

CURRICULUM VITAE

Gülseren Karagöz Akar Ph.D.



Department of Mathematics and Science Education
Faculty of Education
Boğaziçi University
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Education

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|-----------------------------|---|--|
| Post Doctorate 2007-2007 | The Pennsylvania State University/USA | Mid-Atlantic Center for Teaching and Learning National Science Foundation (NSF) |
| Ph.D. 2002-2007 | The Pennsylvania State University/USA | Mathematics Education |
| MEd. 2000-2001 | The Pennsylvania State University/USA | Mathematics Education |
| B.S. 1993-1996 | Middle East Technical University/Turkey | Mathematics Education |

Work Experience

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| March 2016–Present | Associate Professor Mathematics and Science Education, Boğaziçi University, Istanbul, Turkey |
| August 2013–March 2016 | Assistant Professor Mathematics and Science Education, Boğaziçi University, Istanbul, Turkey |
| August 2010–August 2013 | Full time faculty Secondary School Mathematics and Science Education, Boğaziçi University, Istanbul, Turkey |
| September 2008–August 2010 | Instructor (Part-time) Secondary School Mathematics and Science Education Boğaziçi University, Istanbul, Turkey |

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|----------------------------|---|
| July 2007–June 2008 | Instructor (Full Time) The Pennsylvania State University, State College, USA |
| August 2002– December 2006 | Research Associate/Assistant The Pennsylvania State University, Mid-Atlantic Center for Teaching and Learning, founded by NSF, State College, USA |
| January 2006-June 2006 | Substitute teacher (Doctoral Internship) Park Forest Middle School, Grade 6, State College, USA |
| September 2004–August 2005 | Research Associate/Assistant The Pennsylvania State University, Exploratory Analysis of Mathematics Conceptual Learning, founded by NSF, State College, PA, USA |
| September 1998-June 1999 | Mathematics Teacher Kadro Dershanesi, Istanbul, Turkey |
| September 1996-June 1998 | Mathematics Teacher Safa Dershanesi, Ankara, Turkey |

Research Interests

Quantitative reasoning; Students' learning through activity; Teaching and learning of mathematics concepts; Teacher learning and nature of mathematics teacher knowledge

Publications

Journal Articles

Karagöz Akar, G. & Saraç, M. (under review) Development of complex numbers through quantitative reasoning: The case of Esra. *The Journal of Mathematical Behavior*.

Karagöz Akar, G., Saraç, M., & Belin, M. (under review). Exploring Prospective Teachers' Development of the Cartesian Form of Complex Numbers. *Mathematics Teacher Educator*.

Belin, M., & Karagöz Akar, G. (2020). The effect of quantitative reasoning on prospective mathematics teachers' proof comprehension: The case of real numbers. *The Journal of Mathematical Behavior*, 57, 1-21, 100757. <https://doi.org/10.1016/j.jmathb.2020.100757>

Belin, M., & Karagöz Akar, G. (2020). Exploring real numbers as rational number sequences with prospective mathematics teachers. *Mathematics Teacher Educator*. 9 (1), 63-87.

Karadağ, Z., & Karagöz Akar, G. (2020). El sanatları ve matematik: Cebir dünyasına bakış, *Boğaziçi Üniversitesi Eğitim Fakültesi Dergisi*, 37 (2), 123-146.

Tunç-Pekkan, Z., Karagoz Akar, G., & Akçan, S. (2019). University within School Model: Affordances for Teacher Education. *Elementary Education Online*, 18(3), 17-33.

Karagöz Akar, G. (2016) Prospective secondary mathematics teachers' perspectives and mathematical

knowledge for teaching. *Eurasia Journal of Mathematics, Science and Technology Education*, 12(1), 3-24.

Karatoprak, R., Karagöz Akar, G., & Börkan, B. (2015). Prospective elementary and secondary school mathematics teachers' statistical reasoning. *International Electronic Journal of Elementary Education*, 7(2), 107-124.

Karagöz Akar G., & Şener, B. (2014). Students' development of the relationship between the cartesian product, relation and the definition of function. *International Journal of Educational Studies in Mathematics*, 1 (1), 69-89.

Simon, M. A., Saldanha, L., McClintock, E., Karagoz Akar, G., Watanabe, T., & Zembat, I. O. (2010). A developing approach to studying students' learning through their mathematical activity. *Cognition and Instruction*, 28(1), 70-112.

Karagöz Akar, G. (2010). What should a mathematics teacher know? Difference between content knowledge and pedagogical content knowledge [in Turkish]. *Boğaziçi University Journal of Education*, 27(2), 33-47.

Edited Books

Karagöz Akar, G., Zembat, I.O., Arslan, S. & Thomson, P.W. (Eds.) (in press) *Quantitative Reasoning in Mathematics and Science Education*, Springer.

Book Chapters

Karagöz Akar, G., Watanabe, T., & Turan, N. (in press). Quantitative reasoning as a framework to analyze mathematics textbooks, In G.Karagöz Akar, I.O. Zembat, S.Arslan & P.W. Thomson (Eds.), *Quantitative Reasoning in Mathematics and Science Education*, Springer.

Karagöz Akar, G., Zembat I.O., Arslan, S., & Belin, M. (in press). Geometric transformations through quantitative reasoning, In G.Karagöz Akar, I.O. Zembat, S.Arslan & P.W. Thomson (Eds.), *Quantitative Reasoning in Mathematics and Science Education*, Springer.

Günbak Hatil, J., & Karagöz Akar, G. (in press). Investigating Mathematics Teacher Educators' Conceptions and Criteria for Informal Line of Best Fit, In G. Burrill, L. Souza & E. Reston (Eds.), *Research on the Role of Data in Teaching Statistics*, Springer.

Karagöz Akar, G. (2020). Decimals, percents, ratio and proportion concepts (Ondalık gösterim, yüzde ve oran-orantı kavramları [in Turkish]), A.Kaçar (Ed.), *Foundations of Mathematics (Matematiğin Temelleri)* (pp. 85-113) Pegem Akademi Publishing.

Karagöz Akar, G. (2019). Ratio and Rate Conceptions and Teaching (Oran, orantı kavramları ve öğretimi [in Turkish]). In G. Hacıömeroğlu & K. Tarım (Eds.), *Middle school mathematics teaching (Ortaokul Matematik Öğretimi Kitabı)*, (pp.329-346) Pegem Akademi Publishing.

Karagöz Akar, G. & Çağlayan, Ş. (2016). Triangle III (Üçgen III [in Turkish]. In A. N. Elçi, E. Bukova Güzel, B. Cantürk, & E. Ev Çimen, (Eds.), *Basic mathematical concepts and applications- for learners and teachers (Temel Matematiksel Kavramlar ve Uygulamaları- Öğrenenler ve Öğretenler İçin)* (pp. 413-423) Pegem Academy Publishing.

Karagöz Akar, G. (2016). Quantitative reasoning and construction of real numbers through fractions (Nicel muhakeme ve nicel muhakeme ile kesirler üzerinden gerçek sayıların inşası [inTurkish]). In

E.Bingölbali, S. Arslan & I. O. Zembat, (Eds.), *Mathematics education theories (Matematik Eğitiminde Teoriler)*, (pp.117-133) Pegem Academy Publishing.

Karagöz Akar, G. (2013). Definitions of ratio and proportion, their place in rational numbers and their relationship with the concept of linearity (Oran-orantı kavram tanımları, Rasyonel sayılar içerisindeki yeri ve doğrusallık kavramı ile ilişkisi [in Turkish]). In I. O. Zembat, M. F. Özmentar, E.Bingölbali, H. Şandır, & A. Delice (Eds.), *Mathematical concepts with their definitions and historical Development(Tanımları ve Tarihsel Gelişimleriyle Matematiksel Kavramlar) (2nd Ed.)*, (pp.111-126) Pegem Academy Publishing.

Karagöz Akar, G. (2009). Difficulties encountered in conceptual learning of ratio and suggestions (Oran konusunun kavramsal öğreniminde karşılaşılan zorluklar ve çözüm önerileri [in Turkish]). E. Bingölbali & F. M. Ozmentar (Eds.), *Mathematical difficulties of elementary school students and suggested solutions (İlköğretimde Karşılaşılan Matematiksel Zorluklar ve Çözüm Önerileri)* (pp. 264-285). Ankara: Pegem Academy Publishing.

Published Conference Proceedings

Karagöz Akar, G., Bukova Guzel, E., Özaltun Çelik, A., Kula Unver, S., & Turan, N. (2022). Teacher Perspectives and Mathematical Knowledge for Teaching. Paper presented at the *Congress of European Research in Mathematics Education (CERME)*, Bozen-Bolzano, Italy.

Günbak Hatil, J. & Karagöz Akar, G. (2021). Investigating mathematics teacher educators' conceptions for informal line of best fit. Paper presented at the *Fourteenth International Congress on Mathematical Education (ICME-14)*.

Günbak Hatil, J. & Karagöz Akar, G. (2021). Investigating mathematics teacher educators' subject matter knowledge for teaching informal line of best fit. Paper presented at the *Fifth International Symposium of Turkish Computer and Mathematics Education (TURCOMAT)*

Yıldırım, K., & Karagöz Akar, G. (2021). Farklı öğretmen bakış açılarına sahip deneyimsiz matematik öğretmenlerinin fark etme becerileri. Paper presented at the *Fifth International Symposium of Turkish Computer and Mathematics Education (TURCOMAT)*

Bukova Guzel, E., Karagöz Akar, G., Özaltun Çelik, A., Kula Unver, S., & Turan, N. (2019). Mathematical knowledge for teaching of a prospective teacher having progressive incorporation perspective. Paper presented at the *Congress of European Research in Mathematics Education (CERME)*, Utrecht, Netherlands

Karagöz Akar, G., Bukova Guzel, E., & Ozel, S. (2019). Prospective secondary mathematics teachers' development of core-practices during methods courses: affordances of quantitative reasoning. Paper presented at the *Congress of European Research in Mathematics Education (CERME)*, Utrecht, Netherlands.

Karagöz Akar, G., & Saraç, M. (2018). Re-constructing the quadratic roots through quantitative reasoning. Paper presented at the *Vth International Eurasian Research Congress (EJER)*, Antalya.

Saraç, M. & Karagöz Akar, G. (2017). A prospective secondary mathematics teacher's development of the meaning of complex numbers through quantitative reasoning. In Galindo, E., & Newton, J., (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the*

Psychology of Mathematics Education (PMENA), (pp. 267-271). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educator.

Belin, M., & Karagöz Akar, G. (2017). Effect of quantitative reasoning on prospective mathematics teachers' comprehension of a proof on real numbers. In Galindo, E., & Newton, J., (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PMENA)*, (pp.741-745). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educator.

Belin, M., & Karagöz Akar, G. (2017). Prospective mathematics teachers' making sense of the decimal representation of real numbers as rational number sequences through quantitative reasoning. Paper presented at the *International Conference on Education in Mathematics, Science and Technology (ICEMST)*, Kuşadası, Aydın.

Karagöz Akar, G. (2017). A conception of between-state ratio in fraction form. Paper presented at the *Congress of European Research in Mathematics Education (CERME)*, Dublin, Ireland.

Karagöz Akar, G. (2016). A framework for mathematics teacher education: linking teacher perspectives to mathematics teaching courses. Discussion Group presented at the *International Congress on Mathematical Education (PMENA)*, Hamburg, Germany.

Kabaca, T., Delice, A., Kertil M., & Karagöz Akar, G. (2016). A journey to integration: promoting a robust conception of integral. Paper presented at the *International Congress on Mathematical Education (CERME)*, Hamburg, Germany.

Karagöz Akar, G., Delice, A., & Aydın, E. (2015). A prospective secondary mathematics teacher's process of developing a progressive incorporation perspective. Paper presented at *the Congress of European Research in Mathematics Education (CERME)*, Prag, Czech Republic.

Şener, B., & Karagoz Akar, G. (2015). Possibilities: Conceptualization of “if” and “if and only if” conjunctions [in Turkish]. Paper presented at the *First International Symposium of Turkish Computer and Mathematics Education (TURCOMAT)*, Adıyaman, Turkey.

Karagöz Akar, G. (2014). Knowledge quartet: the case of prospective secondary mathematics teachers. Paper presented at the *International Eurasian Educational Research Congress*, Istanbul, Turkey.

Karagoz Akar, G., Delice, A., & Aydın, E. (2014). New Trends in Teacher Training, Effective Mathematics Teaching: From Practice to Theory in Methods and Internship Courses [in Turkish]. Mini Symposium at the *11th National Science and Mathematics Education Congress*. Adana, Turkey.

Karagöz Akar, G., Delice, A., Aydın, E. (2013). Task design integration into the teacher training programs in the context of design experiments [in Turkish]. Workshop at the *the First International Symposium of Turkish Computer and Mathematics Education (TURCOMAT)*. Trabzon, Turkey

Aksen, M., Karagöz Akar, G. (2012). Teaching of bisector in triangle using paper folding and geogebra [in Turkish]. Paper presented at *11th Mathematics Symposium (MAT-DER)*. Samsun, Turkey.-

Şener, B., Karagöz Akar, G. (2012). Constructing the function definition via graphics using Geogebra [in Turkish]. Paper presented at *11th Mathematics Symposium (MAT-DER)*. Samsun, Turkey.

Şener, B., Karagöz Akar, G. (2012). Evaluation study of the concepts of cartesian product-relation-function, their relationships and differences: Geogebra activities [in Turkish]. Paper presented at *11th Mathematics Symposium (MAT-DER)*. Samsun, Turkey.

Karagöz Akar, G. (2011). Prospective secondary mathematics teachers' realization of the logico mathematical activity through analysis of a case study. In L.R. Wiest, & T.D. Lamberg, (Eds.) *Proceedings thirty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PMENA)*, (pp. 1325-1332). Nevada, Reno.

Karagöz Akar, G. (2010). Different levels of reasoning in within state ratio conception and the conceptualization of rate: a possible example. In P. Brosnan, D. B. Erchick, & L. Flevares, (Eds.), *Proceedings of the thirty-second annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PMENA)*, Volume 6, pp. 711-720. Columbus, Ohio: The Ohio State University.

Karagöz Akar, G. (2009). Conceptions of between-ratios and within-ratios. In M. Tzekaki, M. Kaldrimidou, & H. Sakonidis (Eds.) *Proceedings of the thirty- third annual meeting of the International Group for the Psychology of Mathematics Education (PME)*, Thessaloniki: Greece, Vol. 1, pp. 326. Mougos.

Simon, M.A., Saldanha, L. McClintock, E., Karagöz Akar, G., Watanabe, T., Zembat, I.O. (2007). Students' learning through their own activity: toward a basis for a scientific approach to task design and sequencing. In T. Lamberg, & L. R. Wiest, (Eds.) *Proceedings of the Twenty Ninth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PMENA)*, Vol. 1, 55-62, Stateline (Lake Tahoe), NV: University of, Reno, USA.

Sullivan, P., Heid, M.K., & Karagöz Akar, G. (2005). Characterizing the depth of prospective secondary mathematics teachers' knowledge. In G. M. Lloyd, M. Wilson, J. L. M. Wilkins, & S. L. Behm (Eds.) *Proceedings of the 27th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PMENA)*, (pp.1039-1046), Virginia Tech, USA.

Grant Activity

Project name: A Professional Development Study Focusing on Quantitative Reasoning: Investigating In-service Mathematics Teachers' Relationships Among Different Representations of Complex Numbers. *Funded by:* Boğaziçi University Research Foundation – Turkey; *About:* Secondary teacher education; *Period:* March 2022-Present; *Funded for:* 88.881 Turkish Liras (≈6,000 dollars); **Principal Investigator:** Gülseren Karagöz Akar

Project name: Boğaziçi University Educational Technology Application and Research Center - FMV Işık High Schools Scientific Guidance Project, Secondary School Students. **Principal Investigator:** Günizi Kartal, *Scientific Research Guider* : Gülseren Karagöz Akar, November 2021-March 2022.

Project name: Boğaziçi University Educational Technology Application and Research Center - FMV Işık High Schools Scientific Guidance Project I and Project II, Secondary School Students. **Principal Investigator:** Günizi Kartal, *Scientific Research Guider* (Project I ve Project II): Gülseren Karagöz Akar, November 2020-January 2021.

Project name: Development of Mathematics Curriculum for Gifted grades 1-12 (Üstün Yetenekliler için Matematik Dersi 1-4. Sınıf, Matematik Dersi 5-8. Sınıf, Matematik Dersi 9-12. Sınıf Öğretim

Programları Geliştirme Projesi), *The Scientific and Technological Research Council of Turkey* (Tübitak Ulakbim Ar-Ge Projesi), **Principal investigator:** Prof. Dr. Uğur Sak, *Researcher:* Gülseren Karagöz Akar, April 2018-December 2019.

Project name: Prospective Secondary Mathematics Teachers' Development of the Progressive Incorporation Perspective for Effective Mathematics Teaching. *Funded by:* Boğaziçi University Research Foundation: Secondary teacher education; *Period:* March 2017-November 2019; *Funded for:* 36,200 Turkish Liras (\approx 13000 dollars); **Principal Investigator:** Gülseren Karagöz Akar

Project name: Prospective Secondary Mathematics Teachers' Coming to Internalize the Mechanism of Teaching Mathematics for Understanding. *Funded by:* Boğaziçi University Research Foundation – Turkey; *About:* Secondary teacher education; *Period:* January 2011-September 2013; *Funded for:* 18,700 Turkish Liras (\approx 12,000 dollars); **Principal Investigator:** Gülseren Karagöz Akar

Between 2000-2007

Project name: Mid-Atlantic Center for Mathematics Teaching and Learning; *Funded by:* National Science Foundation – USA; *About:* Secondary teacher education and curriculum development for secondary teachers; *Period:* August 2000-August 2004; *Funded for:* 3 million dollars; **Principal Investigators:** M. Kathleen Heid, Glen Blume; *Research Associates:* Gülseren Karagöz Akar (starting from 2002), Ismail O. Zembat; Debby MacCullough; Barbara McDonald (other research associates joined the project starting from 2004 and onward)

Project name: Mid-Atlantic Center for Mathematics Teaching and Learning (continued); *Funded by:* National Science Foundation – USA; *About:* Secondary teacher education and curriculum development for secondary teachers; *Period:* August 2005-August 2013; *Funded for:* 10.7 million dollars; **Co-Principal Investigator:** M. Kathleen Heid; *Research Associates:* Gülseren Karagöz Akar (ending 2007), Pat Sullivan; Anna M. Conner, (other research associates joined the project starting from 2005 and onward)

Project name: Exploratory Analysis of Mathematics Conceptual Learning (EAMCL); *Funded by:* National Science Foundation – USA; *About:* Mathematics learning; *Period:* September 2004-August 2006; **Principal Investigator:** Martin A.Simon; *Research Associates:* Evan Mc Clintock, Gülseren Karagöz Akar (volunteer)

Grants Submitted

Project name: Development of Functional Thinking through an Interdisciplinary Approach. *Submitted to:* Boğaziçi University Research Foundation – Turkey; *About:* Secondary education; *Period:* Present; **Principal Investigator:** Gülseren Karagöz Akar

Project name: Proof of Life Answer in Mathematics. *Submitted to:* *The Scientific and Technological Research Council of Turkey* (Tübitak-4004); *About:* gifted student education; *Period:* Present; **Principal Investigator:** Sami Sezer Arbağ, *Researcher:* Gülseren Karagöz Akar,

Graduate Student Advising

Arabacı, N. (present). Development of functional thinking through an interdisciplinary approach, Boğaziçi University, Turkey. (Doctorate)

- Toker, H. (present). Promoting pre-service secondary mathematics teachers' use of advanced mathematical knowledge for teaching, Middle East Technical University, Turkey, (Doctorate-Coadvisor)
- Belin, M. (present). An investigation of mathematics teachers' covariational reasoning and its reflection on their teaching of functions and their students' covariational reasoning Middle East Technical University, Turkey, (Doctorate- Coadvisor)
- Güven, S. (present). High school students' meanings of cartesian coordinate system, Boğaziçi University, Turkey. (MS thesis)
- Balcı, A. H. (2022). Investigating mathematics teacher educators' specialised knowledge for teaching geometric transformations, Boğaziçi University, Turkey. (MS thesis)
- Karyağdı, B. (2022). Investigating preservice teachers' content knowledge on multiplication and division, Boğaziçi University, Turkey. (MS thesis)
- Turan, N.(2021). Examination of Japanese and Turkish mathematics curricula materials through quantitative and co-variational reasoning: The case of functional relationships, Boğaziçi University, Turkey. (MS thesis)
- Yılmaz, K. (2020). Noticing skills of novice mathematics teachers who have different perspectives, Boğaziçi University, Turkey. (MS thesis)
- Tekin, D. (2019). A model for developing the multiplication of complex numbers. Boğaziçi University, Turkey. (MS thesis)
- Bahar, G. (2019). Measuring pre-service teachers' mathematics content knowledge and mathematics pedagogical content knowledge on ratio and proportion. Boğaziçi University, Turkey. (MS thesis)
- Öztelli, D. (2019). Non-routine problem solving process of Turkish mathematically gifted students. Boğaziçi University, Turkey. (MS thesis)
- Günbak, J. (2019). Investigating mathematics teacher educators' subject matter knowledge for teaching informal line of best fit. Boğaziçi University, Turkey. (MS thesis)
- Belin, M. (2016). Prospective mathematics teachers' quantitative reasoning on the development of decimal representation of real numbers and its effect on their performance on a related proofcomprehension test. Boğaziçi University, Turkey. (MS thesis)
- Saraç, M. (2016). A prospective teacher's developing the meaning of the cartesian form of complex numbers. Boğaziçi University, Turkey. (MS thesis)
- Öztoprak, R. (2014). Assessing preservice teachers' statistical reasoning. Boğaziçi University, Turkey. (MS thesis)
- Doğucu, M. (2012). The relationship between mathematics teachers' probability approaches and misconception. Boğaziçi University, Turkey. (MS thesis)

Serving in the Doctoral Dissertation and Master Thesis Committees—Some examples

Coşkun Şener, B. (present) Frege's abstraction principle and Husserl phenomenology within mathematics education [in Turkish], Istanbul University, Turkey. [February 2020-present] (Doctorate)

Çaksen, B. (2020). The Importance of Equal Sign Understanding in 4th and 5th Grade: A Mixed-Method Study, Boğaziçi University, Turkey. (MS Thesis)

Arıkan, F. (2019). Mathematically gifted students' problem solving processes in problems with Apparatus [in Turkish], DokuzeYLÜL University, Turkey (MS Thesis)

Boyacı, H. S. (2019). Measuring proportional reasoning ability of pre-service mathematics teachers: a mixed method study, Boğaziçi University, Turkey. (MS Thesis)

Özaltun Çelik, Aytuğ. (2018). Learning trajectories of and teaching design for the concept of quadratic functions [in Turkish], DokuzeYLÜL University, Turkey. (Doctorate)

Demirci, Ömer. (2018). Prospective mathematics teachers' problem solving and constructing processes for the concept of probability [in Turkish], Atatürk University, Turkey. (Doctorate)

Aslan, U. (2014). Fostering students' learning of probability through video game programming, Boğaziçi University, Turkey.(MS Thesis)

Köklü, O. (2012). Teachers' content knowledge in teaching slope of a line, Boğaziçi University, Turkey.(MS Thesis)

Teaching

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| SCED431 (Teaching methods in mathematics) | 2008-2013 (every year) 2015-2017-2018-2021-2022 |
| SCED 450 (School exp.in teaching mathematics and science) | 2010-2013-2014-2016-2021 |
| SCED 416 (Seminar on practice teaching in mathematics) | 2008-2013 (every year) 2016-2018-2019-2022 |
| SCED432 (Practice teaching in mathematics) | 2008-2021 (every year) |
| SCED 320 (Teaching methods in science & mathematics) | 2010-2012-2014-2016-2017 |
| SCED 364 (Pre-Calculus for secondary school teaching) | 2011-2015 |
| SCED 352(Algebra for secondary school teaching) | 2013 |
| SCED 240 (Science,technology and society) | 2011-2012-2013 |
| SCED 404 (Research methods in mathematics and science education) | 2013-2014 |
| SCED 370 (Measurement and assessment in mathematics and science education) | 2014 |
| SCED 301 (Inferential statistics I) | 2008 |
| SCED544 (Science curriculum development study) | 2014 |
| SCED576 (Qualitative research design in scienvce and mathematics education) | 2015-2017 |
| SCED 579 (Graduate seminar) | 2018 |
| SCED 610 (Epistemology and learning in science and mathematics education) (Doctorate program) | 2019-2020-2021 |
| SCED 612(Qualitative research in science and mathematics) | 2020-2021-2022 |

Workshops and Seminars Presented

Karagöz Akar, G. (July, 2021). Mathematical Thinking Skills and Creative Mathematics Problems: *International Kangaroo Mathematics, Mathematics Summer Camp for Gifted* (Workshop)

Karagöz Akar, G. (February, 2020). Education Reform Initiative (ERG) Education Monitoring Report: Reflections of 2019, Boğaziçi University, Faculty of Education Panel.

Karagöz Akar, G., (May, 2019). Activities Demanding High Cognitive Level and Classroom Applications. *International Kangaroo Mathematics Symposium, Şirince Nesin Mathematics Village, İzmir, Turkey.* (Workshop)

Karagöz Akar, G., (December, 2018). Construction of Rational Numbers Through Fractions. *Mektepp-Boğaziçi University Education and Research Club (EREC), İstanbul, Turkey.* (Workshop)

Karagöz Akar, G., (March, 2017). High School Student Seminar I: Learning Mathematics - Student Roles and Responsibilities. *Turkish Education Association Schools, (TED Schools), Ereğli-Zonguldak, Turkey.*

Karagöz Akar, G., (March, 2017). High School Student Seminar II: Learning Mathematics - Student Roles and Responsibilities. *Turkish Education Association Schools (TED Schools), Ereğli-Zonguldak, Turkey.*

Karagöz Akar, G., (February, 2017). Building Numbers: A Journey From Fractions to Complex Numbers. *Turkish Education Association Schools (TED Schools) Regional In-Service Training Program.* Turkey. (Workshop)

Karagöz Akar, G., (December, 2016). Building Numbers: A Journey From Fraction to Complex Numbers. *Turkish Education Association Schools (TED Schools) Regional In-Service Training Program.* Turkey. (Workshop)

Administrative Duties

Department Head for the Department of Mathematics and Science Education, Boğaziçi University, Turkey [April, 2018-2021]

Board Membership of Faculty of Education, Boğaziçi University, Turkey [April, 2018-2021]

Board Membership of The Institute for Graduate Studies in Sciences and Engineering, Boğaziçi University, Turkey [April, 2018-2021]

Board Membership of Faculty Executive Committee of Faculty of Education, Boğaziçi University, Turkey [April, 2017-2020]

Board Membership of the Committee for Protection of Natural Life, Boğaziçi University, Turkey [2021-present]

Board Membership of the Committee for Scholarship, Boğaziçi University, Turkey [2015-present]

Refereeing Journals

- Journal for Research in Mathematics Education
- Education and Science

- Educational Sciences: Theory and Practice (KUYEB)
- Cogent Education
- Hacettepe University Journal of Education
- International Electronic Journal of Mathematics Education
- International Journal of Educational Studies in Mathematics

Journal Editorships

- Eurasian Journal of Educational Research (EJER) (Associate Editor) (2016-2018)
- Journal for Research in Mathematics Education (JRME) (International Board Member, 2018-2021)
- Apsistek Matematik Dergisi, (Editorial Board Member, 2018-present)

Honors and Awards

- Excellence in teaching- SCED 431-Teaching Methods in Mathematics, Boğaziçi University, İstanbul, Turkey (September, 2015- January, 2016)
- Excellence in teaching- SCED 420-Teaching Methods in Science and Mathematics, Boğaziçi University, İstanbul, Turkey (September, 2014- January, 2015)
- Post-Doctoral Scholarship, The Pennsylvania State University, USA (2007).
- Master and Doctoral Scholarship. Ministry of Education of Turkey (1999-2006).

Affiliations

- International Congress on Mathematical Education (ICME) TSG 40: Research and Development on Mathematics Curriculum Team Member (2018-present)
- European Society for Research in Mathematics Education (ERME) (2015-present)
- *International Kangaroo Mathematics Symposium* -Şirince Mathematics Village (Organizing Committee Member, 2018-present)

Public Service

Transformational Breath ®-
Judith Kravitz, USA

Membership and Serving as a Professional Transformational
Breath Facilitator-2022

September 2015–January 2016

Mathematics Teacher
University Within School Project
Ayazağa İlköğretim Okulu (Grade 6)
Ayazağa, İstanbul, Turkey