLuca, C., & **Bulut, O.** (2024). Technology-integrated assessment: A literature review. *The Open/Technology in Education, Society, and Scholarship Association Journal*, 4(1), 1–48. doi:[10.18357/otessaj.2024.4.1.57](https://doi.org/10.18357/otessaj.2024.4.1.57)
- [17] **Bulut, O.**, Gorgun, G., & He, S. (2024). Unsupervised anomaly detection in sequential process data: Insights from PIAAC problem-solving tasks. *Zeitschrift für Psychologie*, 232(2), 74-94. doi:[10.1027/2151-2604/a000558](https://doi.org/10.1027/2151-2604/a000558)
- [18] Liu, J. X., **Bulut, O.**, & Johnson, M. D. (2024). Examining position effects on students' ability and test-taking speed in the TIMSS 2019 problem solving and inquiry tasks. *Psychology International*, 6(2), 492-508. doi:[10.3390/psycholint6020030](https://doi.org/10.3390/psycholint6020030)
- [19] **Bulut, O.** (2024). Psycho-educational assessments: Theory and practice. *Journal of Intelligence*, 12(3), 31. doi:[10.3390/jintelligence12030031](https://doi.org/10.3390/jintelligence12030031)
- [20] Firoozi, T., **Bulut, O.**, & Gierl, M. J. (2023). Language models in automated essay scoring: Insights for the Turkish language. *International Journal of Assessment Tools in Education*, 10(Special Issue), 53-67. doi:[10.21449/ijate.1394194](https://doi.org/10.21449/ijate.1394194)
- [21] Mazzullo, E., **Bulut, O.**, Wongvorachan, T., & Tan, B. (2023). Learning analytics in the era of large language models. *Analytics*, 2(4), 877-898. doi:[10.3390/analytics2040046](https://doi.org/10.3390/analytics2040046)
- [22] **Bulut, O.**, Gorgun, G., & Karamese, H. (2023). Incorporating test-taking engagement into multistage adaptive testing design for large-scale assessments. *Journal of Educational Measurement*. Advance online publication. doi:[10.1111/jedm.12380](https://doi.org/10.1111/jedm.12380)
- [23] Naeim, M. Y., **Bulut, O.**, & Tan, B. (2023). Predicting reading comprehension performance based on student characteristics and item properties. *Studies in Educational Evaluation*, 79, 101309. doi:[10.1016/j.stueduc.2023.101309](https://doi.org/10.1016/j.stueduc.2023.101309)
- [24] **Bulut, O.**, Shin, J., Yildirim-Erbasli, S. N., Gorgun, G., & Pardos, Z. A. (2023). An introduction to Bayesian knowledge tracing with pyBKT. *Psych*, 5(3), 770-786. doi:[10.3390/psych5030050](https://doi.org/10.3390/psych5030050)
- [25] **Bulut, O.**, Gorgun, G., Wongvorachan, T., & Tan, B. (2023). Rapid guessing in low-stakes assessments: Finding the optimal response time threshold with random search and genetic algorithm. *Algorithms*, 16(2), 89. doi:[10.3390/a16020089](https://doi.org/10.3390/a16020089)
- [26] **Bulut, O.**, Gorgun, G., Yildirim-Erbasli, S. N., Wongvorachan, T., Daniels, L. M., Gao, Y., Lai, K. W., & Shin, J. (2023). Standing on the shoulders of giants: Online formative assessments as the foundation for predictive learning analytics models. *British Journal of Educational Technology*, 54(1), 19-39. doi:[10.1111/bjet.13276](https://doi.org/10.1111/bjet.13276)
- [27] **Bulut, O.**, Bulut, H. C., Cormier, D. C., Ilgun Dibek, M., & Sahin Kursad, M. (2023). The effects of providing students with revision opportunities in alternate assessments. *Educational Assessment*, 28(1), 48-63. doi:[10.1080/10627197.2022.2138322](https://doi.org/10.1080/10627197.2022.2138322)
- [28] Gorgun, G., & **Bulut, O.** (2023). Incorporating test-taking engagement into the item selection algorithm in low-stakes computerized adaptive tests. *Large-Scale Assessments in Education*, 11, Article 27. doi:[10.1186/s40536-023-00177-5](https://doi.org/10.1186/s40536-023-00177-5)

- [29] Yildirim-Erbasli, S. N., & **Bulut, O.** (2023). Conversation-based assessment: A novel approach to boosting test-taking effort in digital formative assessment. *Computers & Education: Artificial Intelligence*, 4, 100135. doi:[10.1016/j.caeai.2023.100135](https://doi.org/10.1016/j.caeai.2023.100135)
- [30] Archer, E., **Bulut, O.**, Zenisky, A., Grover, R., & Randall, J. (2023). Editorial for online assessment for humans: Advancements, challenges and futures for digital assessment. *Frontiers in Education*, 8(1230623). doi:[10.3389/feduc.2023.1230623](https://doi.org/10.3389/feduc.2023.1230623)
- [31] Bulut, H. C., **Bulut, O.**, & Arikan, S. (2023). Evaluating group differences in online reading comprehension: The impact of item properties. *International Journal of Testing*, 23(1), 10-33. doi:[10.1080/15305058.2022.2044821](https://doi.org/10.1080/15305058.2022.2044821)
- [32] Yildirim-Erbasli, S. N., **Bulut, O.**, Demmans Epp, C., & Cui, Y. (2023). Conversation-based assessments in education: Design, implementation, and cognitive walkthroughs for usability testing. *Journal of Educational Technology Systems*, 52(1), 27–51. doi:[10.1177/00472395231178943](https://doi.org/10.1177/00472395231178943)
- [33] Kilmen, S., & **Bulut, O.** (2023). Scale abbreviation with recursive feature elimination and genetic algorithms: An illustration with the test emotions questionnaire. *Information*, 14(2), 63. doi:[10.3390/info14020063](https://doi.org/10.3390/info14020063)
- [34] Cankaya, O., Rohatyn-Martin, N., Leach, J., Taylor, K., & **Bulut, O.** (2023). Preschool children's loose parts play and the relationship to cognitive development: A review of the literature. *Journal of Intelligence*, 11(8), 151. doi:[10.3390/jintelligence11080151](https://doi.org/10.3390/jintelligence11080151)
- [35] Clelland, A., **Bulut, O.**, King, S., & Johnson, M. D. (2023). Examining the associations between personal protective equipment, training, policy, and acute care workers' psychological distress during the COVID-19 pandemic. *Psych*, 5(3), 802-813. doi:[10.3390/psych5030053](https://doi.org/10.3390/psych5030053)
- [36] Wongvorachan, T., He, S., & **Bulut, O.** (2023). A comparison of undersampling, oversampling, and SMOTE methods for dealing with imbalanced classification in educational data mining. *Information*, 14(1), 54. doi:[10.3390/info14010054](https://doi.org/10.3390/info14010054)
- [37] McGrew, K. S., Schneider, W. J., Decker, S. L., & **Bulut, O.** (2023). A psychometric network analysis of CHC intelligence measures: Implications for research, theory and interpretation of broad CHC scores "beyond g". *Journal of Intelligence*, 11(1), 19. doi:[10.3390/jintelligence11010019](https://doi.org/10.3390/jintelligence11010019)
- [38] Rinaldi, C. M., **Bulut, O.**, Muth, T., & Di Stasio, M. (2023). The influence of parenting dimensions and junior high school students' involvement in bullying. *Journal of School Violence*, 22(2), 183-197. doi:[10.1080/15388220.2022.2162534](https://doi.org/10.1080/15388220.2022.2162534)
- [39] **Bulut, O.** (2022). Editorial: Special issue on artificial intelligence, machine learning, and natural language processing applications in education. *Journal of Applied Testing Technology*, 23(Special Issue 1), 1-3.
- [40] Firoozi, T., **Bulut, O.**, Demmans Epp, C., Abadi, A. N., & Barbosa, D. (2022). The effect of fine-tuned word embedding techniques on the accuracy of automated essay scoring systems using neural networks. *Journal of Applied Testing Technology*, 23(Special Issue 1), 21-29.
- [41] Gorgun, G., & **Bulut, O.** (2022). Identifying aberrant responses in intelligent tutoring systems: An application of anomaly detection methods. *Psychological Test and Assessment Modeling*, 64(4), 359-384.
- [42] Wongvorachan, T., **Bulut, O.**, Tsai, Y.-S., & Lindner, M. A. (2022). Improving student feedback literacy in e-assessments: A framework for the higher education context. *Trends in Higher Education*, 1(1), 16-29. doi:[10.3390/higheredu1010002](https://doi.org/10.3390/higheredu1010002)



- [43] Salma, J., Tilstra, M., Tiwari, I., Nielsen, C., Whitfield, K., Jones, A., Osornio Vargas, A., **Bulut, O.**, & Yamamoto, S. (2022). Listening to older adults' perspectives on climate change: A focus group study. *International Health Trends and Perspectives*, 2(3), 1-15. doi:10.32920/ihtp.v2i3.1697
- [44] **Bulut, O.**, & Yildirim-Erbasli, S. N. (2022). Automatic story and item generation for reading comprehension assessments with transformers. *International Journal of Assessment Tools in Education*, 9(Special Issue), 72-87. doi:10.21449/ijate.1124382
- [45] Wongvorachan, T., Lai, K. W., **Bulut, O.**, Tsai, Y.-S., & Chen, G. (2022). Artificial intelligence: Transforming the future of feedback in education. *Journal of Applied Testing Technology*, 23(Special Issue 1), 95-116.
- [46] Violato, E., **Bulut, O.**, & King, S. (2022). The initial evaluation of a scale for measuring interprofessional perspective taking. Available at <http://ssrn.com/abstract=4197308>
- [47] Yurekli, H., Yiğit, Ö. E., **Bulut, O.**, Lu, M., & Öz, E. (2022). Exploring factors that affect student well-being during the COVID-19 pandemic: A comparison of data mining approaches. *International Journal of Environmental Research and Public Health*, 19(18), 11267. doi:10.3390/ijerph191811267
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- [10] **Bulut, O.**, & Cutumisu, M. (2017). When technology does not add up: ICT use negatively predicts mathematics and science achievement for Finnish and Turkish students in PISA 2012. In J. Johnston (Ed.), *Proceedings of EdMedia: World Conference on Educational Media and Technology 2017* (pp. 935-945). Waynesville, NC: Association for the Advancement of Computing in Education (AACE).
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- [2] **Bulut, O.**, Clelland, A., & Wongvorachan, T. (2024). Identifying the predictors of mathematics anxiety, confidence, and performance in Canada: An educational data mining approach. Edmonton, AB: Alberta Education. doi:10.7939/r3-x6q5-de82
- [3] **Bulut, O.**, Seitz, P., Deforge, K., Chu, M.-W., Hachem, M., & Gorgun, G. (2020). Measuring students' socio-emotional well-being to optimize learning: Looking beyond academic performance and grades. Edmonton, AB: Alberta Education. doi:10.7939/r3-jkvz-qt28
- [4] Cormier, D. C., & **Bulut, O.** (2020). *Developing an intelligent progress monitoring system for Star Assessments*. Wisconsin Rapids, WI: Renaissance Learning Inc.
- [5] **Bulut, O.**, & Cormier, D. C. (2019). *Advanced screening approaches with Star Assessments*. Wisconsin Rapids, WI: Renaissance Learning Inc.
- [6] **Bulut, O.**, & Cormier, D. C. (2016). *Developing psychometrically sound decision rules for STAR Math*. Wisconsin Rapids, WI: Renaissance Learning Inc.
- [7] Cormier, D. C., & **Bulut, O.** (2016). *Developing psychometrically sound decision rules for STAR Reading*. Wisconsin Rapids, WI: Renaissance Learning Inc.
- COMPUTER SOFTWARE
- [1] **Bulut, O.** (2021). *eirm: Explanatory item response modeling for dichotomous and polytomous item responses*, R package version 0.5.0. doi:10.5281/zenodo.4556285. Available from <http://CRAN.R-project.org/package=eirm>.
- [2] **Bulut, O.**, & Desjardins, C. D. (2018). *profileR: Profile analysis of multivariate data in R* (version 0.3-5). Available from <http://CRAN.R-project.org/package=profileR>.
- [3] Desjardins, C. D., & **Bulut, O.** (2018). *hemp: Handbook of educational measurement and psychometrics using R companion package*. Available from <https://github.com/cddesja/hemp>.
- CONFERENCE PRESENTATIONS & POSTERS (LAST 5 YEARS)
- [1] **Bulut, O.**, Clelland, A.C., & Wongvorachan, T. (2024, June). *Identifying the predictors of mathematics performance and math anxiety in Canada: An educational data mining approach*. Paper presented at the annual meeting of the Canadian Society for the Study of Education, Montreal, QC.
- [2] **Bulut, O.**, Shin, J., & Pinto Junior, W. N. (2024, April). *Towards fair learning analytics: An application of the Seldonian algorithm*. In Q. He (Chair), Incorporating multiple data sources to explore group strategy variations. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- [3] **Bulut, O.**, Gorney, K., & Yildirim-Erbasli, S. N. (2024, April). *Joint modeling of ability and test-taking effort with multidimensional nested logit model*. In B. Arslan (Chair), Unpacking test-taker (dis)engagement: Innovative approaches to enhance validity. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- [4] Gorgun, G., & **Bulut, O.** (2024, April). *Using large language models for evaluating item quality in large-scale assessments*. In S. Dai (Chair), Innovations and practices of AI and language models in large-scale assessments. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- [5] Firoozi, T., **Bulut, O.**, & Gorgun, G. (2024, April). *Text augmentation for enhancing the accuracy of automated essay scoring*. In H. Jiao & X. Zhai (Chairs), Tackling challenges in automated scoring: Data augmentation, multilingualism, and feedback mechanisms. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.

- [6] Liu, X., **Bulut, O.**, Gao, Y., & Cui, Y. (2024, April). *Uncovering test-takers' problem-solving patterns through Hidden Markov models and network analysis*. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- [7] Clelland, A.C., & **Bulut, O.** (2024, April). *Using network psychometrics to identify wording effects in a socioemotional skills survey*. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- [8] Tan, B., Armoush, N., **Bulut, O.**, Mazzullo, E., & Gierl, M. (2024, April). *Leveraging pre-trained large language models for automatic item generation: A scoping review*. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- [9] Mazzullo, E., **Bulut, O.**, Tan, B., & Wongvorachan, T. (2024, April). *How can large language models revolutionize learning analytics?* Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- [10] Wongvorachan, T., **Bulut, O.**, & Gorgun, G. (2024, April). *Evaluating dimensionality in non-cognitive measures: Exploratory vs. hierarchical exploratory graph analysis*. Paper presented at the annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- [11] Clelland, A.C., & **Bulut, O.** (2024, April). *A network psychometrics approach to explore Canadian students' collaborative skills*. Poster presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.
- [12] Yildirim-Erbasli, S. N., & **Bulut, O.** (2023, July). *Innovating assessment with conversational agents: A technology-enhanced approach to formative assessments*. Paper presented at the 23rd IEEE International Conference on Advanced Learning Technologies, Orem, UT.
- [13] **Bulut, O.**, & Gorgun, G. (2023, June). *Utilizing response time for scoring the TIMSS 2019 problem solving and inquiry tasks*. Paper presented at the IEA International Research Conference (IEA IRC), Dublin, Ireland.
- [14] **Bulut, O.**, Gorgun, G., Tan, B., Wongvorachan, T., Yildirim-Erbasli, S., & Clelland, A. (2023, June). *Self-regulated learning through online formative assessments: The effects of assessment frequency and participation on student performance*. Paper presented at the annual meeting of the International Society of the Learning Sciences, Montréal, QC.
- [15] Yildirim-Erbasli, S. N., Demmans Epp, C., **Bulut, O.**, & Cui, Y. (2023, June). *Design and evaluation of a conversational agent for formative assessment in higher education*. Paper presented at the annual meeting of the International Society of the Learning Sciences, Montréal, QC.
- [16] Rinaldi, C., Keys, K., **Bulut, O.**, Gokierto, R., & Howe, N. (2023, June). *From puzzles to put away: Examining affect and responsiveness in parent-toddler interactions across different task contexts*. Poster presented at the annual conference of the Jean Piaget Society, Madrid, Spain.
- [17] Steele, B. J., Sidney, B., Menard, K., **Bulut, O.**, Lowe, S., Pabayo, R., & Yamamoto, S. (2023, June). *Development and initial validation of the ACCLIMATES surveillance tool: Assessing climate change-related chronic disease vulnerability in Alberta, Canada*. Poster presented at the annual meeting of the Society for Epidemiologic Research, Portland, OR, USA.
- [18] **Bulut, O.**, MacIntosh, A., & Walsh, C. (2023, April). *Utilizing NLP techniques for collecting validity evidence for a situational judgement test*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.

- [19] **Bulut, O.**, Yildirim-Erbasli, S. N., He, S., Tan, B., & Gao, Y. (2023, April). *Adaptive item recommendation using process data and examinee background characteristics*. In Q. He & O. Bulut (Chairs), Empowering process data for data-informed decision-making in measurement. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [20] Gorgun, G., **Bulut, O.**, & Wongvorachan, T. (2023, April). *Detecting rapid guessing: In search of the optimal response time threshold*. In E. Ulitzsch & J. Rios (Chairs), Methodological advances in detecting and accounting for noneffortful responding. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [21] Yildirim-Erbasli, S. N., **Bulut, O.**, & Cui, Y. (2023, April). *Conversation-based assessments: Enhancing students' experiences of formative assessment via human-like interaction*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [22] Bulut, H. C., & **Bulut, O.** (2023, April). *Exploring added-value of response times for low-stakes assessments with nested logit models*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [23] Gorgun, G., Wongvorachan, T., Tan, B., & **Bulut, O.** (2023, April). *Predicting item difficulty from students' response behaviors*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [24] Goodrich, S., & **Bulut, O.** (2023, April). *Dynamic, on-the-fly, and hybrid multistage testing with the bi-factor model*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [25] Kilmen, S., **Bulut, O.**, & Shin, J. (2023, April). *Creating short forms of psychological scales: Semantic similarity matters*. Poster presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [26] Yildirim-Erbasli, S. N., Gorgun, G., & **Bulut, O.** (2023, April). *Automatic item paraphrasing to avoid the repetitive use of the same items*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [27] Sayin, A., & **Bulut, O.** (2023, April). *Estimating item difficulty: What variables do subject matter experts use?* Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [28] He, S., Wongvorachan, T., **Bulut, O.**, & Lai, K.-W. (2023, March). *Identifying early warning indicators for high school dropouts*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [29] Tan, B., **Bulut, O.**, Gorgun, G., & Wongvorachan, T. (2023, March). *Mining textual features of questions to predict item parameters*. Poster presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [30] Wongvorachan, T., He, S., Lai, K. W., & **Bulut, O.** (2023, March). *A comparison of sampling methods for imbalanced classifications in educational datasets*. Poster presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.
- [31] Wongvorachan, T., **Bulut, O.**, Gorgun, G., & Tan, B. (2023, March). *Random search algorithm to identify response time thresholds for rapid guessing*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.

- [32] Rinaldi, C., Martinovich, V., Durber, C., & **Bulut, O.** (2023, March). *Mothers' and fathers' parenting and involvement reports from preschool to first grade*. Poster presented at the Society for Research in Child Development Biennial Meeting, Salt Lake City, Utah.
- [33] MacIntosh, A., Walsh, C., & **Bulut, O.** (2022, August). *Using natural language processing to understand the multidimensionality of professionalism through a constructed-response situational judgement test*. Paper presented at the Ottawa 2022 conference.
- [34] Wongvorachan, T., Poth, C., **Bulut, O.**, & Otto, S. (2022, August). *Leveraging open data sources in mixed methods research*. Paper presented at the biennial global conference of the Mixed Methods International Research Association (MMIRA).
- [35] Shin, J., **Bulut, O.**, & Pinto, W. N. (2022, July). *E-learning preparedness: A key consideration to promote fair learning analytics development in higher education*. Paper presented at the Educational Data Mining Conference, Durham, UK.
- [36] **Bulut, O.**, MacIntosh, A., & Walsh, C. (2022, July). *Leveraging natural language processing for quality assurance of a situational judgement test*. Paper presented at the annual meeting of the Artificial Intelligence in Education, Durham, UK.
- [37] Ulitzsch, E., Yildirim-Erbasli, S. N., Gorgun, G. & **Bulut, O.** (2022, July). *An explanatory mixture IRT model for careless and insufficient effort responding in self-report measures*. Paper presented at the annual meeting of the Psychometric Society, Bologna, Italy.
- [38] McCabe, E., Gross, D. P., & **Bulut, O.** (2022, June). *Improving the efficiency of patient-reported outcome measurement: Procedures for developing a computerized adaptive test to assess physical functioning*. Paper presented at the Canadian Association for Health Services and Policy Research Conference.
- [39] Hachem, M., Gorgun, G., Chu, M-W., & **Bulut, O.** (2022, April). *Social and emotional variables as predictors of students' perceived cognitive competence and academic performance*. Paper presented at the uLead Summit of Educational Leadership, Banff, AB.
- [40] Deforge, K., Seitz, P., **Bulut, O.**, Chu, M-W., Gorgun, G., & Hachem, M. (2022, April). *Giving students a voice: A measure of students' socio-emotional wellbeing to optimize learning for all students*. Paper presented at the uLead Summit of Educational Leadership, Banff, AB.
- [41] **Bulut, O.**, & Yildirim-Erbasli, S. N. (2022, April). *Detecting careless responses with the rapid guessing-slow responding method*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA.
- [42] Bulut, H. C., & **Bulut, O.** (2022, April). *A network psychometrics approach for detecting item wording effects across subgroups*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA.
- [43] Gorgun, G., & **Bulut, O.** (2022, April). *A smarter CAT: Integrating engagement into the CAT item selection algorithm*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA.
- [44] Firoozi, T., Abadi, A. N., Demmans Epp, C., **Bulut, O.**, & Barbosa, D. (2022, April). *The effect of word vector representation and linguistic features on the accuracy of automated essay scoring systems using neural networks*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA.
- [45] Yildirim-Erbasli, S. N., Gorgun, G., Gao, Y., & **Bulut, O.** (2022, April). *Sequential pattern mining to understand time management strategies in online courses*. Poster presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA.

- [46] Ulitzsch, E., Yildirim-Erbasli, S. N., Gorgun, G. & **Bulut, O.** (2022, April). *An explanatory mixture IRT model for careless responding in survey data*. Paper presented at the annual meeting of the National Council on Measurement in Education, San Diego, CA.
- [47] Tobias, A. D., Cutumisu, M., & **Bulut, O.** (2022, April). *Estimating classification accuracy and decision consistency with classdecision*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- [48] **Bulut, O.**, Yildirim-Erbasli, S. N., Gorgun, G., Gao, Y., Wongvorachan, T., Lai, K. W., & Shin, J. (2022, March). *Leveraging online formative assessments to enhance predictive learning analytics models*. Paper presented at the International Conference on Learning Analytics and Knowledge (LAK2022).
- [49] Walsh, C., MacIntosh, A., **Bulut, O.**, & Shin, J. (2022, March). *What are we measuring?: A topic modeling framework to map professionalism aspects to responses in a situational judgment test*. Poster presented at the International Conference on Learning Analytics and Knowledge (LAK2022).
- [50] Nielsen, C., Tilstra, M., **Bulut, O.**, Vargas, A. O., & Yamamoto, S. (2022, April). *Community climate change health tool for populations experiencing higher vulnerability*. Paper presented at the Geodesign Summit.
- [51] Yildirim-Erbasli, S. N., & **Bulut, O.** (2022, January). *A conversational agent to measure student learning: Conversation-based assessment*. Poster presented at the Advancing Assessment and Evaluation Conference (AAEC).
- [52] Wongvorachan, T., Lai, K.W., **Bulut, O.**, Tsai, Y. S. (2022, January). *Feedback literacy framework in the e-assessment context*. Poster presented at the Advancing Assessment and Evaluation Conference (AAEC).
- [53] Gorgun, G. & **Bulut, O.** (2022, January). *Customizing item selection with engagement in computerized-adaptive tests*. Poster presented at the Advancing Assessment and Evaluation Conference (AAEC).
- [54] **Bulut, O.**, & Yildirim-Erbasli, S. (2021, November). *Real-time assessment and feedback for real-time learning*. Paper presented at the Beyond Multiple Choice Conference.
- [55] Yildirim-Erbasli, S. N., & **Bulut, O.** (2021, October). *Automatic story generation for reading comprehension*. Poster presented at the annual meeting of the National Council on Measurement in Education (NCME) Special Conference on Classroom Assessment.
- [56] Nielsen, C. C., Tilstra, M., **Bulut, O.**, Vargas, A. R. O., & Yamamoto, S. (2021, June). *Spatiotemporal hot spot associations of climate-related health and urban environment*. Paper presented at the annual conference of the Canadian Association of Geographers.
- [57] Tilstra, M., Nielsen, C., Tiwari, I., Jones, A., Quemerai, B., Vargas, A. O., **Bulut, O.**, Salma, J., & Yamamoto, S. (2021, June). *Characterizing local climate change vulnerability: Impacts of climatic and air pollution exposures on older adults and immigrants in Edmonton, Alberta*. Paper presented at the annual meeting of the Canadian Society for Epidemiology and Biostatistics.
- [58] **Bulut, O.**, Cormier, D. C., & Shin, J. (2021, June). *The end of one-size-fits-all testing: Personalizing test schedules with recommender systems*. Paper presented at the annual meeting of the National Council on Measurement in Education.
- [59] Gorgun, G., Yildirim Erbasli, S. N., & **Bulut, O.** (2021, June). *An application of explanatory IRT to predict factors contributing to rapid guessing*. Paper presented at the annual meeting of the National Council on Measurement in Education.

- [60] Yildirim Erbasli, S. N., Gorgun, G., & **Bulut, O.** (2021, June). *Detecting rapid guessing: A new method utilizing response time and accuracy*. Paper presented at the annual meeting of the National Council on Measurement in Education.
- [61] Yizhu, G., **Bulut, O.**, & Cui, Y. (2021, June). *Diagnosing adult information problem solving strategy by mining clickstream data*. Paper presented at the annual meeting of the National Council on Measurement in Education.
- [62] Yizhu, G., Xiaoming, Z., **Bulut, O.**, & Cui, Y. (2021, June). *Understanding problem-solving styles in technology-rich environments by log data analysis*. Poster presented at the annual meeting of the National Council on Measurement in Education.
- [63] Bulut, H. C., Arikan, S., & **Bulut, O.** (2021, June). *Student and item characteristics in online reading comprehension: Polytomous explanatory IRT modeling*. Paper presented at the annual meeting of the National Council on Measurement in Education.
- [64] Firoozi, T., Shin, J., **Bulut, O.**, & Gierl, M. J. (2021, June). *The effect of option similarity on the item difficulty of a reading comprehension test: An application of word embedding techniques*. Paper presented at the annual meeting of the National Council on Measurement in Education.
- [65] Philippot, C. M., Antoniuk, A., Cormier, D. C., Yildirim-Erbasli, S. N., & **Bulut, O.** (2021, June). *Opening the vault: Using a projective measure to access the financial attitudes of young people*. Poster presented at the annual national conference of the Canadian Psychological Association.
- [66] Antoniuk, A., Philippot, C. M., Cormier, D. C., Yildirim-Erbasli, S. N., & **Bulut, O.** (2021, June). *Measuring financial literacy: Investing in positive financial futures*. Poster presented at the annual national conference of the Canadian Psychological Association.
- [67] **Bulut, O.**, & Lee, S. (2020, April). *Early detection of high school dropout: A deep learning approach with Keras*. Paper submitted to the annual meeting of the National Council on Measurement in Education, San Francisco, CA [Conference canceled due to COVID-19].
- [68] Cormier, D. C., **Bulut, O.**, & Stickney, E. (2020, April). *Using machine learning approaches to optimize screening for mathematics difficulties*. Paper submitted to the annual meeting of the National Council on Measurement in Education, San Francisco, CA [Conference canceled due to COVID-19].
- [69] Lu, C., **Bulut, O.**, Epp, C. D., & Gierl, M. J. (2020, April). *Identifying online learning behaviors using log data from learning management systems*. Paper submitted to the annual meeting of the National Council on Measurement in Education, San Francisco, CA [Conference canceled due to COVID-19].
- [70] Shin, J., Chen, F., Lu, C., & **Bulut, O.** (2020, April). *Automating test administration decisions in computerized formative assessment*. Paper submitted to the annual meeting of the National Council on Measurement in Education, San Francisco, CA [Conference canceled due to COVID-19].
- [71] Gao, Y., Erbasli, S. N. Y., & **Bulut, O.** (2020, April). *Comparison of the performance of feature selection methods in predicting bullying behaviors*. Paper submitted to the annual meeting of the National Council on Measurement in Education, San Francisco, CA [Conference canceled due to COVID-19].
- [72] Kim, J., **Bulut, O.**, McMaster, K. L., & Kendeou, P. (2020, April) *Development and initial validation of the Minnesota Inference Assessment* [Poster Session]. Poster submitted to the annual meeting of the American Educational Research Association, San Francisco, CA. <http://tinyurl.com/rl4kc7r> [Conference canceled due to COVID-19]

- [73] Rinaldi, C. M., **Bulut, O.**, Walker, M., & Beeby, A. M. (2020, May). *The stability of parenting in early childhood*. Poster submitted to the annual convention of the Canadian Psychological Association, Montreal, QC. [Conference canceled due to COVID-19]
- [74] Rinaldi, C. M., Muth, T., **Bulut, O.**, & Di Stasio, M. (2020, May). *Parenting influences on bullying in adolescence*. Poster submitted to the annual convention of the Canadian Psychological Association, Montreal, QC. [Conference canceled due to COVID-19]
- [75] Kennedy, K. E., & **Bulut, O.** (2020, May). *Examining the measurement properties of the 2017 What Albertans Know about Fetal Alcohol Spectrum Disorders Survey*. Paper submitted to the annual convention of the Canadian Psychological Association, Montreal, QC. [Conference canceled due to COVID-19]
- [76] Parilla, R., Wijayathilake, M., **Bulut, O.**, & Nag, S. (2019, July). *Impact of symbol and child characteristics on Akshara recognition*. Poster presented at the annual meeting of Society for the Scientific Study of Reading, Toronto, ON, Canada.
- [77] Xiao, J., & **Bulut, O.** (2019, June). *The performance of missing data imputation methods to estimate ability parameters*. Paper presented at the annual meeting of the Canadian Society for the Study of Education, Vancouver, BC, Canada.
- [78] Shin, J., **Bulut, O.**, & Gierl, M. J. (2019, May). *Development practices of trusted AI systems among Canadian data scientists*. Paper presented at the AI, Ethics and Society Conference, Edmonton, AB, Canada.
- [79] McCabe, E., Gross, D. P., & **Bulut, O.** (2019, May). *Development of a computerized adaptive test to assess patient-reported physical functioning*. Paper presented at the World Confederation for Physical Therapy Congress, Geneva, Switzerland.
- [80] Georgiou, G. K., **Bulut, O.**, & Dunn, K. (2019, April). *A neurocognitive approach to the identification of superior readers and mathematicians*. Poster presented at the annual Joseph R. Royce Psychology Research Conference, Edmonton, AB, Canada.
- [81] Odell, B., Galovan, A., **Bulut, O.**, & Cutumisu, M. (2019, April). *Using novel structural equation models to explore the effect of technology on mathematics for students in the Program for International Student Assessment 2015*. Paper presented at the annual meeting of the American Educational Research Association, Toronto, ON, Canada.
- [82] **Bulut, O.**, Celik, H., & Lei, M. (2019, April). *Understanding response processes in noncognitive measures with explanatory item response modeling*. Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, ON, Canada. Download
- [83] **Bulut, O.**, & Cutumisu, M. (2019, April). ExamVis: A score reporting system for visual communication of test results. In O. Bulut (Chair), *Communicating assessment results: How to inform decision-making in education*. Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, ON, Canada.
- [84] Daniels, L. M., **Bulut, O.**, & Gierl, M. J. (2019, April). Immediate score reporting: Pausing to consider the motivational and emotional consequences for students. In O. Bulut (Chair), *Communicating assessment results: How to inform decision-making in education*. Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, ON, Canada.
- [85] Cetin-Berber, D. D., **Bulut, O.**, & Huggins-Manley, A. C. (2019, April). *Nominal response model to address missingness in multistage adaptive testing*. Poster presented at the annual meeting of the National Council on Measurement in Education, Toronto, ON, Canada.

- [86] Xiao, J., **Bulut, O.**, & Rodriguez, M. C. (2019, April). *Nonresponse issue in noncognitive measures: Validity approach using explanatory item response modeling*. Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, ON, Canada. Download
- [87] Xiao, J., & **Bulut, O.** (2019, April). *The performance of recursive partitioning methods for dealing with missing responses*. Poster presented at the annual meeting of the National Council on Measurement in Education, Toronto, ON, Canada.
- [88] Lu, C., & **Bulut, O.** (2019, April). *Does valuing collaboration lead to greater success in collaborative problem solving?* Paper presented at the annual meeting of the National Council on Measurement in Education, Toronto, ON, Canada.
- [89] Ortiz, S., Daniels, V. J., Lai, H., Yoon, M., **Bulut, O.**, & Hillier, T. (2019, April). *Effect of detailed OSCE score reporting on student learning*. Paper presented at the Canadian Conference on Medical Education, Niagara Falls, ON, Canada.
- [90] Wagner, K., Kendeou, P., McMaster, K. L., & **Bulut, O.** (2019, April). *Development of a technology-based tool for assessing inference making in young children*. Paper presented at the 2019 annual meeting of American Educational Research Association, Toronto, ON, Canada.
- [91] Wagner, K., Kendeou, P., McMaster, K., & **Bulut, O.** (2019, February). *Creating a technology-based assessment of early inferencing*. Poster presented at the Pacific Coast Research Conference, San Diego, CA.

#### EDITORIAL SERVICE

- Associate Editor, Chinese/English Journal of Educational Measurement and Evaluation
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- Consulting Editor; Journal of Educational Psychology
- Ad Hoc Journal Reviewer; Educational and Psychological Measurement
- Ad Hoc Journal Reviewer; Applied Psychological Measurement
- Ad Hoc Journal Reviewer; Journal of Educational Measurement
- Ad Hoc Journal Reviewer; Educational Measurement: Issues and Practice
- Ad Hoc Journal Reviewer; International Journal of Testing

#### OTHER PROFESSIONAL SERVICE

- Peer reviewer for the US Department of Education's Peer Assessment Process 2022 to Now
- Peer reviewer for NRS Assessments at American Institutes for Research 2020 to Now
- External reviewer for the Early Researcher Awards Program in Ontario 2022
- External reviewer for the CANSSI Collaborative Research Team Program 2022
- External reviewer for a Tenure Promotion Package at the University of Tennessee 2022
- External reviewer for a Tenure Promotion Package at the University of Saskatchewan 2020
- Organizer; CanAm Online Symposium Series 2015 to Now
- Member; The Evaluation Advisory Committee for Youth ART Project 2015 to 2018



PROFESSIONAL  
MEMBERSHIP

- |   |              |
|---|--------------|
| • National Council on Measurement in Education (NCME), Member | 2009 to Now  |
| • NCME Publications Committee, Member                         | 2021 to Now  |
| • American Educational Research Association (AERA), Member    | 2009 to Now  |
| • The International Committee for AERA Division D, Member     | 2017 to 2020 |
| • Association for Computing Machinery (ACM), Member           | 2021 to Now  |
| • Society for Learning Analytics Research (SoLAR), Member     | 2022 to Now  |