

UMIT TOKAC, Ph.D.

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Education

2010 – 2016: Florida State University, Tallahassee, FL

Ph.D. in Measurement and Statistics

Dissertation: “Using Partially Observed Markov Decision Processes (POMDPs) to Implement a Response to Intervention (RTI) Framework for Early Reading”

2011 – 2014: Florida State University, Tallahassee, FL

Instructional Systems and Learning Technologies Certificate in Online Instructional Development

2009 – 2010: Florida State University, Tallahassee, FL

MS in Educational Statistics and Research Methods

2005 – 2006: Gazi University, Ankara, Turkey

MS in Math Education

2001 – 2005: Gazi University, Ankara, Turkey

BS in Math Education

Areas of Interest

Research Methods | Bayesian Modeling | Bayesian Data Analysis | Hierarchical Linear Modeling and Analysis | Artificial Intelligence Methods | Decision Theory | Meta-Analysis | Instructional Systems and Learning Technologies

Teaching Experience

- **Summer 2016 – Fall 2017: Florida Agricultural and Mechanical University, Tallahassee, FL**
Research Boot Camp Instructor for graduate students in College of Education at Florida Agricultural and Mechanical University. Assisting and advising graduate students about research methods and data analysis.
- **Spring 2015 – Spring 2016: Florida State University, Tallahassee, FL.**
Teaching Assistant for “Basic Descriptive and Inferential Statistics Applications“, “General Linear Model Applications”, “Advance Topics in Analysis of Variance Applications (ANOVA)” and “Multilevel Modeling (HLM)” courses.

- **Spring 2013 – Current: Florida State University, Tallahassee, FL.**
Statistical Consulting for graduate students' thesis or dissertation. Assisting and advice students about methodology and data analysis. Explaining different research methods and data analysis to graduate students with different backgrounds.
- **Summer 2010 – Spring 2011: Center for Academic Retention and Enhancement (CARE).**
Tutoring Math and statistics for Florida State University, undergraduate students. Assisting them for their homework and tests.
- **Fall 2005 – Spring 2007: Seviye High School, Ankara, Turkey.**
Instructor for 6th grade to 12th grade Math
- **Fall 2004 – Fall 2005: Aci High School, Ankara, Turkey.**
Instructor for 6th grade to 12th grade Math

Research Experience

- **Summer 2017 – Current: Missouri Institute of Mental Health, University of Missouri – St. Louis, St. Louis, MO.**
Assistant Research Professor. Providing statistical help for several different Federal/State research projects*.
- **Summer 2016 – Summer 2017: Pearson Inc., Tallahassee, FL**
Data Analyst for Pearson Inc. in Scoring and Reporting at Bureau of K-12 Student Assessment, Florida Department of Education. Analyzing and reporting the statewide student assessment results.
- **Spring 2013 – Summer 2017: Florida State University, Tallahassee, FL.**
Statistical Consulting graduate students' thesis or dissertation. Researching different research fields in order to help and advising graduate students about methodology and data analysis.
- **Summer 2014 – Fall 2015: State of Florida Department of Juvenile Justice, Tallahassee, FL**
Psychometrician for detention and probation officer certification tests. Item writing and developing the tests, administrating, and analyzing the test, and reporting the tests results.
- **Summer 2011 – Spring 2015: Center for Advancement of Learning and Assessment, Florida State University, Tallahassee, FL.**
Graduate research assistant, U.S. Department of Education, Institute of Education Science Project*, Florida State University, Tallahassee, FL. Training middle school teachers about formative feedback and formative assessment.

- **Spring 2011 – Summer 2011: Florida Center for Reading Research (FCRR), Florida State University, Tallahassee, FL.**
Graduate research assistant, Visual Information Processing Lab, Eye Tracking Project, Florida State University, Tallahassee, FL. Analyzing the collected data, interpreting the results and reporting.
- **Fall 2010 – Fall 2012: Learning Systems Institute (LSI), Florida State University, Tallahassee, FL.**
Graduate research assistant, Team Process Dynamics Study *, Florida State University, Tallahassee, FL. Analyzing the collected data, interpreting and reporting the results.
- **Summer 2009 – Spring 2010: Instructional Systems and Learning Technologies (ISLT), Florida State University, Tallahassee, FL.**
Volunteer system-thinking (ST) scorer, Technology-based Assessments for 21st Century Skills Projects *, Florida State University, Tallahassee, FL. Coding and analyzing the collected qualitative data.
- **Summer 2009 – Spring 2010: Academic Center for Excellence (ACE) lab, Florida State University, Tallahassee, FL.**
Volunteer performance evaluator, U. S. Soccer Federation, Florida State University, Tallahassee, FL. Analyzing the collected data, interpreting and reporting the results.

*Federally funded grants

Workshops

The Introduction to R Programming Language workshop, College of Education and College of Psychology at Florida State University.

Peer-Reviewed Publications

Ross, E. D., Ochs, L. A., Tate, D., **Tokac, U.**, Seabaugh, J., Abildskov, J.T., Bigler, D. E. (2018). High Correlations between MRI Brain Volume Measurements based on NeuroQuant® and FreeSurfer. *Psychiatry Research: Neuroimaging*.

Tokac, U., Novak, E. & Thompson, G. C. (under review). Effects of game-based learning on students' mathematics achievement: A meta-analysis. *Journal for Research in Mathematics Education*.

- Bureau, A.A., Razon, S., Saville, B.K., **Tokac, U.** & Judge, L.W. (2017). Passion for academics and problematic health behaviors. *International Journal of Exercise Science*. 10(3), 417-433.
- Leitzelar, N. B., Razon, S., **Tokac, U.**, Dieringer, S., Book, C. & Lawrence W. J. (2015). Effect of a supportive audience on a handgrip squeezing task in adults. *International Journal of Exercise Science*, 9(1), 4-15.
- Razon, S., Mandler, K., Arsal, G., **Tokac, U.**, & Tenenbaum, G. (2014). Effects of imagery on effort perception and endurance. *Journal of Imagery Research in Sport and Physical Activity*. 9(1), 23-38.
- Velasquez G., & **Tokac, U.** (2014, Summer). Using evidence-centered design to diagnose proficiency in solving story problems. *Journal of Multidisciplinary Research*, 6(2), 65-76.
- Tokac, U.** & Kocayoruk, E. (2012). Exploring effects of parent involvement on student's achievement. *International Journal of Social Science & Education*, 2(2), 257-263.
- Basevitch, I., Thompson, B., Braun, R., Razon, S., Arsal. G., **Tokac, U.**, Filho, E., Nacimiento-Razor, T., & Tenenbaum, G. (2011). Olfactory effects on attention allocation and perception of exertion. *The Sport Psychologist*, 25, 144-158.

Book Chapters

- Razon, S. & **Tokac, U.** (2015). Learning by modeling. In Spector, J. M. (Ed.), *The Sage encyclopedia of educational technology*. Thousand Oaks, CA: Sage Publications.

Presentations

- Razon, S., James, J.M*., Schade, A.K*., Battaglino, A.L*., Trumbetti, A.N*., Blose, J.M*., Cooper, K.M*., Stickles, P.K*., **Tokac, U.**, Reed, M.A., & Whidden, M.A. *Improve exercise-related effects: Join a boot camp program*. Poster scheduled for presentation at the Annual Meeting of the Association for Applied Sport Psychology (AASP), Toronto, Canada, October 3-6, 2018.
- Tokac, U.**, Novak, E. & Thompson, C. (2018, April). *Effects of game-based instruction on mathematics achievement: A meta-analysis*. Paper presented at the Annual Meeting of the American Educational Research Association (AERA), New York, NY, April 13-17, 2018.

- Chan, P., **Tokac, U.**, Hellmuth, J., Kroon, E., Colby, D., Sacdalan, C., Fletcher, L. J., Tipsuk, S., Pinyakorn, S., Robb, L. M., Ananworanich, J., Valcour, V., Spudich, S., Paul, R. (2018, March). *Longitudinal Cognitive Outcomes After Treatment in Acute HIV Infection*. Paper presented at the Conference on Retroviruses and Opportunistic Infections (CROI), Boston, MA, March 4- 7, 2018.
- Schade, A.K., James, J.M., Battaglino, A.L., Trumbetti, A.N., Blose, J.M., Cooper, K.M., Stickles, P.K., **Tokac, U.**, Reed, M.A., Whidden. M. A., & Razon, S. *A six-week boot camp: Changes in exercise-related affects and perceptions*. Poster presented at Research Day at West Chester University (WCU), West Chester, PA, November 8, 2017.
- James, J.M., Schade, A.K., Battaglino, A.L., Trumbetti, A.N., Blose, J.M., Cooper, K.M., Stickles, P.K., **Tokac, U.**, Reed, M.A., Whidden. M. A., & Razon, S. *The effects of a six-week weight loss program exercise-related affects and perceptions*. Poster presented at Mid Atlantic Regional Chapter of the American College of Sport Medicine (MARC ACSM), Harrisburg, PA, November 3-4, 2017.
- Razon, S., **Tokac. U.**, Tenenbaum, G. (2017, July). *Imagery use helps attention focus and task-adherence during effort.: Recommendations for best practices*. Poster presented at the 14th congress of the International Society of Sport Psychology (ISSP), Sevilla, Spain, July 10-14, 2017.
- Tokac, U.** (2017, April). *Using POMDPs to Implement an RTI Framework for Early Reading*. Paper presented at the Annual Meeting of the National Council on Measurement in Education (NCME), San Antonio, TX, April 26-30, 2017.
- Bureau, A., Razon, S. **Tokac, U.** (2016, October). *Obsessive passion and exercise addiction: Potential links and practical considerations*. Poster presented at the Annual Meeting of the Association for Applied Sport Psychology (AASP), Phoenix, AZ, September 28 - October 1, 2016
- Tokac, U.**, Almond, G. R. (2016, June). *The efficacy of the POMDP-RTI approach for early reading intervention*. Paper presented at 13th UAI Bayesian Modeling Applications Workshop (BMAW 2016) co-located with the 32nd Conference on Uncertainty in Artificial Intelligence (UAI 2016), New York City, NY, USA, June 25, 2016.
- Tokac, U.**, Novak, E. & Thompson, C. (2015, April). *Effects of game-based learning on students' mathematics achievement: A meta-analysis*. Poster presented at the Annual Meeting of the American Educational Research Association (AERA), Chicago, IL, April 16-20, 2015.

Almond, G. R., & Tokac, U. (2014, November). *Using decision theory to allocate educational resources*. Paper presented at the Annual Meeting of Florida Educational Research Association (FERA), Cocoa Beach, FL, November 19-21, 2014.

Tokac, U., & Novak, E. (2014, November). *Effects of game-based learning on children's math performance: A meta-analysis*. Paper presented at the Annual Meeting of the Association for Educational Communication and Technology (AECT), Jacksonville, FL, November 05-08, 2014.

Gul G., Velasquez G., & Tokac, U. (2013, November). *The math test anxiety scale for college students*. Paper presented at the Annual Meeting of the Florida Educational Research Association (FERA), Gainesville, FL, November 20-22, 2013.

Tokac, U., & Almond, G. R. (2013, April). *Early prevention of reading difficulties by using formative assessment in POMDP*. Poster presented at Cognition and Assessment SIG Poster Session/Business Meeting at the American Educational Research Association (AERA) Conference, San Francisco, CA, April 30, 2013.

Almond, G. R., Tokac, U., & Al Otaiba, S. (2012, August). *Using POMDPS to forecast kindergarten students' reading comprehension*. Paper presented at the 2012 Bayesian Application Workshop at the Conference for Uncertainty in Artificial Intelligence (UAI), August, Catalina Island, CA.

Computer Skills

- Microsoft Excel,
- Microsoft Access,
- Microsoft Power Point,
- Microsoft FrontPage,
- Visual Basic,
- Pascal,
- Maple (Computer algebra system),
- SPSS (PASW Statistics),
- Bilog-mg and Parscale (Item Response Theory software),
- HLM (Hierarchical Linear and Nonlinear Modeling software),
- SAS (Business Analytics software),

- R (A programming language and software environment for statistical computing and graphics),
- WinBugs,
- Mplus
- C++,
- LXR,
- Python.

Language Proficiency

- English
- Turkish

Invited Reviewer for Professional Organizations and Journals

- 2016 Annual Meeting of the American Educational Research Association (AERA)
 - Division D: Measurement and Research Methodology
 - Section 1- Psychometrics, Measurement, and Assessment
 - Section 2 - Quantitative Methods and Statistical Theory
- Educational Technology Research and Development Journal (ETR&D)

Current Membership in Professional Organizations

American Educational Research Association

Service

Member of the Chancellor’s Cultural Diversity Council at University of Missouri – St. Louis.

Honors

Statewide Graduate Student Research Symposium Second Place Winner,

University of Central Florida, Orlando, FL. *Effects of Game-Based Learning on Students’ Mathematics Achievement: A Meta-Analysis* study was selected by Dean and other faculty representatives from College of Education, University of Central Florida, April 24, 2015.

Robert M. Gagné Research Award Winner,

Florida State University College of Education's top research award, *Effects of Game-Based Learning on Students' Mathematics Achievement: A Meta-Analysis* study was selected by Dean and other faculty representatives from College of Education, Florida State University, April 10, 2015.

Cognition and Assessment SIG Graduate Student Travel Scholarship,

Early Prevention of Reading Difficulties by Using Formative Assessment in POMDP study was selected by Cognition and Assessment SIG. Annual Meeting of the American Educational Research Association (AERA), Chicago, IL, April 16-20, 2015.

Marie Geneau Memorial Endowed Best Academic Standing Scholarship,

Florida State University College of Education best academic standing scholarship for graduate students.

Certificates

- LXR TEST 6.1 Author Course Certificate, Applied Measurement Professionals, Inc.
- Instructional Systems and Learning Technologies Certificate in Online Instructional Development, Instructional Systems and Learning Technologies, Florida State University.

Upon successful completion of:

EME 5457: Introduction to Distance Learning

EME 5601: Introduction to Instructional Systems

EME 5603: Introduction to Systematic Instructional Design

EME 5975: Portfolio Review

EME 6414: Web 2.0 Learning

EME 6415: Development of Computer Courseware

- National Council for Behavioral Health - Mental Health First Aid USA
- Teaching Certificate, Turkish Ministry of Education