

SINEM DEMIRCI, Ph.D.

PERSONAL INFORMATION

✉ E-mail: sdemirci@calpoly.edu

🌐 <https://sinemdemirci.github.io/>

ACADEMIC AND PROFESSIONAL APPOINTMENTS

Sep 2023 - Present	Statistics Department California Polytechnic State University	Full-Time Lecturer B
Jul 2022 - Jul 2023	Dept. of Statistical Science, University College London	(Postdoctoral) Visiting Researcher / Lecturer
Jan 2021 - Jul 2022	TEDMEM	Social and Educational Research Specialist (Policy Analyst)
Feb 2013 – Dec 2020	Dept. of Math. & Sci. Education, Middle East Technical University	Teaching & Research Assistant

EDUCATION

Degree	University	Year of Graduation
Ph.D.	Elementary Education, Middle East Technical University	Jan 2021
M.S.	Statistics, Middle East Technical University	Oct 2018
M.S.	Elementary Science and Mathematics Education, Middle East Technical University	Jan 2014
B.S.	Elementary Science Education, Middle East Technical University	Jun 2011

RESEARCH INTERESTS: Introduction to Statistics & Data Science Education, Systems Literacy in Environmental and Sustainability Education

LANGUAGES: English (●), Turkish (●), German (◐)

COMPUTER SKILLS: R Project for Statistical Computing (●), IBM SPSS Software (●), LISREL (◐), Git /GitHub (◐), HTML/CSS (◐)

TEACHING EXPERIENCE

California Polytechnic State University

STAT 1110	Applied Statistical Concepts and Methods	Fall 2026
STAT 218	Applied Statistics for the Life Sciences	8 Quarters (2023 – 2026)
STAT 130	Introduction to Statistical Reasoning	2 Quarters (Fall 25 – Win 26)
STAT 251	Statistical Inference for Management I	2 Quarters (Win 25 – Spr 25)
STAT 217	Introduction to Statistical Concepts and Methods	4 Quarters (2024 – 2025)

University College London

STAT0004	Introduction to Practical Statistics	Term 2 – (Winter 2023)
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Middle East Technical University

MSE 501	Educational Statistics	8 Semesters (2014 – 2020)
MSE 409 & 410	Practice Teaching, I & II	6 Semesters (2016 – 2020)
MSE 487	Environmental Science	5 Semesters (2014 – 2020)
MSE 474	Education and Awareness for Sustainability	3 Semesters (2014 – 2020)
MSE 309	Statistical Applications in Education	3 Semesters (2016 - 2020)
ELE 477	Laboratory Applications in Environmental Education	2 Semesters (Spring 2012 & 2017)
MSE 305	Assessment of Learning in Science and Mathematics	2 Semesters (2014 – 2015)
MSE 288	Community Service	2 Semesters (2017 – 2019)
MSE 502	Research Methods and Ethics	1 Semester (Spring 2019)
MSE 602	Advanced Educational Research	1 Semester (Fall 2016)
MSE 301	Methods of Science Teaching in Middle Schools I	1 Semester (Spring 2017)
MSE 302	Methods of Science Teaching in Middle Schools II	1 Semester (Spring 2018)
MSE 531	Readings in Science Education	1 Semester (Fall 2017)
MSE 475	Climate Change Education for Sustainability	1 Semester (Spring 2014)
MSE 536	Skills on Environmental Issue Investigation	1 Semester (Fall 2014)

PUBLICATIONS

Peer Reviewed Publications/Preprints

- Chance, B., **Demirci, S.**, Grove, R., Ravat U., Kandali, V.S., Wilcox, D., & Truong A. C. (2026, in press). Measuring and evoking curiosity in statistics/probability students. In Proceedings of the 12th International Conference on Teaching Statistics, Brisbane, Australia.
- Demirci S., Dogucu, M. Zieffler A. & Rosenberg, J.M. (2025, Preprint). Understanding pedagogical content knowledge of data science instructors: An inaugural framework. <https://doi.org/10.48550/arXiv.2508.14009>
- Dogucu, M., **Demirci, S.**, Bendekgey, H., Ricci F. Z., & Medina, C. M. (2025). A systematic literature review of undergraduate data science education research. *Journal of Statistics and Data Science Education*, 33(4), 459–471. <https://doi.org/10.1080/26939169.2025.2486656>
- Demirci, S., & İlk, Ö. (2024). A comparative analysis of PISA 2015 Türkiye studies: Introducing a variable selection model to international large-scale assessments. *Van Yüziüncü Yıl University Journal of Education*, 21(3), 840-868. <https://doi.org/10.33711/yyuefd.1539072>
- Demirci, S., Reid, A., Teksöz, G., & Sahin, E. (2024). Systems literacy: towards a conspectus and model for environmental and sustainability education. *Environmental Education Research*, 31(4), 856–891. <https://doi.org/10.1080/13504622.2024.2409959>
- Seker S, Sahin E, Hacıeminoğlu E, **Demirci S.** (2024). Do teenagers believe in anthropogenic climate change and take action to tackle it? *Sustainability*, 16(16), 7005. <https://doi.org/10.3390/su16167005>
- Demirci, S., Dogucu, M., Zieffler, A. & Rosenberg, J. (2023). *Learning Difficulties of Introductory Data Science Students*. In E. Jones (Ed) Proceedings of the International Association for Statistical Education Satellite Conference Online. <https://doi.org/10.52041/iase2023.501>
- Demirci, S., Şahin E., Teksöz, G. & Marcinkowski, T. J. (2021). Pre-Service teachers' beliefs on human population growth in the context of education for sustainable development: development and validation of an instrument. *Journal of Teacher Education for Sustainability*, 23(2), 121-142. <https://doi.org/10.2478/jtes-2021-0021>
- Demirci, S. & Şahin, E. (2018). An analysis of Turkish middle school science education program placing climate change issues in the context of education for sustainable development. *International Journal of Quality in Education*, 2(1), 13-21.
URL: <https://dergipark.org.tr/en/pub/ijqe/issue/37135/427929>
- Demirci, S. (2018). The context of sustainable development in Turkish elementary science curriculum. *International Journal of Quality in Education*, 1(1), 54-61.
URL: <https://dergipark.org.tr/en/pub/ijqe/issue/37117/427577>
- Demirci, S. & Teksöz, G. (2017). Self-Efficacy beliefs on integrating sustainability into profession and daily life: in the words of university students. *International Electronic Journal of Environmental Education*, 7(2), 116-133.
URL: <https://files.eric.ed.gov/fulltext/EJ1180990.pdf>

Demirci, S., Yılmaz, A., & Şahin, E. (2016). Lise ve üniversite öğrencilerinin atomun yapısı ile ilgili zihinsel modellerine genel bir bakış. [An Overview on the Mental Models About the Structure of Atom for High School and University Students]. *Türkiye Kimya Derneği Dergisi, Kısım C: Kimya Eğitimi* [Journal of the Turkish Chemical Society Section C Chemical Education], 1(1), 87-106.

URL: <https://dergipark.org.tr/en/pub/jotcsc/issue/30533/330312>

Conference Papers/Presentations

Demirci, S. & Tackett, M. (2026). Insights into the Use of Universal Design for Instruction in Introductory Statistics & Data Science. [Contributed Paper Session]. Joint Statistical Meetings, Boston, Oregon, Massachusetts, U.S.A.

Chance, B., Demirci, S., Grove, R., Ravat U., Kandali, V.S., Wilcox, D., & Truong A. C. (2026). Measuring and Evoking Curiosity in Statistics/Probability Students [Accepted Oral Presentation]. 12th International Conference on Teaching Statistics, Brisbane, Australia.

Tackett, M. & **Demirci, S.** (2025). Exploring Faculty Motivation and Practices Using Universal Design for Instruction [Lightning talk]. RoSE 2025 E-Conference, Online.

Behroozi, D. Schedler, J. & **Demirci S.** (2025). The Sound of Statistics: Can Sonified Data Elicit an Emotional Response? [Poster Presentation]. Eighth annual Symposium on Data Science and Statistics, The American Statistical Association, Salt Lake City, Utah, U.S.A.

Demirci, S., Reid. A, Teksöz, G. & Sahin E. (2024). A Systems Literacy Approach to Understanding Climate Change Dynamics [Research Panel]. 21st Annual Research Symposium of North American Association for Environmental Education (NAAEE), Pittsburgh, Pennsylvania, U.S.A.

Demirci, S., Dogucu, M., Rosenberg, J.M. & Zieffler, A. (2024). *Crafting University Experiences: Perspectives and Practices in Teaching Introductory Data Science* [Topic-Contributed Paper Session]. Joint Statistical Meetings, Portland, Oregon, U.S.A.

Demirci, S., Dogucu, M., Bendekgey, H., Ricci F. Z., & Medina, C. M. (2024). *Herding Cats: A Systematic Literature Review on Undergraduate Data Science Education Research* [Oral presentation]. The 2024 Pacific Division Annual Meeting, San Diego, California, U.S.A.

Dogucu, M., **Demirci, S.**, Bendekgey, H., Ricci F. Z., & Medina, C. M. (2024). *Building Data Science Education Research Plan for Teacher-Scholars* [Breakout Session]. Electronic Conference on Teaching Statistics (eCOTS 2024). *Selected as "hot topic of the day"*

Demirci S., Dogucu, M. Zieffler A. & Rosenberg, J.M. (2023, July). *Learning Difficulties of Introductory Data Science Students* [Paper presentation]. 13th IASE Satellite Conference, Toronto, Canada

Demirci, S., Reid. A, Teksoz, G. & Sahin E. (2023, April). *Systems Literacy as a Key Concept for Quality Education and Agenda 2030*. [Roundtable Discussion]. AERA 2023 Annual Meeting, Chicago, Illinois, U.S.A.

Demirci, S., Şahin E. & Teksöz, G. (2021, September). *Eight-Graders' Understanding of Hidden Use of Water and Their Action Strategies for Sustainable Use of Water*. [Oral presentation]. European Conference on Educational Research, Geneva, Switzerland

- Demirci, S., Şahin E. & Teksöz, G. (2021, September). *Middle School Students' Perceptions on The Interactions among Water Cycle, Global Warming, and Climate Change*. [Oral presentation]. European Conference on Educational Research, Geneva, Switzerland
- Demirci, S., Şahin E. & Teksöz, G. (2020, September). *Redefining Urbanization: In the Views of University Students*. [Paper presentation]. 5th International Symposium on Environment and Morals, The Republic of Türkiye
- Demirci, S. & Teksöz, G. (2020, September). *Pre-service Teachers' Perceptions on The Interactions between COVID-19 Pandemic and the Environment*. [Paper presentation]. 5th International Symposium on Environment and Morals, The Republic of Türkiye
- Demirci, S. & Teksöz, G. (2018, June). *Pre-service Science Teachers' Skills on Problem/Issue Analysis in Environmental Education*. [Paper presentation]. ERPA International Congresses on Education, Istanbul, The Republic of Türkiye
- Demirci, S. (2018, June). *Middle School Students' Mental Models of The Water Cycle*. [Paper presentation]. ERPA International Congresses on Education, Istanbul, The Republic of Türkiye
- Teksöz, G. & **Demirci, S.** (2017, August). *About The Context of Climate Change Education for Sustainability: In The Words of University Students*. [Oral presentation]. 12th Biannual Conference of The European Science Research Association (ESERA), Dublin, Republic of Ireland
- Demirci, S., Kaplan, G., Cengizoğlu, S., & Şen, M. (2017, April). *Pre-service teachers' Understandings of sustainability based on ontological entities*. [Oral presentation]. 26th International Conference on Educational Sciences, Antalya, The Republic of Türkiye
- Cengizoğlu, S & **Demirci, S.** (2016, September). *Türkiye'de Yaşayan Çocuklar ve Çevre-İnsan İlişkisi: Bir İçerik Analizi Çalışması*, [Children Living in Türkiye and Their Outlook on Human-Nature Relationship: A Content Analysis]. [Oral presentation]. UFBMEK 2016 [National Science and Mathematics Education Congress 2016], Trabzon, The Republic of Türkiye
- Demirci, S. & Cengizoğlu, S. (2016, September). *Türkiye'de Okul Öncesi Dönemde Fen Eğitimi'nde Yapılan Çalışmaların Bölgelere, Değişkenlere ve Örneklem Gruplarına Göre İçerik Analizi*, [A Content Analysis of Studies Conducted in Preschool Science Education in Türkiye by Regions, Variables, and Sample Groups]. [Poster presentation]. UFBMEK 2016 [National Science and Mathematics Education Congress 2016], Trabzon, The Republic of Türkiye
- Demirci, S. & Şahin E. (2016, May). *An Analysis of Turkish Middle School Science Education Program Placing Climate Change Issues in The Context of Education for Sustainable Development*. [Paper presentation]. The 14th International JTEFS/BBCC Conference Sustainable Development, Culture, Education: Innovations and Challenges of Teacher Education for Sustainable Development, Konya, The Republic of Türkiye
- Demirci, S. (2016, May). *The Context of Sustainable Development in Turkish Elementary Science Curriculum*. [Paper presentation]. The 14th International JTEFS/BBCC Conference Sustainable Development, Culture, Education: Innovations and Challenges of Teacher Education for Sustainable Development, Konya, The Republic of Türkiye

- Demirci, S. & Şen, M. (2016, April). *Pre-Service Science Teachers' Misconceptions About Density and Buoyancy*. [Oral presentation]. The annual meeting of NARST International Conference toward Equity and Justice: Many Different Voices, Cultures, and Languages in Science Education Research for Quality Science Learning and Teaching, Baltimore, Maryland, U.S.A.
- Demirci, S., Şahin E. & Teksöz, G. (2015, October). *Is the Carrying Capacity Exceeded? Preservice Teachers' Beliefs on Human Population Growth*. [Oral presentation]. The annual meeting of North American Association in Environmental Education, San Diego, California, U.S.A.
- Demirci, S., Şahin, E. & Yılmaz, A. (2015, September). *The Effects of History of Science on Students' Mental Models Regarding Atomic Models*. [Poster presentation]. 11th Biannual Conference of The European Science Research Association (ESERA), Helsinki, Finland
- Yılmaz, A., Şahin, E. & **Demirci, S.** (2015, September). *Lise ve Üniversite Öğrencilerinin Atomun Yapısı ile İlgili Zihinsel Modellerine Genel Bir Bakış*, [An Overview of High School and University Students' Mental Models of the Structure of the Atom]. [Paper presentation]. 4. Ulusal Kimya Eğitimi Kongresi [4th National Chemistry Education Congress], Balıkesir, The Republic of Türkiye
- Demirci, S. & Şen, M. (2015, September). *Fen Bilgisi Öğretmen Adaylarının Yoğunluk Konusunda Kavram Yanılgılarının Belirlenmesi*, [Determining Preservice Science Teachers' Misconceptions Regarding the Concept of Density]. [Oral presentation]. 2. Ulusal Fizik Eğitimi Kongresi [2nd National Physics Education Congress], Ankara, The Republic of Türkiye
- Demirci, S., Şahin E. & Teksöz, G. (2015, June). *An Exploration of University Students' Beliefs on The Sustainable Growth of Human Population*. [Oral presentation]. 8th World Environmental Education Congress (WEEC), Gothenburg, Sweden
- Demirci, S. & Teksöz, G. (2015, April). *ESD in Higher Education: University students' perceptions of sustainability and its relation to their self-efficacy beliefs to integrate sustainability into their profession and daily lives*. [Poster presentation]. The Pathways to The Future: Education for Sustainable Development, Tallinn, Estonia
- Demirci, S. & Teksöz, G. (2014, September). *Üniversite Öğrencilerinin Sürdürülebilir Kalkınma Kavramını Gelecekteki Meslekleri Ve Günlük Yaşamlarına Birleştirmek Konusundaki Öz-yeterlik İnanışları*, [University Students' Self-Efficacy Beliefs About Integrating the Concept of Sustainable Development Into Their Future Professions and Daily Lives]. [Paper presentation]. UFBMEK 2014 [National Science and Mathematics Education Congress 2014], Adana, The Republic of Türkiye
- Demirci, S., Şahin E. & Teksöz, G. (2014, April). *What does a Survey Study on Beliefs towards Human Population Growth Imply for Teacher Education?* [Oral presentation]. EJER [Eurasian Educational Research Congress] 2014 Congress, İstanbul, The Republic of Türkiye
- Demirci, S., Şahin E. & Teksöz, G. (2013, October). *Determining Pre-service Teachers' Beliefs towards Human Population Growth*. [Paper presentation]. The annual meeting of North American Association in Environmental Education, Baltimore, Maryland, U.S.A.
- Çokoğlu, S.** & Şahin, E. (2012, May). *Ülkemizde Nüfus Artışına Yönelik İnançlar ve Görüş Ayrılıkları* [Beliefs and Conflicting Views on Population Growth in Our Country]. [Oral presentation]. 1. Ulusal Disiplinlerarası Çevre Kongresi [1st National Interdisciplinary Environment Congress], Sakarya, The Republic of Türkiye

Book Chapters and Reports about Education Policies

- TEDMEM. (2022). *Seçimlerde eğitimin yeri: Siyasi partilerin vaatleri, seçmenlerin beklentileri* [The role of education in elections: Promises of political parties, expectations of voters] (TEDMEM Güncel Yayınlar Dizisi 7) [TEDMEM Current Publications Series 7]. Türk Eğitim Derneği [Turkish Education Association], ISBN: 978-605-74377-3-0. <https://tedmem.org/yayinlar-detay/seci-mlerde-egi-ti-mi-n-yeri-si-yasi-parti-leri-n-vaatleri-secmenleri-n-beklenti-leri>
- Demirci S. (2022). Öğretmenlik ve mesleki süreç [Teaching and teacher education]. In TEDMEM (Ed.). *2021 eğitim değerlendirme raporu* [2021 education assessment report]. (TEDMEM Değerlendirme Dizisi 8) [TEDMEM Assessment Series 8] (pp.147-159). Türk Eğitim Derneği [Turkish Education Association], ISBN: 978-605-74377-2-3. <https://tedmem.org/yayinlar-detay/2021-egi-ti-m-degerlendi-rme-raporu>
- TEDMEM (2021.). *Bir bakışta eğitim 2021: Türkiye üzerine değerlendirme ve öneriler* [Education at a Glance 2021: Evaluations and recommendations on Türkiye]. <https://tedmem.org/yazilar-detay/bir-bakista-egitim-2021>
- TEDMEM (2021). *20. Millî Eğitim Şûrası konularına ilişkin görüş ve öneriler* [Remarks and Recommendations on the themes of the 20th National Education Council] in TEDMEM Güncel Yayınlar Dizisi 6 [TEDMEM Current Publications Series 6]. Türk Eğitim Derneği [Turkish Education Association], ISBN: 978-605-74377-1-6. <https://tedmem.org/yayinlar-detay/20-mi-lli-egi-ti-m-surasi-konularina-i-li-ski-n-gorus-ve-oneri-ler>
- TEDMEM (2021). *Türkiye'nin telafi eğitimi yol haritası* [The Republic of Türkiye's education recovery roadmap] (TEDMEM Analiz Dizisi 9) [TEDMEM Analysis Series 9] (pp.7-22). Türk Eğitim Derneği [Turkish Education Association], ISBN: 978-605-74377-0-9. <https://tedmem.org/yayinlar-detay/turki-ye-ni-n-telafi-egi-ti-mi-yol-hari-tasi>

Other Publications

- Demirci (2023). Does current curricula hinder student understanding of complex global water systems? *EERA Blog*. <https://blog.eera-ecer.de/complex-global-water-systems/>
- Demirci S. (2021). Öğretmenlerin dijital yeterlikleri [Teacher Digital Competencies]. <https://tedmem.org/yazilar-detay/ogretmen-dijital-yeterlikleri>
- Demirci, S. (2021). COVID-19 ve dünyada okulların durumu [COVID-19 and The Status of The Schools Worldwide]. <https://tedmem.org/yazilar-detay/covid-19-ve-dunyada-okullarin-durumu>

RESEARCH MENTORING AND ACADEMIC SERVICE

Naya Ko (Duke University)	Co-Mentor, Independent Research Project	Sum 2026
Mico Bonanno (Cal Poly)	Co-Mentor, The Frost Summer Undergraduate Research Program (SURP)	Sum 2026
Kendall J. Hipes (Cal Poly)	Master's Thesis Committee Member	2025
Donya Behroozi	Co-Mentor, Independent Research Project	2025

AWARDS AND SCHOLARSHIPS

2024	Hot Topic Winner	eCOTS 2024
2021	Scientific and Technological Research Council of Türkiye (TUBITAK)	2219-Postdoctoral Research Scholarship
2021	European Educational Research Association	Bursary Winner for ECER 2020
2015	Middle East Technical University	Thesis of the Year
2013	Scientific and Technological Research Council of Türkiye (TUBITAK)	2224-A International Scientific Events Support Program

PROJECT EXPERIENCE

Project title: Designing an Accessible and Inclusive Research Environment for Optics and Laser Laboratories

PI: Dr. Isinsu Baylam Toker

Co-Investigator: Dr. Sinem Demirci

Student Researcher: Mico Richard Bonanno

Funding: Frost Summer Undergraduate Research Program

Project Period: Summer 2026–Present

Project title: Exploring Faculty Motivation and Practices Using Universal Design for Instruction in Introductory Statistics/Data Science Classrooms

PI: Dr. Maria Tackett (Duke University)

Co-Investigators: Dr. Sinem Demirci

Student Researcher: Naya Ko (Duke University)

Funding: American Statistical Association Section on Statistics and Data Science Education Member Initiative Grant

Project Period: 2024 – Present

Project title: Exploring the Role of Curiosity in Learning Statistics

PI: Dr. Beth Chance

Co-Investigator: Dr. Sinem Demirci – Cal Poly San Luis Obispo

Student Researchers: Visruth Kandali, Amy Chau Troung – Cal Poly San Luis Obispo

Partners/Collaborators: Ranjani Grove - University of Washington

David Wilcox - The Lawrenceville School

Uma Ravat - UC Santa Barbara

Project Period: 29.10.2024 - Present

Project title: Coastal California Classroom Initiative – Exploring the Impact of Sonification on Identifying Skewed Distributions in Introductory Statistics

PI: Jeanine Scaramozzino – Cal Poly, San Luis Obispo

Co-Investigators: Dr. Julia Schedler, Dr. Sinem Demirci – Cal Poly San Luis Obispo

Funding: CET Seed Grants

Project Period: October 2024 – June 2025

Project title: Pedagogical Content Knowledge in Data Science Education: An Assessment of Readiness to Teach Data Science in Higher Education

PI: Dr. Sinem Demirci

Co-PI: Assist. Prof. Dr Mine Dogucu – UCL

Partners/Collaborators: Teaching Assoc. Prof. Dr Andrew Zieffler – University of Minnesota
Assist. Prof. Dr Joshua M. Rosenberg – University of Tennessee, Knoxville

Funding: The Scientific and Technological Research Council of Türkiye, TÜBİTAK

Sponsored by: University College London

Project Period: 01.08.2022 - 31.07.2023

Project title: From Waste to Fertilizer 3 - Composting

PI: Dr. Serap Bilen (METU, Society and Science Application and Research Center)

Funding: The Scientific and Technological Research Council of Türkiye, TÜBİTAK

Role & Project Period: Trainer, 08.04.2019 - 19.04.2019 *Project No:* 218B226

Project title: From Waste to Fertilizer 1 - Composting

PI: Dr. Serap Bilen (METU, Society and Science Application and Research Center)

Funding: The Scientific and Technological Research Council of Türkiye, TÜBİTAK

Role & Project Period: Trainer, 09.10.2017 -30.10.2017

Project No: 117B056

Project title: In-service Science Teachers' Teaching Experiences on Atomic Models within the context of History of Science

PI: Assoc. Prof. Dr. Elvan Şahin (METU, Dept. of Science and Mathematics Education)

Funding: Scientific Research Projects Coordination Unit, METU

Role & Project Period: Researcher, 1.1.2015 -31.12.2015

Project No: BAP-05-06-2015-001

Project title: University Students' Beliefs on Human Population Growth

PI: Assoc. Prof. Dr. Elvan ŞAHİN (METU, Dept. of Science and Mathematics Education)

Funding: Scientific Research Projects Coordination Unit, METU

Role & Project Period: Researcher, 1.1.2013 - 31.12.2013

Project No: BAP-07-03-2013-010

WORKSHOPS & INVITED TALKS

Demirci S. Introduction to Statistics and Data Science Pedagogy: Microteaching Examples in Diverse Classrooms. Invited talk at Middle East Technical University, Ankara, Department of Statistics, Online, November 24, 2025.

Demirci S. Statistics and Data Science Pedagogy: What to Teach and How to Teach in Diverse Classrooms with Examples. Invited talk at Middle East Technical University, Ankara, Department of Statistics, [Online](#), October 25, 2024.

Demirci S. [Evolving Landscape of Data Science Education: From Instructor Pedagogy to Policy Perspectives](#). Invited talk at California State University, Fullerton, Department of Mathematics, February 2, 2024.

Demirci S. Pedagogical Content Knowledge in Data Science Education: An Assessment of Readiness to Teach Data Science in Higher Education. Invited talk at MAPS Education Forum: Education Research and Dissemination, University College London, July 11, 2023.

Demirci S. Pre-service Teachers' Understanding of Sustainability: Evidence from Türkiye. Invited talks at UCL ZJU Project Symposium: Promoting education about and for sustainable development, University College London, Institute of Education, [Online](#), June 14, 2023.

Demirci S. An Introduction to Systems Thinking and Systems Literacy. Invited lecture given at the course of PRED 480 Environmental Education, TED University, Department of Elementary Education, [Online](#), May 23, 2023.

Demirci S. Pedagogical Content Knowledge in Data Science Education: An Assessment of Readiness to Teach Data Science in Higher Education. Invited talks at Teaching in Mathematical and Statistical Sciences (TMSS) Seminars, University College London, Department of Statistical Science, [Online](#), May 10, 2023.

Dogucu, M. & Demirci, S. [Disseminating Collaborative and Reproducible Research](#). Workshop given at the Department of Statistical Science, University College London. London, UK, Feb 2023.

Demirci, S. Middle School Students' Water Systems Literacy: A Multiple Case Study Example. Invited lecture given at the course of MSE 346 Teaching Complex Systems in Science, Middle East Technical University, Department of Mathematics and Science Education, Online, November 25, 2022

Demirci, S. How To Prepare a Conference Paper Presentation. Invited talk at the course of MSE 599 M.Sc. Seminar, Middle East Technical University, Department of Mathematics and Science Education, Online, November 2022

Demirci, S. Youth Responsibilities in The Climate Crisis. Invited talk as a part of Access Project Events (Project Partners: FHI 360, US Embassy Ankara and Turkish Education Association), Online, February 1, 2022

Demirci, S. İklim Değişikliğinin Bilimi, Sebepleri, Sonuçları ve Çözüm Önerileri [Climate change: Science, Causes, Impacts, and Solutions.] Invited talk as a part of TEDMEM Event at Turkish Education Association, Online, August 20, 2021

Demirci, S. How To Prepare a Conference Paper Presentation. Invited talk at the graduate seminar course, Middle East Technical University, Department of Mathematics and Science Education, Online, 2021

Demirci, S. Climate change: Science, Impacts, and Solutions. Invited talk as a member of Climate Reality Leadership Corps at the course of MSE 487 Environmental Science, Middle East Technical University, Department of Mathematics and Science Education, December, 2020, Ankara, Türkiye

Demirci, S. Climate change: Science, Impacts, and Solutions. Invited talk as a member of Climate Reality Leadership Corps at the course of MSE 487 Environmental Science, Middle East Technical University, Department of Mathematics and Science Education, Fall 2016, Ankara, Türkiye

Demirci, S. Climate change: Science, Impacts, and Solutions. Invited talk as a member of Climate Reality Leadership Corps at the course of MSE 475 Climate Change Education for Sustainability, Middle East Technical University, Department of Mathematics and Science Education, Spring 2016, Ankara, Türkiye

Demirci, S. Climate change: Science, Impacts, and Solutions. A total of 10 talks were given as a member of Climate Reality Leadership Corps at the Middle East Technical University between October 2013 - June 2014, Ankara, Türkiye

PROFESSIONAL SERVICE

Professional Memberships

American Statistical Association (ASA)	2023–Present
Associate Fellow, UK Higher Education Academy	2023–Present
American Educational Research Association (AERA)	2023
North American Association for Environmental Education (NAAEE)	2013–2016

Service to the Department

Member, Curriculum Development Committee, STAT 1110 - Applied Statistical Concepts and Methods	Cal Poly	2025–Present
Course Coordinator, MSE 409 & 410 - Practice Teaching I & II	METU	2016–2020

Service to the Field

Statistics and Data Science Education

The International Turkish Statistical Association (ITSA) Education and Career Development Committee	Chair	2026
Journal of Statistics and Data Science Education	Reviewer	2024–Present
12 th International Conference on Teaching Statistics (ICOTS12) Proceedings	Reviewer	2026
Undergraduate Statistics Project Competition and Electronic Undergraduate Statistics Research Conference	Judge	Fall 2025, Spr 2023, Fall 2023, Fall 2022
IASE Satellite Conference Proceedings	Reviewer	2023

Environmental and Sustainability Education

Environmental Education Research	Reviewer	2022–Present
American Educational Research Association (AERA) Annual Meeting	Reviewer	2024
Annual North American Association for Environmental Education (NAAEE) conference	Reviewer	2023, 2015, 2014

Science Education

Review of Education (BERA)	Reviewer	2025
Journal of Turkish Science Education	Reviewer	2024
Van Yuzuncu Yil University Journal of Education	Reviewer	2022–2023
e-Kafkas Journal of Educational Research	Reviewer	2023–2025
E-International Journal of Educational Research	Reviewer	2020
Science Fair, Middle East Technical University Development Foundation Schools	Judge	2020
Science through ART , The European Researchers' Night, European Union's Horizon 2020 program	Volunteer	2019
Science@Home , The European Researchers' Night, European Union's Horizon 2020 program	Volunteer	2017
Science Fair, Middle East Technical University Development Foundation Schools	Judge	2013–2016
Science is Fun! @METU , METU Campus	Volunteer	2012

Service to the Broader Community

Volunteer at the charity event for suburban middle school students, Ankara, The Republic of Türkiye, 2022-2023

Organizing Committee Member, TED International Education Forum – Digital Obesity, Ankara, Türkiye, 2021

Volunteer at organizing weekend supplementary classes for the middle school students of “Okula Yüz Verin” project, METU Alumni, Ankara, The Republic of Türkiye, 2013-2014

Volunteer at the Charity Project of Construction of School Building “Okula Yüz Verin”, METU Alumni, Ankara, The Republic of Türkiye, 2010-2014

Volunteer at the project of studying with visually impaired students “Engelsiz ODTÜ”, Ankara, The Republic of Türkiye, 2009-2010

Youth Summer Camp Leader at Middle East Technical University, Ankara, The Republic of Türkiye, 2009

Volunteer at Project of Collecting, Sorting, and Recycling Waste “Temiz Eymir”, Ankara, The Republic of Türkiye, 2008-2010

Volunteer at annual charity events for suburban elementary school students in Ankara, The Republic of Türkiye, 2006-2011

Volunteer at organizing wheelchair basketball game, 2010

Member, METU Scouts Student Club, Ankara, The Republic of Türkiye, 2006 – Present

Leader, METU Scouts Student Club, Ankara, The Republic of Türkiye, 2009 – 2011

Head of Education Committee, METU Scouts Student Club, Ankara, The Republic of Türkiye, 2009-2010

PERSONAL INTERESTS: Camping, Western concert flute (beginner), Children Literature