

Dr. Seçil YEMEN KARPUCU

Assistant Professor in Mathematics Education

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Education

Degree

Doctorate

Master

Bachelor

University

Middle East Technical University, 2017

Dokuz Eylül University, 2009

Kocaeli University, 2007

Thesis

Doctorate

Middle School Mathematics Teachers' Mathematical Practices in Teaching Slope, Linear Equations and Graphs in Technology Enhanced Classroom Environment

Master

İlköğretim 8. Sınıf Analitik Geometri Öğretiminde Teknoloji Destekli Öğretimin Öğrencilerin Başarısına ve Tutumuna Etkisi [The Effect of Technology Assisted Instruction on 8th Grade Students' Achievement and Attitudes on Analytical Geometry Instruction]

Work Experience

Years

September 2018-
continues

Place

Department of Mathematics Education,
Department of Mathematics and Science
Education, Kütahya Dumlupınar University,
Kütahya, Turkey

Enrollment

Assistant Professor

December 2010-
November 2016

Elementary Mathematics Education Department,
Department of Mathematics and Science
Education, Middle East Technical University,
Ankara, Turkey

Research Assistant

Publications

(Journals)

Yemen-Karpuzcu, S., Ulusoy, F., & Işıksal-Bostan, M. (2017). Prospective middle school mathematics teachers' covariational reasoning for interpreting dynamic events during peer interactions. *International Journal of Science and Mathematics Education*, 15(1), 89–108. doi 10.1007/s10763-015-9668-8

Yemen-Karpuzcu, S., Kandil, S. & Işıksal-Bostan, M. (2017). Ortaokul matematik öğretmen adaylarının ondalık gösterimlerle çarpma ve bölme işlemlerinde kullandıkları hesaplama dayalı stratejiler. *SDU International Journal of Educational Sciences*, 4(2), 96–109. [Prospective middle

school mathematics teachers' use of computational strategies in multiplication and division of decimals]

(National book chapters)

Yemen-Karpuzcu, S., Işıksal-Bostan, M. (2013). Geometrik cisimler: Silindir, prizma, koni, piramit ve kürenin matematiksel anlamı. In I. Ö. Zembat, M. F. Özmantar, E. Bingölbali, H. Şandır, A. Delice, (Eds.), *Tanımları ve tarihsel gelişimleriyle matematiksel kavramlar*, pp. 273–290. Ankara: Pegem Akademi. [Geometric solids: Mathematical meaning of cylinder, prism, cone, pyramid and sphere]

Conferences/Presentations

(International)

Yemen-Karpuzcu, S., & Işıksal-Bostan, M. (2019). Mathematical practices of teachers in technology-enhanced classrooms: A case of teaching slope concept. *The Eleventh Congress of the European Society for Research in Mathematics Education (CERME10, February 6-10, 2019)*. Utrecht, the Netherlands.

Işıksal-Bostan, M., & Yemen-Karpuzcu, S. (2017). The role of definitions on classification of solids including (non)prototype examples: The case of cylinder and prism. In Dooley, T., & Gueudet, G. (Eds.), *Proceedings of the Tenth Congress of the European Society for Research in Mathematics Education (CERME10, February 1-5, 2017)*, pp. 3320–3327. Dublin, Ireland: DCU Institute of Education and ERME.

Kandil, S., Yemen-Karpuzcu, S., Işıksal-Bostan, M. (2017). Prospective middle school mathematics teachers' solution strategies regarding multiplication with decimals. *Paper presented at the European Conference on Educational Research 2017. Copenhagen, Denmark. Abstract retrieved from <http://www.eera-ecer.de/ecer-programmes/conference/22/contribution/41665/>*

Işıksal-Bostan, M., & Yemen-Karpuzcu, S. (2016). Prospective middle school mathematics teachers' knowledge on cylinder and prism: Generating Definitions and Relationship. *Paper presented at the 13th International Congress on Mathematical Education, 24-31 July 2016*. Hamburg.

Yemen-Karpuzcu, S., & Işıksal-Bostan, M. (2014). A case study of in-service mathematics teacher's use of knowledge in teaching algebra with dynamics software. In Oesterle, S., Nicol, C., Liljedahl, P., & Allan, D. (Eds.). (2014), *Proceedings of the 38th Conference of the International Group for the Psychology of Mathematics Education and the 36th Conference of the North American Chapter of the Psychology of Mathematics Education (Vol. 6)*, p. 269.

Yemen-Karpuzcu, S., Ayan R., & Işıksal-Bostan, M. (2014). Prospective middle school mathematics teachers' computational estimation strategies for addition. In Şahin, İ., Kiray, A., Alan, S. (Eds.), *International Conference on Education in Mathematics, Science and Technology Proceeding Book*, p. 1284. Konya: ICEMST.

Yemen-Karpuzcu, S., Ulusoy, F., & Işıksal-Bostan, M. (2013). A case study on pre-service mathematics teachers' covariational reasoning in peer learning. In A. M. Lindmeier & A. Heinze (Eds.), *Proceedings of the 37th Conference of the International Group for the Psychology of Mathematics Education, Vol5*, p. 200. Kiel, Germany: PME.

Yemen-Karpuzcu, S., & Aygün, B. (2012). 6th grade students' conceptions of reflective symmetry in a dynamic geometry environment. *Paper presented at the European Conference on Educational Research 2012*. Cadiz, Spain. Abstract retrieved from <http://www.eera-ecer.de/ecer-programmes/conference/6/contribution/20713/>

Öner, T., Özen, D., Yemen, S., & Keşan, C. (2008). The effect of technology assisted algebra instruction to success on force and motion unit in science and technology. In B. Çavaş (Ed.), *Proceedings of the XIII. IOSTE Symposium on the Use of Science and Technology for Peace and Sustainable Development*, Vol 2, pp. 725–729. Ankara, Turkey: Palme Publications & Bookshops Ltd. Co.

Özen, D., Yemen, S., Öner, T., & Keşan, C. (2008). The effect of technology assisted transformation geometry instruction on light and voice unit in science and technology. In B. Çavaş (Ed.), *Proceedings of the XIII. IOSTE Symposium on the Use of Science and Technology for Peace and Sustainable Development*, Vol 1, pp. 125–129. Ankara, Turkey: Palme Publications & Bookshops Ltd. Co.

Yemen, S., Öner, T., Özen, D., & Keşan, C. (2008). The opinions of students: The effects of technology assisted mathematics instruction on success in science and technology. In B. Çavaş (Ed.), *Proceedings of the XIII. IOSTE Symposium on the Use of Science and Technology for Peace and Sustainable Development*, Vol 3, pp. 1364–1368. Ankara, Turkey: Palme Publications & Bookshops Ltd. Co.

(National)

Kandil, S., Yemen-Karpuzcu, S., & Işıksal-Bostan, M. (2016). Ortaokul matematik öğretmen adaylarının ondalık gösterimlerle çarpma işlemine dair pedagojik alan bilgileri. *12. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi*, 28-30 Eylül, pp.162. Trabzon. [In English: *Prospective middle school mathematics teachers' pedagogical content knowledge of multiplication of decimals*]

Yemen-Karpuzcu, S., & Işıksal-Bostan (2015). GeoGebra ile Cebir Öğretiminde Bir Ortaokul Matematik Öğretmeninin Matematiksel Uygulamaları ve Matematik Öğretimi Bilgisi. *Türk Bilgisayar ve Matematik Eğitimi Sempozyumu 2*, 16-18 Mayıs. Adıyaman. [In English: *A mathematics teacher's mathematical practices and knowledge of mathematics teaching while teaching algebra with geogebra*]

Yemen-Karpuzcu, S., Ayan, R., S., & Işıksal-Bostan, M. (2014). İlköğretim matematik öğretmen adaylarının kesirlerde çarpma işlemine dair pedagojik alan bilgileri. Fettahoğlu, P., Keleş, O, Çilingir, E., Turhan B., Yeşilpınar M., Karaduman, B., Demircioğlu T., Işık, D. (Eds), *Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi Bildiri Özetleri Kitapçığı*, pp. 1230–1231. Adana: UFBMEK. [In English: *Prospective middle school mathematics teachers' pedagogical content knowledge of multiplication of fractions*]

Aygün, B., & Yemen-Karpuzcu, S. (2014). İlköğretim matematik öğretmen adaylarının simetri eksenine ilişkin hatalarının ve zorluklarının incelenmesi. Fettahoğlu, P., Keleş, O, Çilingir, E., Turhan B., Yeşilpınar M., Karaduman, B., Demircioğlu T., Işık, D. (Eds), *Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi Bildiri Özetleri Kitapçığı*, pp. 500–501. Adana: UFBMEK. [In English: *Prospective middle school mathematics teachers' errors and difficulties about axis of symmetry*]

Ayan, R., Yemen-Karpuzcu, S., & Işıksal-Bostan, M. (2014). Matematik öğretmen adaylarının alan bilgileri: sabit çevre değişen alan, sabit yüzey alanı değişen hacim. Fettahoğlu, P., Keleş, O, Çilingir, E., Turhan B., Yeşilpınar M., Karaduman, B., Demircioğlu T., Işık, D. (Eds), *Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi Bildiri Özetleri Kitapçığı*, pp. 1070-1071. Adana: UFBMEK. [In English: *Prospective middle school mathematics teachers' content knowledge: perimeter, area, surface area, and volume*]

Yemen-Karpuzcu, S., Işıksal-Bostan, M., & Ayan, R. (2013). İlköğretim matematik öğretmen adaylarının tam sayılarda çıkarma işleminde öğrenci hatalarını gidermeye yönelik öğretimsel

açıklamaları. In Ö. Akın, & A. Tercan (Eds.), 12. *Matematik Sempozyumu: Toplumda Matematik Sempozyum Özetleri Kitabı*, pp. 123–126. Ankara. [In English: *Prospective middle school mathematics teachers' instructional explanations to overcome students' errors about subtraction of integers*]

Aygün, B., & Yemen-Karpuzcu, S. (2013). İlköğretim matematik öğretmen adaylarının sınıf düzeylerine göre yansıma simetrisi düşünme düzeylerinin ve hatalarının incelenmesi. In Ö. Akın, & A. Tercan (Eds.), 12. *Matematik Sempozyumu: Toplumda Matematik Sempozyum Özetleri Kitabı*, pp. 118–122. Ankara.

Yemen-Karpuzcu, S., Ulusoy, F., Işıksal, & M. (2012). İlköğretim matematik öğretmen adaylarının geometrik cisimler ile yükseklik hacim grafiklerini yorumlamaları üzerine bir çalışma. In S. Mandacı-Şahin, O. Çetin, M. N. Aydede, E. Çalışkan, M. Özel, N. Özal, ... T. Daşöz (Eds.), *X. Ulusal Fen Bilimleri ve Matematik Eğitimi Kongresi Bildiri Özetleri Kitabı*, p. 342. Ankara: Pegem Akademi.

Projects

Işıksal-Bostan, M., **Yemen-Karpuzcu, S.** (01/01/2013-01/12/2013). Ortaokul matematik öğretmenlerinin teknoloji destekli sınıf ortamında cebir öğretimine dair yansımalarının ve pedagojik içerik bilgilerinin incelenmesi. Proje no: BAP-07-03-2013-023. **Researcher** [In English: *Investigating Middle School Mathematics Teachers' Pedagogical Content Knowledge and Reflections on Algebra Teaching in Technology Enhanced Classroom Environment*]

Courses

Year	Semester	Degree	Course Name	Contact (h/w)	Lab (h/w)	DPU Credit	No Students		
2018-2019	Autumn (1 st)	Bachelor	Fundamentals of Mathematics I	2	0	2	34		
			Analysis III	3	0	3	35		
			Bilim Tarihi [History of Science]	2	0	2	46		
			Matematik Tarihi [History of Mathematics]	2	0	2	34		
			Matematik Tarihi [History of Mathematics]	2	0	2	18		
			Spring (2 nd)	Bachelor	Fundamentals of Mathematics II	2	0	2	34
					Differential Equations	4	0	4	32
Geometry	3	0			3	2			
Matematik Felsefesi [Philosophy of Mathematics]	2	0			2	18			
Öğretmenlik Uygulaması	2	6			5	8			
Topluma Hizmet Uygulamaları	1	2	2	7					

Assisted Courses as a Research Assistant

Undergraduate Courses

Practice Teaching in Elementary Education (Mathematics)

Nature of Mathematical Knowledge for Teaching

School Experience (Mathematics)

Graduate Courses

Analysis of Research in Elementary Mathematics and Science Education

Scholarships / Awards

- Middle East Technical University Thesis of the Year Award, 2017, Doctoral Thesis by METU Graduate School of Social Sciences.
- Scholarship of the Scientific and Technological Research Council of Turkey (TUBITAK) for PhD Degree, Turkey (2010-2015).
- Financial Support for 37th Conference of the International Group for the Psychology of Mathematics Education, (2013).
- TUBITAK 2224 Financial Support for International Conferences (2012).
- Scholarship of the Scientific and Technological Research Council of Turkey (TUBITAK) for Master's Degree, Turkey (2007-2009).
- Top Student in Department of Elementary Mathematics Education in Kocaeli University (3.67/4.00) (2007).

Other Academic and Educational Activities

- European Educational Research Summer School on Educational Methodology. By European Educational Research Association-Norwegian University of Science and Technology (NTNU). June 17-21, 2013. Trondheim, Norway.
- YERME Day 2013. (5-6 February 2013). By Behiye Ubuz, and Ferdinando Arzarello, Eighth Congress of European Research in Mathematics Education, Middle East Technical University. Antalya, Turkey
- Summer School for Science and Mathematics Education. By Freudenthal Institute for Science and Mathematics Education, Utrecht University. August 20-30, 2012. Utrecht, Netherland.
- Asian Technology Conference in Mathematics. (19-23 September 2011). By Erol Karakırık, and Wei- Chi Yang, "Asian Technology Conference in Mathematics", Abant İzzet Baysal University, Bolu-Turkey.
- Kademe Yardımcı Satranç Antrenör Yetiştirme Kursu. (6 Haziran 2007). Ali Nihat Yazıcı ve Murat Kul tarafından, Kurs no: 41-647, Türkiye Satranç Federasyonu, Kocaeli. [Assistant Coach of Chess Training. June 2007. Turkish Chess Federation]

Social Activities

- 2010-2011 Member of METU Life-Saving and First Aid Society
- 2003-2004 Member of Kocaeli University Folk Dance Team
- 1999-2003 Member of İzmir Aliağa Municipality Folk Dance Team
- 1997-1999 Member of Aliağa Alp Oğuz High School Folk Dance Team