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EDUCATION

2013	PhD	Middle East Technical University, Secondary Science and Mathematics Education
2004	Integrated BS & MS	Gazi University, Physics Education
1999	High School	Buca Betontas High School, İzmir

DOCTORAL DISSERTATION

The effect of the instruction based on the epistemologically and metacognitively improved 7E learning cycle on tenth grade students' achievement and epistemological understandings in physics
Adviser: Prof. Dr Ali Eryılmaz, Middle East Technical University, Faculty of Education, Department of Mathematics and Science Education

WORK EXPERIENCE

11/2018 - present	Associate Professor	Bogazici University Faculty of Education, Department of Mathematics and Science Education
05/2017 - 11/2018	Assistant Professor	Bogazici University Faculty of Education, Department of Mathematics and Science Education
07/2016 - 05/2017	Assistant Professor	Yuzuncu Yil University Faculty of Education, Department of Primary Education

09/2015 - 07/2016	Assistant Professor (Postdoctoral Research)	Middle East Technical University Faculty of Education, Department of Secondary Science and Mathematics Education
07/2014 - 09/2015	Assistant Professor	Yuzuncu Yil University Faculty of Education, Department of Secondary Science and Mathematics Education
07/2013- 07/2014	Research Assistant	Yuzuncu Yil University Faculty of Education, Department of Secondary Science and Mathematics Education
01/2005- 07/2013	Research Assistant	Middle East Technical University Faculty of Education, Department of Secondary Science and Mathematics Education
01/2011- 05/2012	Visiting Researcher	University of Maryland, Physics Education Research Group, USA

RESEARCH INTEREST

- Physics Education
- Epistemology
- Metacognition
- Conceptual Understanding
- Inquiry-Based Teaching
- Structural Equation Modeling

PUBLICATIONS

A. International Journals

- A1. Yerdelen-Damar, S. & Eryilmaz, A. (2021).** Promoting conceptual understanding with explicit epistemic intervention in metacognitive instruction: Interaction between the treatment and epistemic cognition. *Research in Science Education*, 51(2),547-575 doi: 10.1007/s11165-018-9807-7 (**Indexed in SSCI**)
- A2. Korur, F., Yerdelen-Damar, S., & Sağlam, H. (2021).** The development of an Integrated Scale of Technology Use in Physics. *Research in Learning Technology*,29:2432 (**Indexed in ESCI**)
- A3. Yerdelen-Damar, S., Aksöz, B., Sezer, S., Arabacı, N. & Arıkan, F. (2021).** Investigating the interrelationships among science and mathematics achievement, attitude towards STEM, and gender. *Bartın University Journal of Faculty of Education*, 10(2), 342-357.
<https://doi.org/10.1016/buefad.778281> (**Indexed in EBSCO**)

- A4.** Elby, A & **Yerdelen-Damar, S** (2020). Rethinking the relationship between instructors and physics education researchers. *Physical Review Physics Education Research*, 16, 020151 (**Indexed in SSCI**)
- A5.** **Yerdelen-Damar, S.** (2018). Turkish secondary school teachers' conceptions of teaching and assessment. *Teacher Education and Practice*, 31(3), 366-386 (**Indexed in ERIC**)
- A6.** Boz, Y., **Yerdelen-Damar, S.** & Belge-Can, H. (2018). Investigation of Relations among middle school (junior high school) students' gender, learning approaches, perceptions of learning environment and science achievement, *Elementary Education Online*, 17(3), 1268-1282 (**Indexed in SCOPUS, EBSCO**)
- A7.** Aydin-Gunbatar, S., Boz, Y., & **Yerdelen-Damar, S.** (2017). A closer examination of TPACK Construct: Modeling elementary pre-service science teachers' TPACK., *Elementary Education Online*, 16(3): 917-934 (**Indexed in SCOPUS, EBSCO**)
- A8.** **Yerdelen-Damar, S.**, Boz, Y., & Aydin-Gunbatar, S. (2017). Mediated effects of technology competencies and experiences on relations among attitudes towards technology use, technology ownership, and self efficacy about technological pedagogical content knowledge. *Journal of Science Education and Technology*, 26:394–405 (**Indexed in SSCI**)
- A9.** **Yerdelen-Damar, S.** & Elby, A. (2016). Sophisticated epistemologies of physics versus high-stakes tests: How do elite high school students respond to competing influences about how to learn physics? *Physical Review Physics Education Research*, 12, 010118 (**Indexed in SSCI**) (**Highlighted as an Editors' suggestion**)
- A10.** Boz, Y., **Yerdelen-Damar, S.**, Aydemir, N., & Aydemir, M. (2016). Investigating the relationships among students' self-efficacy beliefs, their perceptions of classroom learning environment, gender and chemistry achievement through structural equation modeling. *Research in Science & Technological Education*, 34(3), 307-324 (**Indexed in SSCI**)
- A11.** Balta, N., **Yerdelen-Damar, S.**, & Carberry, A. (2017). Vocational high school students' engineering epistemological beliefs. *International Journal of Engineering Education*, 33, 420–429, (**Indexed in SCI-Expanded**)
- A12.** **Yerdelen-Damar, S.** & Eryilmaz, A. (2016). The impact of the metacognitive 7E learning cycle on students' epistemological understandings. *Kastamonu Egitim Dergisi*, 24(2), 603-618 (**Indexed in EBSCO**)
- A13.** **Yerdelen-Damar, S.**, Ozdemir, O. F, & Unal, C. (2015). Pre-service physics teachers' metacognitive knowledge about their instructional practices. *Eurasia Journal of Mathematics, Science and Technology Education*, 11(5), 1009-1026 (**Indexed in SSCI**)
- A14.** **Yerdelen-Damar, S.** (2015). Obstacles to reasoning about inertia in different contexts. *European Journal of Physics Education*, 6(2), 31-40 (**Indexed in ERIC**)
- A15.** **Yerdelen-Damar, S.** & Aydin, S. (2015). Relations of approaches to learning with perceptions of learning environment and goal orientations. *Education & Science*, 40(179), 269-293 (**Indexed in SSCI**)
- A16.** **Yerdelen-Damar, S.** & Pesman, H. (2013). Relations of gender and socio-economic status to physics through metacognition and self-efficacy. *The Journal of Educational Research*, 106:4, 280-289 (**Indexed in SSCI**)
- A17.** **Yerdelen-Damar, S.**, Elby, A., & Eryilmaz, A. (2012). Applying beliefs and resources frameworks to the psychometric analyses of an epistemology survey. *Physical Review Special Topics-Physics Education Research*, 8(1), 010104-(1-10). (**Indexed in SSCI**)
- A18.** **Yerdelen-Damar, S.** & Eryilmaz, A. (2010). Questions about physics: The case of a Turkish 'Ask a Scientist' website. *Research in Science Education*. 40(2), 223-238. (**Indexed in SSCI**)

B. National Journals

- B1. Yerdelen-Damar, S., Korur, F. ve Sağlam, H. (2020).** Matematik ve Fen Derslerine Katılım Ölçeğinin Fizik Dersi Bağlamında Türkçeye Uyarlanması. *Turkish Journal of Educational Studies*, 7(2), 1-15.
- B2. Yerdelen-Damar, S. & Soyalp, F. (2016).** Ortaöğretim öğrencilerinin proje yarışması ve okul bağlamında kullandıkları öğrenme yaklaşımları: Epistemolojik değişkenlik. *YYÜ Eğitim Fakültesi Dergisi (YYU Journal Of Education Faculty)*,13 (1), 593-630. (**Indexed in ULAKBİM**)
- B3. İzci, K. & Yerdelen-Damar, S. (2016).** Fizik Öğretmeleri için Pedagojik Alan Bilgisi Testinin Türkçeye Uyarlanması. *YYÜ Eğitim Fakültesi Dergisi (YYU Journal Of Education Faculty)*,13 (1), 711-761. (**Indexed in ULAKBİM**)

C.Book &Book Chapters

C1.1.Yerdelen-Damar, S (2021). Stem Eğitiminde Değerlendirme, Nuhoglu, H. (ed.) *Eğitimcinin STEM Öğrenme Yolculuğu*, (375-394). Ankara: PEGEM

D. Conference Proceedings, Oral Presentations & Posters

D1. Conference Proceedings

- D1.1.** Pesman, H., & **Yerdelen-Damar, S** (2009). Investigating Factors Affecting High School Students' Physics Self-Efficacy. Paper presented at ESERA 2009 Conference (European Science Education Research Association), August 31 –September 4, 2009, Istanbul, Turkey.
- D1.2. Yerdelen-Damar, S., Ustun, U., & Eryilmaz, A. (2009).** Cognitive Strategies Used by Pre-Service Physics Teachers. Paper presented at FISER'09 - Frontiers in Science Education Research Conference: An international conference on science and mathematics education research, March 22-24, 2009. Famagusta, Cyprus.
- D1.3. Yerdelen-Damar, S., Ustun, U., & Eryilmaz, A. (2008)** Promoting Pre-Service Physics Teachers' Metacognitive Skills through Self-Evaluation. Paper presented at GIREP- International Research Group on Physics Teaching, Physics Curriculum Design, Development and Validation, August 18 - 22 2008, Nicosia, Cyprus.

D2.Oral Presentations in International Conferences

- D2.1. Yerdelen-Damar, S., Korur, F. & Sağlam, H. (2020).** Interrelationships Among Science and Mathematics Achievement, Socioeconomic Status, Gender and STEM Career Interest. International Pegem Conference on Education E-Conference (Online). September 16-19 2020
- D2.2. Yerdelen-Damar, S. (2019).** Physics Teachers' Conceptions of Teaching and Learning and Their Instructional Practices. *GIREP- ICPE-EPEC-MPTL*, July 1-5 2019. Budapest, Hungary
- D2.3. Yerdelen-Damar, S. (2018).** Epistemological Understandings Activated in Conceptual Problem Solving. Paper will be presented at GIREP-MPTL, July 9-13, 2018. San Sebastian - Spain
- D2.4. Yerdelen-Damar, S., Aydın, S., & Boz, Y. (2015).** Modeling Relations of Attitudes towards Technology Use, Technology Competencies, Ownership, and Experiences to TPACK-Self Efficacy. Paper presented at 2015 NARST Annual International Conference, April 11-14, 2015, Chicago-USA

- D2.5.** Aydın, S., **Yerdelen-Damar, S.**, & Boz, Y. (2015). Modeling Elementary Science Teachers' TPACK. Paper presented at 2015 NARST Annual International Conference, April 11-14, 2015, Chicago-USA
- D2.6.** **Yerdelen-Damar, S.**, & Eryılmaz, A. (2014). Promoting Conceptual Understandings with Metacognitive Inquiry Teaching: Interaction between the Treatment and Students' Epistemological Understandings. Paper presented at ECER-2014- European Conference on Educational Research. 1 - 5 September 2014, Porto, Portugal.
- D2.7.** **Yerdelen-Damar, S.**, Izci, K. (2014). Adaptation and Validation of Turkish Version of Pedagogical Content Knowledge Test for Physics Teachers. Paper presented at ISER-2014 World Conference, October 29 – November 2, 2014, Nevsehir, Turkey
- D2.8.** **Yerdelen-Damar, S.**, & Eryılmaz, A (2012). The Impact of the Metacognitive Inquiry-Based Instruction on Physics Self-Efficacy. Paper presented at Applied Education Congress (APPED), September 13-15, 2012, Ankara, Turkey
- D2.9.** **Yerdelen-Damar, S.**, & Eryılmaz, A (2012). Explicitly Emphasizing Metacognition and Epistemology in Inquiry-Based Physics Teaching: The Impacts on Students' Epistemological Understandings. Paper presented at World Conference on Physics Education (WCPE), July 1-6, 2012, Istanbul, Turkey
- D2.10.** **Yerdelen-Damar, S.** (2011). Does Reading Physics Textbooks Help Resolve the Contradictions? Paper presented at 2011 AAPT Summer Meeting, July 30 –August 3, 2011, Omaha, NE.
- D2.11.** **Yerdelen-Damar, S.**, & Eryılmaz, A. (2011). The Effectiveness of Epistemologically and Metacognitively Stimulated Learning Cycle Method on 10th Grade Students' Physics Achievement. Paper presented at NARST 2011, April 3-6, 2011, Florida, USA
- D2.12.** **Yerdelen-Damar, S.**, & Ozdemir, O. F. (2009). Approaching to Transfer in the Perspective of Actor-Oriented Model. Paper presented at ESERA 2009 Conference (European Science Education Research Association), August 31–September 4, 2009, Istanbul, Turkey.
- D2.13.** **Yerdelen, S.**, & Dönertas, S. (2007). Can Sixth Grade Science Textbook Reflect The Reforms Made In The Turkish Curriculum? Paper presented at the International Organization for Science and Technology Education (IOSTE), International Meeting on Critical Analysis of School Science Textbook February. 07-10, 2007. Hammamet, Tunisia

D3. Posters in International Conferences

- D3.1.** **Yerdelen-Damar, S.**, & Elby, A. (2011). The Effect of High-Stake Testing on Students' Learning Approaches in Physics. Poster presented at Physics Education Research Conference 2011, August 3-4, 2011, Omaha, NE.

D4. Oral Presentations in National Conferences

- D4.1.** Sağlam, H., **Yerdelen-Damar, S** ve Özel, S.(2021). Pedagojik Alan Bilgisini Fen Eğitimi Bağlamında Ölçen Nicel Çalışmaların Sistemik Derlemesi, 14. Ulusal Fen Bilimleri Ve Matematik Eğitimi Kongresi, 19-20 Mayıs 2021, Burdur (Çevrimiçi)
- D4.2.** **Yerdelen-Damar, S** ve Şengül, Ö. (2019). Grupla Problem Çözme Çalışması Sürecinde Öğrencilerin Sergilediği Epistemolojik Davranışlar ve Bu Davranışların Problem Çözme Yaklaşımlarına Etkisi. *IV. Ulusal Fizik Eğitimi Kongresi. 27-28 Eylül 2019, Trabzon.*
- D4.3.** **Yerdelen-Damar, S.**, Korur, F. ve Sağlam, H. (2019). Fizik Dersine Katılım Ölçeği'nin Türkçe'ye Uyarlama Çalışması. *IV. Ulusal Fizik Eğitimi Kongresi. 27-28 Eylül 2019, Trabzon.*

- D4.4.** Korur, F., **Yerdelen-Damar, S.** ve Sağlam, H. (2019). Fizik Dersinde Teknoloji Kullanım Tercihleri ve Etkileri Ölçeğinin Geliştirilmesi. *IV. Ulusal Fizik Eğitimi Kongresi*. 27-28 Eylül 2019, Trabzon.
- D4.5.** **Yerdelen-Damar, S.** ve Soyalp, F. (2015). TÜBİTAK Ortaöğretim Araştırma Projeleri Yarışmasına Katılan Öğrencilerin Epistemolojik Anlayışları, Öğrenme Yaklaşımları ve Yarışma Hakkındaki Görüşleri. II. Ulusal Fizik Eğitimi Kongresi. 10-12 Eylül 2015, Ankara.
- D4.6.** **Yerdelen-Damar, S.** ve Eryılmaz, A. (2013). Öğrencilerin Bağlı Hareket Hakkındaki Kavrayışlarının Fenomenografik Analizi. I. Ulusal Fizik Eğitimi Kongresi. 12-14 Eylül 2013, Ankara.
- D4.7.** **Yerdelen-Damar, S.** ve Demirdogen, B. (2008). Fizik Öğretmen Adaylarının Zihinlerindeki Öğretmen Modelinin Belirlenmesi. 8. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, 27-29 Ağustos 2008, Bolu
- D4.8.** Ustun, U., **Yerdelen-Damar, S.**, ve Eryılmaz, A. (2008). Öğretmen Adaylarının Lise Seviyesindeki Fizik Ve Pedagojik Alan Bilgilerini Artırmak İçin Açılan Derslerin Verimliliği. 8. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi, 27-29 Ağustos 2008, Bolu

MEMBERSHIPS

- The Turkish Science Education and Research Association (SERA) (**2012 - present**)
- The National Association for Research in Science Teaching (NARST) (**2011-2012, 2015-2016**)
- The American Association Physics Teachers (AAPT) (**2011-2013**)
- The National Science Teaching Association (**2017-2020**)

HONORS

- **08/2020** Excellence in Teaching Award, Bogazici University
- **06/2004** High Honor Graduation in the **1st** rank
The Department of Physics Education,
Gazi University, Ankara, Turkey
- **06/1999** Graduation in the **1st** rank
Buca Betontas High School, Izmir, Turkey

SCHOLARSHIPS AND AWARDS

- The Scientific and Technological Research Council of Turkey (TUBİTAK), PhD Scholarship, (**2005-2013**)
- The Scientific and Technological Research Council of Turkey (TUBİTAK), Abroad Research Scholarship, **2010** (12 Months)
- Publication Incentive Awards (TUBİTAK), **2012(2), 2013, 2015, 2018(2), 2020**
- Publication Incentive Awards (Bogaziçi University), **2020**
- Academic Incentive Awards **2015, 2016, 2017, 2020**

PROFESSIONAL SERVICES

Committee Duties at Bogazici University

- Vice Head of Department (2019-2021)
- Faculty of Education, Scholarship Committee Member (2017-present)
- Faculty of Education, the Student Representative Selection Committee Member (2017-present)
- Hikmet Sebüktekin Scholarship Committee Member (2018-present)

Editorial Activities

- Yuzuncu Yil University Journal of Education, The Qualitative Research Methodology Editor (2014-2016, 2017-present)
- Yuzuncu Yil University Journal of Education, The Quantitative Research Methodology Editor (2016-2017)

Refereeing

Journals Indexed in SSCI

- Sage Open 2019
- Education and Science, 2017, 2018, 2021(2)
- Physical Review Physics Education Research, 2014(2), 2015, 2017, 2018, 2019(3), 2020, 2021,
- Learning and Individual Differences, 2016
- Educational Sciences: Theory & Practice, 2016
- Science Education, 2015
- Eurasia Journal of Mathematics, Science and Technology Education, 2015
- Asia Pacific Education Review, 2014

Journals Indexed in ERIC

- Journal of Education in Science, Environment and Health, 2018
- International Journal of Research in Education and Science, 2016

Journals Indexed in ULAKBIM

- YYÜ Eğitim Fakültesi Dergisi, 2015, 2016(2), 2017(2), 2018

Conferences

- National Association for Research in Science Teaching (NARST), 2010, 2011, 2014
- European Science Education Research Association (ESERA) Conference. 2009
- World Conference on Physics Education (WCPE), 2012
- National Physics Education Conference, 2015, 2017
- National Educational Sciences Conference, 2016

Book Translation

- Hewitt, P. Conceptual Physics (12th Edition) (Kavramsal Fizik) (Chapter 10,15-18)

WORKSHOPS, INSERVICE TRAININGS (DELIVERED)

- Discussion Group: A Workshop on Teaching Physics Concepts with the Context-Based Approach. 8th National Science and Mathematics Education Conference, 27-29 August 2008, Bolu
- A Workshop on Epistemology Based Physics Activities. II. National Physics Education Conference. 10-12 September 2015, Ankara.
- One-week workshop given to in-service physics teachers to teach how to use micro-computer-based laboratory tools in their physics instruction, 2009, Ankara
- One-week workshop given to in-service physics teachers to teach how to use micro-computer-based laboratory tools in their physics instruction, 2009, Izmir

RESEARCH PROJECTS

- **Project Director (2018-)** A conceptual Model of Factors Influencing Students' Physics Achievement and STEM Career Interest: Evaluation of a Teaching Intervention Developed based on the Model Testing. *Boğaziçi Üniversitesi Bilimsel Araştırma Projeleri, (Proje No: 14461)*
- **Project Director, (2014-2015)**. Investigating High School Students' Approaches to Learning Science Using Structural Equation Modeling in Terms of Related Variables, *Yuzuncu Yil University, Scientific Research Project Unit. The project number: BAP-2014-EF-B208*
- **Researcher, (2014-2015)**. The TPACK Level and Technology Use of Pre-service Teachers, and Examination of Factors Influencing Technology Use, *Yuzuncu Yil University, Scientific Research Project Unit. The project number: BAP-2014-EF-B13*

COURSES TAUGHT

Bogazici University

- SCED 404 Research Methods in Science and Mathematics Education
- SCED 370 Assessment and Evaluation of Learning in Science and Mathematics
- SCED 320 Teaching Methods in Science and Mathematics
- SCED 418 Seminar on Practice Teaching in Physics
- SCED 442 Practice Teaching in Physics
- SCED 611 Quantitative Research in Science and Mathematics Education*
- Yuzuncu Yil University
- High School Physics Curriculum Review I
- Principles and Methods of Teaching
- Practice Teaching
- Instructional Technology and Material Development
- Curriculum Development
- High School Physics Curriculum Review II
- Research Designs in Education *
- Research Designs in Education II *
- The Nature of Physics *

*Graduate Course