

## Res. Asst. PhD ESRA DEMİRAY

### Personal Information

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### International Researcher IDs

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### Education Information

Doctorate, Middle East Technical University, Graduate School Of Social Sciences, İlköğretim, Turkey 2013 - 2019

Postgraduate, Middle East Technical University, Graduate School Of Social Sciences, İlköğretim Fen Ve Matematik Eğitimi, Turkey 2010 - 2013

Undergraduate Minor, Middle East Technical University, Faculty Of Arts And Sciences, Department Of Mathematics, Turkey 2008 - 2010

Undergraduate, Middle East Technical University, Faculty Of Education, Mathematics And Science Education, Turkey 2005 - 2010

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, An Investigation of Prospective Middle School Mathematics Teachers' Argumentation, Proof, and Geometric Construction Processes in the Context of Cognitive Unity, Middle East Technical University, Graduate School Of Social Sciences, 2019

Postgraduate, An investigation of pre-service middle school mathematics teachers' achievement levels in mathematical proof and the reasons of their wrong interpretations, Orta Doğu Teknik Üniversitesi, Sosyal Bilimler Enstitüsü, İlköğretim Fen Ve Matematik Eğitimi Anabilim Dalı, 2013

### Research Areas

Social Sciences and Humanities, Education, Elementary School Education, Teacher Training For Elementary Sch. Edu. in Mathematics

### Academic Titles / Tasks

Research Assistant, Hacettepe University, Eğitim Fakültesi, Matematik ve Fen Bilimleri Eğitimi Bölümü, 2013 - Continues  
Research Assistant, Bülent Ecevit Üniversitesi, Ereğli Eğitim Fakültesi, Matematik Ve Fen Bilimleri Eğitimi Bölümü, 2011 - 2013

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Types of Global Argumentation Structures in Conjecture-Generation Activities Regarding Geometry**  
DEMİRAY E., İŞIKSAL BOSTAN M., SAYGI E.  
INTERNATIONAL JOURNAL OF SCIENCE AND MATHEMATICS EDUCATION, vol.20, no.4, pp.839-860, 2022 (SSCI)
- II. **An Investigation of Pre-service Middle School Mathematics Teachers' Ability to Conduct Valid Proofs, Methods Used, and Reasons for Invalid Arguments**  
DEMİRAY E., BOSTAN M. I.  
INTERNATIONAL JOURNAL OF SCIENCE AND MATHEMATICS EDUCATION, vol.15, no.1, pp.109-130, 2017 (SSCI)

## Articles Published in Other Journals

- I. **Pre-service Middle School Mathematics Teachers' Descriptions of Definite Integral and Indefinite Integral**  
DEMİRAY E., SAYGI E.  
CUKUROVA UNIVERSITY FACULTY OF EDUCATION JOURNAL, vol.50, no.2, pp.698-720, 2021 (ESCI)
- II. **Pre-service middle school mathematics teachers' evaluations of discussions: the case of proof by contradiction**  
DEMİRAY E., BOSTAN M. I.  
MATHEMATICS EDUCATION RESEARCH JOURNAL, vol.29, no.1, pp.1-23, 2017 (ESCI)
- III. **ÖĞRETMEN ADAYLARININ MATEMATİK ÖĞRETİMİNDE TEKNOLOJİK PEDAGOJİK ALAN BİLGİLERİNİN GELİŞTİRİLMESİ**  
KARATAŞ İ., PIŞKİN TUNÇ M., DEMİRAY E., YILMAZ N.  
Abant İzzet Baysal Üniversitesi Eğitim Fakültesi Dergisi, vol.16, pp.512-533, 2016 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Interpretation of graphs regarding definite integral**  
DEMİRAY E., ZEYBEK N., SAYGI E.  
The European Conference on Educational Research (ECER), 3 - 07 September 2019
- II. **Prospective Middle School Mathematics Teachers' Geometric Constructions via Compass and Straightedge**  
DEMİRAY E., İŞIKSAL BOSTAN M.  
European Conference on Educational Research (ECER), 4 - 07 September 2018
- III. **Prospective middle school mathematics teachers' interpretations of graphs related to integral**  
DEMİRAY E., SAYGI E.  
European Conference on Educational Research ECER, Kopenhagen, Denmark, 21 - 25 August 2017
- IV. **The meaning of mathematical proof for prospective middle school mathematics teachers**  
DEMİRAY E., İŞIKSAL BOSTAN M.  
The European Conference on Educational Research, ECER, Kopenhagen, Denmark, 21 - 25 August 2017
- V. **Pre-service middle school mathematics teachers' interpretation of logical equivalence in proof by contrapositive**  
DEMİRAY E., İŞIKSAL BOSTAN M.  
10th Congress of the European-Society-for-Research-in-Mathematics-Education (CERME), Dublin, Ireland, 1 - 05 February 2017, pp.139-146
- VI. **Ortaokul Matematik Öğretmen Adaylarının Aksine Örnek Verme Yöntemini Yorumlamaları**  
DEMİRAY E., İŞIKSAL BOSTAN M.  
3rd International Eurasian Educational Research Congress, 31 May - 03 June 2016
- VII. **Development of Geometric Construction Self efficacy Scale for Pre Service Middle School**

## **Mathematics Teachers**

DEMİRAY E., ÇAPA AYDIN Y.

The European Conference on Educational Research, 7 - 11 September 2015

### **Metrics**

Publication: 20

Citation (WoS): 1

Citation (Scopus): 2

H-Index (WoS): 1

H-Index (Scopus): 1