

Nilay OZTURK

nilay.ozturk@es.bau.edu.tr  
nilayozzturk@gmail.com  
00902123815174

### **Research Focus**

STEM education (Integrated teaching), Socioscientific issues, Teacher beliefs, Teacher education

### **Education Background**

- Middle East Technical University (METU), Turkey. Ph.D. (2016). Science Education. Dissertation title: *Preservice science teachers' SSI teaching self-efficacy beliefs and their relations to knowledge, risk and benefit perceptions, and personal epistemological beliefs*. Supervisor: Prof. Dr. Ozgul Yilmaz-Tuzun.
- Middle East Technical University (METU), Turkey. M.S. (2011). Elementary Science and Mathematics Education. Thesis title: *Investigating pre-service science teachers' informal reasoning, epistemological beliefs and metacognitive awareness regarding socioscientific issues: A case for nuclear power plant construction*. Supervisor: Prof. Dr. Ozgul Yilmaz-Tuzun.
- Middle East Technical University (METU), Turkey. B.S. (2009). Elementary Science Education. Minor: Elementary Mathematics Education.
- Beyoglu Anadolu Lisesi (English High School for Girls), Turkey. (2005). High school.

### **Academic Experience**

- Bahcesehir University. Assistant Professor. (2022-...). Faculty of Educational Sciences, BAUSTEM Center.
- University of Minnesota. Visiting scholar. (2021 August-2022 August). STEM Education Center, Department of Curriculum and Instruction.
- Kirsehir Ahi Evran University. Assistant Professor. (2018-2022). Department of Science Education.
- University of Missouri. Visiting scholar. (2015 August-2016 January). ReSTEM Institute, Department of Learning, Teaching, and Curriculum.
- Middle East Technical University. Graduate Research Assistant. (2009-2017). Department of Elementary Science Education.

### **Professional Associations**

National Association for Research in Science Teaching (NARST), European Science Education Research Association (ESERA), Turkish Science Education and Research Association (SERA).

### **Citations (h-index)**

April 2023 - GoogleScholar: 410(9), Web of Science: 62(4).

## Scholarly Activities

### Scholarly Activities: Peer-reviewed Articles - International

1. Sönmez, D., & **Ozturk, N.** (2022). Preparing to teach in informal settings: preservice science teachers' experiences in a natural history museum. *International Journal of Science Education*, 44(18), 2724–2744. <https://doi.org/10.1080/09500693.2022.2149285> [Peer-reviewed, SSCI, ERIC, Scopus].
2. **Ozturk, N.**, & Yilmaz-Tuzun, O. (2022). Knowledge and risk–benefit perception as predictors of preservice science teachers' self-efficacy beliefs for socioscientific issues–based instruction. *Canadian Journal of Science, Mathematics, and Technology Education*, 22, 915–930. <https://doi.org/10.1007/s42330-022-00249-8> [Peer-reviewed, ERIC, ESCI, Scopus].
3. Irmak, M., & **Ozturk, N.** (2022). Understanding preservice science teachers' views about engineers and engineering in an engineering-focused STEM course. *European Journal of STEM Education*, 7(1), <https://doi.org/10.20897/ejsteme/12603> [Peer-reviewed, ERIC, Scopus].
4. **Ozturk, N.**, Akyol, G., & Tuncay-Yuksel, B. (2022). How do preservice science teachers' personal epistemological beliefs differ for different levels of nature of science views?. *Ahi Evran University Journal of Kirsehir Education Faculty*, 23(1), 1042–1090. [Peer-reviewed, TR Index, H. W. Wilson Databases (Education Full Text)].
5. **Ozturk, N.**, & Yilmaz-Tuzun, O. (2017). Preservice science teachers' epistemological beliefs and informal reasoning regarding socioscientific issues. *Research in Science Education*, 47(6), 1275–1304. <https://doi.org/10.1007/s11165-016-9548-4> [Peer-reviewed, SSCI, ERIC, Scopus].
6. **Ozturk, N.**, & Teksoz, G. (2016). The impact of affective constraints on shaping environmental literacy: Model testing using mediator and moderator variables. *International Electronic Journal of Environmental Education*, 6(2), 54–75. [Peer-reviewed, ERIC, Scopus].
7. Dal, B., Alper, U., Ozdem-Yilmaz, Y., **Ozturk, N.**, & Sonmez, D. (2015). A model for pre-service teachers' climate change awareness and willingness to act for pro-climate change friendly behavior: adaptation of awareness to climate change questionnaire. *International Research in Geographical and Environmental Education*, 24(3), 184–200. <https://doi.org/10.1080/10382046.2015.1034456> [Peer-reviewed, ESCI, Scopus].
8. Dal, B., **Ozturk, N.**, Alper, U., Sonmez, D., & Cokelez, A. (2015). An analysis of teachers' climate change awareness. *Athens Journal of Education*, 2(2), 111–122. <https://doi.org/10.30958/aje.2-2-2> [Peer-reviewed, ERIC, Scopus].
9. Elmas, R., **Ozturk, N.**, Irmak, M., & Cobern, W. W. (2014). An investigation of teacher response to national science curriculum reforms in Turkey. *Eurasian Journal of Physics and Chemistry Education*, 6(1), 2–33. [Peer-reviewed].
10. Ozdem, Y., Dal, B., **Ozturk, N.**, & Alper, U. (2014). What is that thing called climate change? An investigation into the understanding of climate change by 7th grade students. *International Research in Geographical and Environmental Education*, 23(4), 294–313. <https://doi.org/10.1080/10382046.2014.946323> [Peer-reviewed, ESCI, Scopus].
11. Dal, B., **Ozturk, N.**, Alper, U., Sonmez, D., Misir, M. E., & Cokelez, A. (2014). Perception of climate change: Reasons, consequences, and willingness to act. How aware are they? *International Journal for Cross-Disciplinary Subjects in Education*, 4(2), 1930–1937. [Peer-reviewed].

### Scholarly Activities: Peer-reviewed Articles - National

1. Yolacti-Kizilkaya, K., & **Ozturk, N.** (2022). Preservice science teachers' informal reasoning modes and socioscientific reasoning competencies: Hydraulic fracking and land management scenarios. *Baskent University Journal of Education*, 9(1), 64–86. [Peer-reviewed, TR Index].
2. **Ozturk, N.** (2019). Character and values for global citizens: A study with preservice science teachers. *Baskent University Journal of Education*, 6(2), 345–352. [Peer-reviewed, TR Index].

3. **Ozturk, N.**, Yılmaz-Tüzün, O., & Cakır-Yıldırım, B. (2019). Öğretmen adaylarının STEM (FTMM) konularının öğretimine yönelik inanç ve görüşlerinin incelenmesi. *Trakya Journal of Education*, 9(4), 649–665. <https://doi.org/10.24315/tred.473464> [Peer-reviewed, TR Index].
4. Simsek, H., İslim, O. F., & **Ozturk, N.** (2019). Student satisfaction as an indicator of quality in higher education: A scale development study. *Trakya Journal of Education*, 9(3), 380–395. [Peer-reviewed, TR Index].

#### Scholarly Activities: Non-Peer reviewed Articles or Proceedings

1. Savas, M., Elmas, R., & **Ozturk, N.** (2012). A curriculum reflection: New science and technology curriculum in Turkey. In C. Bruguière, A. Tiberghien, & P. Clément (Eds.), *E-proceedings of the ESERA 2011 Conference: Science Learning and Citizenship* (pp. 62–68), European Science Education Research Association.

#### Scholarly Activities: Book Chapters

1. **Ozturk, N.** (2022). Sosyobilimsel konular ve muhakeme [Socioscientific issues and reasoning]. In B. Namdar (Ed.), *Teaching Socioscientific Issues with Contemporary Approaches* (pp. 21–40). Nobel Akademi Yayıncılık.
2. **Ozturk, N.**, & Cakir-Yildirim, B. (2021). Bilimsel okuryazarlık [Scientific literacy]. In K. Bilican & Senler, B. (Eds.), *İlkokulda fen öğretimi* (pp. 1–22). Vize Yayıncılık.
3. **Ozturk, N.**, & Irmak, M. (2020). Sosyobilimsel konuların doğası ve fen eğitimindeki yeri [Socioscientific issues and its place in science education]. In M. Genc (Ed.), *Sosyobilimsel konuların öğretimi* (pp. 15–44). Nobel Akademi Yayıncılık.
4. **Ozturk, N.** (2019). Bilimsel okuryazarlık [Scientific literacy]. In S. Unlu-Cetin (Ed.), *Erken çocukluk fen eğitiminde temel konular ve güncel yaklaşımlar* (pp. 39–59). Nobel Akademi Yayıncılık.

#### Scholarly Activities: Paper Presentations, Posters

1. **Ozturk, N.**, & Roehrig, G. (2023, April). *Developing middle school students' socioscientific reasoning through integrated STEM education*. Paper presented at the meeting of NARST Conference, USA.
2. **Ozturk, N.**, Aydin-Gunbatar, S. & Roehrig, G. (2022, September). *Examining the effect of a long-term engineering-based professional development program on science teachers' implementation of engineering design lessons*. Paper presented at the European Conference on Educational Research (ECER) Conference, Yerevan, Armenia.
3. **Ozturk, N.**, & Roehrig, G. (2022, September). *Designing an integrated STEM curriculum unit in the context of socioscientific issues*. Paper presented at the European Conference on Educational Research (ECER) Conference, Yerevan, Armenia.
4. Faruqi, F., Keratithamkul, K., Roehrig, G. H., Hiwatig, B. M., Forde, E., & **Ozturk, N.** (2022, June). *Manifestation of integration into practice: A single case study of an elementary science teacher in action*. Paper presented at ASEE Annual Conference and Exposition, USA.
5. **Ozturk, N.**, & Yolacti-Kizilkaya, K. (2022, March). *Preservice science teachers' informal reasoning modes in two different issue contexts*. Poster presented at the meeting of NARST Annual Virtual Conference, USA.
6. Yolacti-Kizilkaya, K., & **Ozturk, N.** (2021, July). *Fen bilimleri öğretmen adaylarının sosyobilimsel muhakeme yeterlikleri* [Preservice science teachers' socioscientific reasoning competencies]. Paper presented at the 8th International Eurasian Educational Research Congress, Aksaray, Turkey.
7. **Ozturk, N.**, & Irmak, M. (2021, April). *Developing preservice science teachers' conceptions of engineer and engineering through an elective STEM course*. Paper presented at the meeting of NARST Annual Virtual Conference, USA.
8. **Ozturk, N.**, & Yilmaz-Tuzun, O. (2019, September). *A model testing on SSI teaching self-efficacy beliefs and related factors*. Paper presented at the ECER European Conference on Educational Research, Hamburg, Germany.

9. Tuncay-Yuksel, B., **Ozturk, N.**, & Akyol, G. (2019, June). *Fen bilimleri öğretmen adaylarının epistemolojik inançlarının cinsiyet değişkenine göre incelenmesi*. Paper presented at the 6th International Eurasian Educational Research Congress, Ankara, Turkey.
10. Akyol, G., Tuncay-Yuksel, B., & **Ozturk, N.** (2019, June). *Fen bilimleri öğretmen adaylarının bilimin doğasına yönelik görüşlerinin epistemolojik inançları tarafından yordanabilirliği*. Paper presented at the 6th International Eurasian Educational Research Congress, Ankara, Turkey.
11. **Ozturk, N.**, Akyol, G., & Tuncay-Yuksel, B. (2019, May). *Preservice primary school teachers' epistemological beliefs*. Paper presented at the 13th International Computer and Instructional Technologies Symposium, Kırşehir, Turkey.
12. **Ozturk, N.** (2018, October). *"GDO'lu gıdalar konusunun öğretimi öz-yeterlik inancı ölçeği" geçerlik ve güvenirlik çalışması*. Paper presented at the 13th National Science and Mathematics Education Congress, Denizli, Turkey.
13. **Ozturk, N.** (2017, October). *Exploring preservice science teachers' knowledge and risk-benefit perceptions regarding genetically modified foods*. Paper presented at the 5th International Instructional Technologies and Teacher Education Symposium, İzmir, Turkey.
14. **Ozturk, N.** (2017, October). *Examining preservice science teachers' character and values as global citizenships*. Paper presented at the 5th International Instructional Technologies and Teacher Education Symposium, İzmir, Turkey.
15. Yılmaz-Tuzun, O., **Ozturk, N.**, & Cakiroglu, J. (2017, June). *Enhancing preservice science teachers' SSI teaching self-efficacy beliefs, and character and values for global citizenship*. Paper presented at the ERPA International Congresses on Education, Budapest, Hungary.
16. Yılmaz-Tuzun, O., Cakiroglu, J., & **Ozturk, N.**, (2017, June). *Preservice science teachers' SSI teaching self-efficacy beliefs*. Paper presented at the ERPA International Congresses on Education, Budapest, Hungary.
17. **Ozturk, N.**, & Yılmaz-Tuzun, O. (2016, September). *Fen bilgisi öğretmen adaylarının epistemolojik dünya görüşleri ve değer yönelimleri*. Paper presented at the 12th National Science and Mathematics Education Congress, Trabzon, Turkey.
18. Yılmaz-Tuzun, O., Cakir, B., & **Ozturk, N.** (2015, June). *STEM Integration into a Laboratory Course: A Case Study*. Poster presented at ISER 2015 World Conference of Education, Istanbul, Turkey.
19. **Ozturk, N.**, & Yılmaz-Tuzun, O. (2015, April). *Relationships among pre-service science teachers' epistemological beliefs and epistemological world views*. Paper presented at the meeting of II. IOSTE Eurasian Regional Symposium & Brokerage Event Horizon 2020, Istanbul, Turkey.
20. **Ozturk, N.**, & Yılmaz-Tuzun, O. (2013, April). *Pre-service science teachers' informal reasoning in the context of nuclear power plant construction*. Paper presented at the meeting of NARST Annual Conference, Puerto Rico, USA.
21. **Ozturk, N.**, & Yılmaz-Tuzun, O. (2012, September). *Investigating gender differences regarding informal reasoning on socioscientific issues, epistemological beliefs and metacognition*. Paper presented at the meeting of Applied Education Congress, Ankara, Turkey.
22. **Ozturk, N.**, Elmas, R., & Savas, M. (2011, April). *Private school elementary science teachers' reflections on new science and technology curriculum*. Paper presented at the meeting of 2nd International Conference on New Trends in Education and Their Implications (ICONTE), Antalya, Turkey.
23. Savas, M., **Ozturk, N.**, & Yılmaz-Tuzun, O. (2010, Eylül). *Fen bilgisi öğretmen adaylarının fen eğitiminde teknoloji kullanımı ile ilgili görüşleri ile ilişkili olan faktörlerin belirlenmesi*. Paper presented at the 9th National Science and Mathematics Education Congress, İzmir, Turkey.
24. Savas, M., **Ozturk, N.**, & Yılmaz-Tuzun, O. (2010, Eylül). *Fen bilgisi öğretmen adaylarının teknolojik pedagojik alan bilgisinin incelenmesi*. Paper presented at the 12th National Science and Mathematics Education Congress, İzmir, Turkey.

## Scholarships

1. The Scientific and Technological Research Council of Turkey (TUBITAK) – 2021  
2219 Postdoctoral Scholarship
2. The Scientific and Technological Research Council of Turkey (TUBITAK) – 2015  
2214-A Research Scholarship for Doctoral Students
3. National Association for Research in Science Teaching (NARST) – 2013  
International Committee Scholarship
4. European Science Education Research Association (ESERA) – 2011  
Travel Award

### **Teaching Activities**

**Teaching Activities:** Courses offered at Bahcesehir University

1. 2022 Fall: Critical and Analytical Thinking, Project Preparation in Education
2. 2023 Spring: Teaching Science in Early Childhood, Environmental Education in Early Childhood, Eğitimde Özel Konular, Proje

**Teaching Activities:** Courses offered at Kirsehir Ahi Evran University

1. 2021 Spring: Science Teaching Methods-I, Using Science Fiction in Education, Community Service, Textbook Analysis
2. 2020 Fall: Statistics, School Experience, Science Teaching Methods-II, Seminar
3. 2020 Spring: Using Science Fiction in Education, Teaching Experience, Community Service
4. 2019 Fall: Statistics, School Experience, Environmental Education, Textbook Analysis
5. 2019 Spring: Science Teaching Methods-I, Environmental Education, Teaching Experience, Using Science Fiction in Education, Community Service, Seminar
6. 2018 Fall: Statistics, School Experience, Environmental Education, Science Teacher Professional Development, Seminar
7. 2018 Spring: Teaching science in informal settings, Environmental Awareness, Community Service, Using Science Fiction in Education

**Teaching Activities:** Courses assisted at Middle East Technical University

(2009 Fall – 2017 Spring)

1. Probability and Statistics
2. Laboratory Applications in Science I and II
3. Advanced Educational Research
4. Environmental Sciences
5. Education and Awareness for Sustainability
6. Instructional Principles and Methods
7. School Experience
8. Community Service

### **Graduate Students**

**Graduate Students:** Supervisor

1. Kubra Yolacti Kizilkaya (MS in Science Education, Kirsehir Ahi Evran University) – 2021.  
*Fen bilimleri öğretmen adaylarının informal muhakeme biçimleri ve sosyobilimsel muhakeme yeterlikleri* [Preservice science teachers' informal reasoning modes and socioscientific reasoning competencies]