



## Personal Information

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## International Researcher IDs

ScholarID: \_ccmYyMAAAAJ

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Publons / Web Of Science ResearcherID: JBJ-7487-2023

ScopusID: 57202031514

Yoksis Researcher ID: 183484

## Education Information

Doctorate, Middle East Technical University, Graduate School Of Social Sciences, Turkey 2014 - 2021

Postgraduate, Middle East Technical University, Graduate School Of Social Sciences, Maths and Science Education, Turkey 2011 - 2014

Undergraduate, Middle East Technical University, Faculty Of Education, Mathematics And Science Education, Turkey 2006 - 2011

## Dissertations

Doctorate, Investigating the effectiveness of argument-based inquiry on 6th grade students' scientific literacy and portraying their argumentation schemes and engagement in argumentation process, Middle East Technical University, Faculty Of Education, Mathematics And Science Education, 2021

Postgraduate, A study on science teachers' pedagogical content knowledge and content knowledge regarding cell division, Middle East Technical University, Graduate School Of Social Sciences, Math and Science Education, 2014

## Research Areas

Social Sciences and Humanities, Education, Elementary School Education, Education in Natural Sciences

## Academic Titles / Tasks

Assistant Professor, TED University, Faculty of Education, Department of Elementary Education, 2022 - Continues

Research Assistant, Middle East Technical University, Faculty Of Education, Mathematics And Science Education, 2012 - 2021

## Academic and Administrative Experience

Curriculum Preparation Committee Member, TED University, Faculty Of Education, Department Of Elementary Education,

2022 - Continues

Program ve Eđitim Komisyonu Üyesi, TED University, Faculty Of Education, Department Of Elementary Education, 2022 - 2024

## Courses

Fundamental Science in Primary Education, Undergraduate  
Environmental Education, Undergraduate  
Textbook Analysis in Primary School, Undergraduate  
Textbook Analysis in Primary School, Undergraduate  
Teaching Practice 1 (EGEP), Undergraduate, 2023 - 2024, 2022 - 2023  
Teaching Practice 2 (EGEP), Undergraduate, 2022 - 2023  
Lab. Applications in Science, Undergraduate, 2022 - 2023  
Science Education, Undergraduate, 2022 - 2023  
Laboratory Applications in Science, Undergraduate, 2022 - 2023

## Jury Memberships

Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, November, 2024  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, August, 2024  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, August, 2024  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, January, 2024  
Doctorate, Doctorate, Orta Dođu Teknik Üniversitesi, January, 2024  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, December, 2023  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, September, 2023  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, January, 2023  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, December, 2022  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, December, 2022  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, September, 2022  
Post Graduate, Post Graduate, Orta Dođu Teknik Üniversitesi, September, 2022

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

- I. **Investigation of Middle School Students' Argumentation Schemes in Different Argumentative Orientations**  
Şen M., Sungur S., Öztekin C.  
EGİTİM VE BİLİM, vol.49, no.219, pp.69-96, 2024 (SSCI)
- II. **Investigation of middle school and high school students' ecosystem knowledge through their drawings**  
Şen M., Kamacı Y.  
JOURNAL OF BIOLOGICAL EDUCATION, no.1, pp.1-16, 2023 (SCI-Expanded)
- III. **Exploration of middle school students' scientific epistemological beliefs and their engagement in argumentation**  
Şen M., Sungur S., Öztekin C.  
JOURNAL OF EDUCATIONAL RESEARCH, vol.116, no.5, pp.293-308, 2023 (SSCI)
- IV. **Suggestions for the Analysis of Science Teachers' Pedagogical Content Knowledge Components and Their Interactions**  
Şen M.

RESEARCH IN SCIENCE EDUCATION, vol.53, no.6, pp.1081-1095, 2023 (SSCI)

**V. Interaction among contextual knowledge and pedagogical content knowledge: Sociocultural perspective**

Şen M., Öztekin C.

Eğitim ve Bilim, vol.44, no.198, pp.57-97, 2019 (SSCI)

## Articles Published in Other Journals

- I. **Observing Primary School Pre-service Teachers' Oral Argumentation in Science Writing Heuristic Implementation**  
Şen M., Gümüş B.  
KAFKAS EĞİTİM ARAŞTIRMALARI DERGİSİ, vol.11, no.4, pp.617-634, 2024 (Peer-Reviewed Journal)
- II. **Primary School Pre-service Teachers' Orientation towards Science Teaching**  
Şen M.  
Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, vol.21, no.2, pp.425-449, 2024 (Peer-Reviewed Journal)
- III. **Investigation of Students' Personal Epistemologies in the Judgments of Truth about the Social and Physical World Considering Their Grade Level and Gender**  
Şen M., Kamacı Y.  
KAFKAS EĞİTİM ARAŞTIRMALARI DERGİSİ, vol.10, no.3, pp.432-453, 2023 (Peer-Reviewed Journal)
- IV. **Seeking Traces of Filters and Amplifiers as Pre-service Teachers Perform their Pedagogical Content Knowledge**  
Şen M., Demirdöğen B.  
SCIENCE EDUCATION INTERNATIONAL, vol.34, no.1, pp.58-68, 2023 (Peer-Reviewed Journal)
- V. **Interactions among Topic-Specific Pedagogical Content Knowledge Components for Science Teachers: The Impact of Content Knowledge**  
Şen M., Demirdöğen B., Öztekin C.  
Journal of Science Teacher Education, vol.33, no.8, pp.860-887, 2022 (ESCI)
- VI. **Impact of content knowledge on pedagogical content knowledge in the context of cell division**  
Şen M., Öztekin C., Demirdöğen B.  
Journal of Science Teacher Education, vol.29, no.2, pp.102-127, 2018 (Scopus)
- VII. **The Development of Paranormal Belief Scale (PBS) for Science Education in the Context of Turkey**  
Sen M., Yesilyurt E.  
International Journal of Education in Mathematics, Science and Technology, vol.2, no.2, pp.107-115, 2014 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Sınıf Öğretmenliği Öğrencilerinin Argümantasyona Dayalı Bilim Öğrenme Yaklaşımı Kapsamında Sözlü Argümantasyona Katılımları Üzerine Bir Çalışma**  
Şen M., Gümüş B.  
16. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi (UFBMEK 2024) , Edirne, Turkey, 4 - 07 September 2024, pp.154-155
- II. **Sınıflarda Yardımcı Öğretmen; Yapay Zeka**  
Yalım B., Terece S., Direk H. C., Şen M.  
III. Ulusal Sınıf Öğretmenliği Öğrenci Kongresi (USOOK 2024), Ankara, Turkey, 21 - 22 May 2024, pp.16-17
- III. **Argümantasyon Sürecine Katılan Ortaokul Öğrencilerinin Argümantasyon Şemalarının İncelenmesi**  
Şen M., Sungur S., Öztekin C.  
15. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi (UFBMEK), Kars, Turkey, 27 - 30 September 2023, pp.71
- IV. **Farklı Kademelerde Öğrenim Gören Öğrencilerin Ekosistem Bilgisinin İncelenmesi Üzerine Bir**

## **Çalışma**

Şen M., Kamacı Y.

15. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi , Kars, Turkey, 27 - 30 September 2023, pp.74

- V. **An Argumentation Study Portraying Students' Engagement in Argumentation Process**  
Şen M., Sungur S., Öztekin C.  
THE 15TH CONFERENCE OF THE EUROPEAN SCIENCE EDUCATION RESEARCH ASSOCIATION (ESERA), Nevşehir, Turkey, 28 August - 01 September 2023, pp.563
- VI. **Comparison of Epistemological Beliefs of Students from Different Grade Levels Considering Developmental View**  
Şen M., Kamacı Y.  
10. International Eurasian Educational Research Congress, Ankara, Turkey, 8 - 11 June 2023, pp.88-89
- VII. **The Effect of Argumentation Implementation on Students' Content Knowledge and Science Process Skills**  
Şen M., Sungur S., Öztekin C.  
International Eurasian Educational Research Congress (EJER), Ankara, Turkey, 8 - 11 June 2023, pp.566-567
- VIII. **Adaptation and validation of the sustainability consciousness questionnaire for teacher candidates.**  
Güler Nalbantoğlu F., Şen M., Özdemir M., Öztekin C.  
ECER European Educational Research Association 2018, Bolzano, Italy, 3 - 07 September 2018
- IX. **Examination of middle school science teachers' contextual knowledge and pedagogical content knowledge in density topic.**  
Şen M., Öztekin C.  
ECER European Educational Research Association 2018, Bolzano, Italy, 3 - 07 September 2018
- X. **Uncovering teacher candidates' sustainability consciousness level**  
Şen M., Güler Nalbantoğlu F., Özdemir M., Öztekin C.  
ECER European Educational Research Association 2018, Bolzano, Italy, 3 - 07 September 2018
- XI. **Adaptation of global scientific literacy questionnaire in turkish context: Findings of pilot study.**  
Şen M., Sungur S., Öztekin C.  
ERPA International Congresses on Education 2018, İstanbul, Turkey, 28 June - 01 July 2018
- XII. **Improving middle school students' scientific literacy through science writing heuristic (SWH) approach**  
Şen M., Sungur S., Öztekin C.  
ERPA International Congresses on Education 2018, İstanbul, Turkey, 28 June - 01 July 2018
- XIII. **Preservice elementary science teachers' pedagogical content knowledge for sustainable development.**  
Tıraş İ., Öztekin C., Şen M.  
European Science Education Research Association (ESERA) 2017, Dublin, Ireland, 21 - 25 August 2017
- XIV. **Preservice elementary science teachers pedagogical content knowledge for sustainable development**  
Tıraş İ., Şen M., ÖZTEKİN C.  
European Science Education Research Association Conference, Dublin, Ireland, 21 - 25 August 2017
- XV. **To What Extent Are Science Teachers Ready to Teach Sustainable Development? A Case Study for Two Experienced Teachers Pedagogical Content Concerns**  
Ayдын r., Şen M., ÖZTEKİN C.  
ERPA International Congresses on Education, Budapest, Hungary, 18 - 21 May 2017
- XVI. **Students understandings and feelings about sustainable development.**  
Özdemir M., Şen M., ÖZTEKİN C.  
26th International Conference on Educational Sciences, Antalya, Turkey, 20 - 23 April 2017
- XVII. **Pre-service teachers'xx understandings of sustainability based on ontological entities.**  
DEMİRCİ S., KAPLAN G., CENGİZOĞLU S., Şen M.  
ices-ubek 2017, 20 - 23 April 2017
- XVIII. **Ortaokul öğrencilerinin matematik ve fen bilimleri derslerindeki başarı hedef yönelimlerinin sınıf seviyelerine göre karşılaştırılması**

KAPLAN G., Şen M., KIRAN D.

12.Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi (12. UFBMEK), Turkey, 28 - 30 September 2016

- XIX. **Fen bilimleri öğretmenleri neyi öğretiyor neyi ölçüyor**  
Şen M., ÖZTEKİN C.  
12.Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi (12. UFBMEK), Turkey, 28 - 30 September 2016
- XX. **Teaching Density To what extent Science Teachers know about Instructional Strategies and Student Understanding**  
Şen M., ÖZTEKİN C.  
IIIrd International Eurasian Educational Research Congress/ 3. Uluslararası Avrasya Eğitim Araştırmaları Kongresi, Turkey, 31 May - 03 June 2016
- XXI. **Pre service science teachers misconceptions about density and buoyancy**  
DEMİRCİ S., Şen M.  
National Association for Research in Science Teaching (NARST) Annual International Conference, 14 - 17 April 2016
- XXII. **Fen bilgisi öğretmen adaylarının yoğunluk konusunda kavram yanlışlarının belirlenmesi.**  
Demirci S., Şen M.  
II. Ulusal Fizik Eğitimi Kongresi (UFEK), Ankara, Turkey, 10 - 12 September 2015
- XXIII. **İlköğretim 3-8. Sınıflarda kullanılan fen bilimleri ders ve çalışma kitaplarında yer alan fizik konularını içeren çoktan seçmeli soruların geçerlilik yönünden incelenmesi. P**  
Şen M.  
II. Ulusal Fizik Eğitimi Kongresi (UFEK), Ankara, Turkey, 10 - 12 September 2015
- XXIV. **A study on experienced science teachers' pedagogical content knowledge regarding cell division.**  
Şen M., Öztekin C.  
The European Conference on Educational Research (ECER), Budapest, Hungary, 7 - 11 September 2015
- XXV. **Delphi technique as a graduate course activity: Elementary science teachers' TPACK competencies.**  
Çetinkaya Aydın G., Evren E., Atakan İ., Şen M., Yılmaz B., Pirgon E., Yeşilyurt E., Akıllıoğlu F. C., Ebre E.  
ERPA International Congresses on Education, Athens, Greece, 4 - 07 June 2015, pp.101-102
- XXVI. **A beginning science teacher's pck and content knowledge in cell division topics.**  
Şen M.  
The International Organization for Science and Technology Education (IOSTE), İstanbul, Turkey, 24 - 26 April 2015, pp.75
- XXVII. **Hücre bölünmesi konusunda sürece yönelik konu alan bilgisi ve pedagojik alan bilgisinin incelenmesi.**  
Şen M., Öztekin C.  
11.Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi (XI. UFBMEK), Adana, Turkey, 11 - 14 September 2014, pp.1127
- XXVIII. **In-service science teacher profiles from the eyes of pre-service science teachers: What did they observe?**  
Kıran D., Şen M.  
International Conference on Education in Mathematics, Science & Technology (ICEMST 2014), Konya, Turkey, 16 - 18 May 2014, pp.681-683
- XXIX. **Perceptions of university students' paranormal beliefs. Poster**  
Yeşilyurt E., Şen M.  
International Conference On Innovation and Challenges in Education 2013 (CICE ,2013), Kütahya, Turkey, 26 - 28 April 2013, pp.18-19

## Supported Projects

Teksöz G., Işıksal Bostan M., Semiz G. K., Yerdelen S., Korkusuz Ülgen A., Özdamar E. D., Kaplan Can G., Şen M., Turan D., Kaya G., et al, TUBITAK Project, Sürdürülebilir Kalkınma için Mühendislik Uygulamaları: Yeşil Bilim, Teknoloji, Matematik

ve Mühendislik Eğitimi (Yeşil STEM), 2019 - 2019

Öztekin C., Şen M., Güler Nalbantoğlu F., Özdemir M., Project Supported by Higher Education Institutions, İlköğretim Öğrencilerinin ve Öğretmen Adaylarının Sürdürülebilirlik Bilincinin İncelenmesi, 2017 - 2017

Sungur S., Şen M., Öztekin C., Project Supported by Higher Education Institutions, Küresel Fen Okuryazarlığı Ölçeği'nin Türkçe'ye Uyarlanması: Geçerlilik ve Güvenilirlik Çalışması, 2017 - 2017

Öztekin C., Şen M., Project Supported by Higher Education Institutions, Fen Bilimleri Öğretmenlerinin Yoğunluk Konusunda Bağlam Bilgileri ve Pedagojik Alan Bilgileri Üzerine Bir Çalışma, 2016 - 2016

Öztekin C., Acarlı D. S., Şen M., Project Supported by Higher Education Institutions, Öğretmen Adaylarının Evrim Okuryazarlık Düzeyleri Üzerine Bir Çalışma, 2013 - 2013

## Activities in Scientific Journals

Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, Advisory Committee Member, 2022 - Continues

## Memberships / Tasks in Scientific Organizations

European Science Education Research Association, Member, 2023 - 2023, Netherlands

## Tasks In Event Organizations

Şen M., Erbasan E., Çoğan S., Öngüner C., Bakır B., Halavurt Z., Köprü Kurma Etkinliği: Bir STEM Atölyesi (USOOK 2024), Workshop Organization, Ankara, Turkey, Mayıs 2024

Haşlaman T., Kamacı Y., Sözen Özdoğan S., Şen M., Özcan E., Scientific Congress, Ankara, Turkey, Mayıs 2024

Aksoy E., Er S. S., Alkaş Ulusoy Ç., Şen M., Haşlaman T., Yücelyiğit S., Toker Z., Çelikdemir K., Torun Y., Sunar S., et al., 10. International Eurasian Educational Research Congress, Scientific Congress, Ankara, Turkey, Haziran 2023

## Awards

Şen M., Seeking Traces of Filters and Amplifiers as Pre-service Teachers Perform their Pedagogical Content Knowledge, Ted Üniversitesi, August 2024

Şen M., Kamacı Y., Investigation of middle school and high school students' ecosystem knowledge through their drawings, Tübitak, July 2024

Şen M., Kamacı Y., Investigation of middle school and high school students' ecosystem knowledge through their drawings, Ted Üniversitesi, February 2024

Şen M., Suggestions for the Analysis of Science Teachers' Pedagogical Content Knowledge Components and Their Interactions, Tübitak, December 2023

Şen M., Exploration of middle school students' scientific epistemological beliefs and their engagement in argumentation, Tübitak, November 2023

Şen M., Sungur S., Öztekin C., Exploration of middle school students' scientific epistemological beliefs and their engagement in argumentation, Tedü , October 2023

Şen M., Suggestions for the Analysis of Science Teachers' Pedagogical Content Knowledge Components and Their Interactions, Tedü, August 2023