

## FIRAT SOYLU

*The University of Alabama, College of Education  
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### Education

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- 2011 INDIANA UNIVERSITY, BLOOMINGTON  
*PhD (dual major) – Instructional Systems Technology & Cognitive Science*
- 2009 INDIANA UNIVERSITY, BLOOMINGTON  
*MSc – Instructional Systems Technology*
- 2004 MIDDLE EAST TECHNICAL UNIVERSITY, ANKARA  
*BSc – Computer Education & Instructional Technology*

### Academic Positions

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- 2020– Associate Professor of Educational Psychology & Neuroscience, The University of Alabama
- 2020– Program Coordinator, UA Educational Psychology & Neuroscience (BS/MA/PhD Programs)
- 2014–2020 Assistant Professor of Educational Psychology & Neuroscience, The University of Alabama
- 2011-2014 Postdoctoral Fellow, Center for Connect Learning, Northwestern University
- 2010-2011 Teaching Assistant, Learning Sciences Program, Indiana University
- 2008-2011 Graduate Student, Cognitive Neuroimaging Lab, Indiana University
- 2004-2008 Associate Instructor, Instructional Systems Technology Department, Indiana University
- 2003-2004 Teaching Assistant, Cognitive Science Program, Middle East Technical University

### Research Interests

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- Educational neuroscience • Mathematical cognition • Embodied cognition • Computational modeling

### Preprint & in Preparation Journal Articles (\*students)

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- Soylu, F.** & Suárez Pellicioni, M. (in prep). Structural correlates of arithmetic processing in children: A VBM study.
- Rivera, B.\* & **Soylu, F.** (in review). Incongruent Fractions Elicit N400 Effects During Magnitude Matching
- Newman, S., Loughery, E., Ecklund, A., & **Soylu, F.** (2020) Structured versus free block play: the impact on arithmetic processing. <https://doi.org/10.31234/osf.io/9h278>

## Journal Articles (\*students)

- Han, H., Lee, K.†, & **Soylu, F.**† (2020). Applying the Deep Learning Method for Simulating Outcomes of Educational Interventions. *SN Computer Science*, 1(2), 1-14. †Authors contributed equally. <https://doi.org/10.1007/s42979-020-0075-z>
- Soylu, F.**† & Newman, S. D.† (2020). Editorial: Towards an Understanding of the Relationship Between Spatial Processing Ability and Numerical and Mathematical Cognition. *Frontiers in Psychology, Cognition*. †Authors contributed equally. <https://doi.org/10.3389/fpsyg.2020.00014>
- Han, H.† & **Soylu, F.**†, & Anchan, M.\* (2019). Connecting Levels of Analysis in Educational Neuroscience. *Trends in Neuroscience and Education*, 17. †Authors contributed equally. <https://doi.org/10.1016/j.tine.2019.100113>
- Soylu, F.**, Rivera, B.\*, Anchan, M.\*, & Shannon, N. (2019). ERP differences in processing canonical and noncanonical finger-numeral configurations. *Neuroscience Letters*, 705, 74–79. <https://doi.org/10.1016/j.neulet.2019.04.032>
- Soylu, F.**, Seo, R., Newman, M., & Newman, S. D. (2019). Gray matter correlates of finger gnosis in children: A VBM Study. *Neuroscience*, 404, 82–90. <https://doi.org/10.1016/j.neuroscience.2019.01.032>
- Soylu, F.**, Lester, F., & Newman, S. (2018). You can count on your fingers: The role of fingers in early mathematical development. *Journal of Numerical Cognition*, 4(1), 107–135. <https://doi.org/10.5964/jnc.v4i1.85>
- Han, H., Lee, K., & **Soylu, F.** (2018). Simulating outcomes of interventions using a multipurpose simulation program based on the evolutionary causal matrices and Markov chain. *Knowledge and Information Systems*, 18(2), 223-227. <https://doi.org/10.1007/s10115-017-1151-0>
- Soylu, F.**, Raymond, D.R., Gutierrez, A.M., & Newman, S.D. (2018). The differential relationship between finger gnosis, and addition and subtraction: an fMRI study. *Journal of Numerical Cognition*, 3(3), 694–715. <https://doi.org/10.5964/jnc.v3i3.102>
- Soylu, F.**, Holbert, N., Brady, C., & Wilensky, U. (2017). Embodied perspective taking in learning about complex systems. *Journal of Interactive Learning Research*. 28(3), 269-303. <https://www.learntechlib.org/primary/p/174886/>
- Han, H., Lee, K., & **Soylu, F.** (2016). Predicting long-term outcomes of educational interventions using the evolutionary causal matrices and Markov chain. *Trends in Neuroscience and Education*, 5(4), 157–165. <https://doi.org/10.1016/j.tine.2016.11.003>
- Soylu, F.** (2016). An embodied approach to understanding: Making sense of the world through simulated bodily activity. *Frontiers in Psychology*, 7:1914. <https://doi.org/10.3389/fpsyg.2016.01914>
- Soylu, F.**, Newman, S.D. (2016). Anatomically ordered tapping interferes more with one-digit addition than two-digit – A Dual-Task fMRI Study. *Cognitive Processing*. 17(1), 67–77. <https://doi.org/10.1007/s10339-015-0737-2>
- Brady, C., Holbert, N., **Soylu, F.**, Novak, M., & Wilensky, U. (2015). Sandboxes for model-based inquiry. *Journal of Science Education and Technology*, 24(2-3), 265-286. <https://doi.org/10.1007/s10956-014-9506-8>
- Newman, S.D., **Soylu, F.** (2014). The impact of finger counting habits on arithmetic in adults and children. *Psychological Research*, 78(4), 549–56. <https://doi.org/10.1007/s00426-013-0505-9>
- Hickey, D.T., **Soylu, F.** (2012). Wikifolios, reflections, and exams for online engagement, understanding, and achievement. *Journal of Teaching and Learning with Technology*, 1(1), 64-71. <https://scholarworks.iu.edu/journals/index.php/jotlt/article/view/2045>

- Yalvac, B., Ayar, M. C., & **Soylu, F.** (2012). Teaching engineering with wikis. *International Journal of Engineering Education*, 28(3), 701. <https://ccl.northwestern.edu/2012/Soylu.pdf>
- Yalvac, B., **Soylu, F.**, & Arikan, A., (2011). Embodied cognition and education. *ETHOS: Dialogues in Philosophy and Social Science*, 4(1), 1-20. <http://ethosfelsefe.com/ethosdiyal-oglar/main/?page=read&id=78>
- Soylu, F.** (2009). Academics' views and uses of Wikipedia. *Gnovis Journal*, 9(2). <http://www.gnovisjournal.org/2009/05/13/academics-views-and-uses-wikipedia/>
- Soylu, F.** (2009). Designing online learning communities: Lessons from Eksisözlük. *European Journal of Open Distance and E-Learning*, 12(2), 1–10. <https://eric.ed.gov/?id=EJ911764>

## Book Chapters

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- Mutlu, Y. & **Soylu, F.** (2018). Eğitsel sinirbilim ve bedenlenmiş biliş perspektifinden matematik öğrenme güçlüğü yaşayan öğrencilerde parmakla sayma [Finger counting habits of children with mathematics learning difficulty: An educational neuroscience perspective]. *Bilim, Eğitim ve Sanat Araştırmaları – Fen Bilimleri ve Matematik* [in Turkish]. Nobel Akademik Yayıncılık, Ankara. [Link to Chapter](#)

## Public Datasets

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- Soylu, F.** (2019). Public dataset: ERP differences in processing canonical and noncanonical finger-numeral configurations, *Harvard Dataverse*. <https://doi.org/10.7910/DVN/BNNSRG>
- Soylu, F.** & Newman, S.D. (2019). Public Dataset – Gray Matter Correlates of Finger Gnosis in Children: a VBM Study, *Harvard Dataverse*. <https://doi.org/10.7910/DVN/F5Q24E>
- Soylu, F.** & Newman, S.D. (2017). Public Dataset: The Differential Relationship Between Finger Gnosis, and Addition and Subtraction: An fMRI Study, *Harvard Dataverse*. <https://doi.org/10.7910/DVN/I7KP3V>

## Conference Proceedings (\*students)

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- Rivera, B.\*, & **Soylu, F.** (2018). *Semantic Processing in Fraction Comparison: An ERP Study*. Paper presentation at the 40th Annual Conference of the Cognitive Science Society. Madison, WI: July, 2018. <https://cogsci.mindmodeling.org/2018/papers/0448/0448.pdf>
- Han, H., Thoma, S. & **Soylu, F.**, Lee, K. (2017). *How to make moral education more effective? From a brain study to policy making*. Paper presented at the 2017 AERA (American Educational Research Association) Annual Meeting. <https://eric.ed.gov/?id=ED591638>
- Soylu, F.** & Yalvac, B. (2016). *Connecting levels of analysis in educational neuroscience*. Paper presented at the 2016 AERA (American Educational Research Association) Annual Meeting (SIG - Brain, Neurosciences, and Education). Washington, DC: April, 2016. <https://eric.ed.gov/?id=ED597274>
- Holbert, N., Brady, C., **Soylu, F.**, Novak, M., Wilensky, U. (2015). *The model gallery: supporting idea diffusion in computational modeling activities*. Paper presented at the 2015 AERA (American Educational Research Association) Annual Meeting (SIG - Advanced Technologies for Learning), Chicago, IL: April, 2015.
- Soylu, F.**, Brady, C., Holbert, N., Wilensky, U. (2014). *The thinking hand: Embodiment of tool use, social cognition and metaphorical thinking and implications for learning design*. Paper presented at the

2014 AERA (American Educational Research Association) Annual Meeting (SIG - Brain, Neurosciences, and Education), Philadelphia, PA: April, 2014. <https://pdfs.semanticscholar.org/0731/19d907e82fa84068f2f35810416927eef7bf.pdf>

**Soylu, F.** (2014). *Educational Neuroscience of Mathematical Cognition*. In Landy, D., Trninic, D., **Soylu, F.**, Kehoe, J., & Fishwick, P., The implications of embodiment for mathematics and computing education. Symposium conducted at the 36th Annual Conference of the Cognitive Science Society, Quebec City, Canada: July, 2014. <https://cogsci.mindmodeling.org/2014/papers/024/paper024.pdf>

**Soylu, F.** & Newman, S. D. (2011). *Is arithmetic embodied? Differential interference of sequential finger tapping on addition during a dual-task paradigm*. Proceedings of the 33rd Annual Conference of the Cognitive Science Society. Austin, TX: July, 2011.

**Soylu, F.** (2011). *Mathematical cognition as embodied simulation*. Proceedings of the 33rd Annual Conference of the Cognitive Science Society. Austin, TX: July, 2011. <https://cogsci.mindmodeling.org/2011/papers/0838/>

Millard, M., & **Soylu, F.** (2009). *An embodied approach for engaged interaction in ubiquitous computing*. In J. Jacko (Ed.), Proceedings of the 13th International Human-Computer Interaction Conference. (Vol. 5612, pp. 464-472). San Diego, CA: Springer Berlin Heidelberg. [https://link.springer.com/chapter/10.1007/978-3-642-02580-8\\_51](https://link.springer.com/chapter/10.1007/978-3-642-02580-8_51)

### Conference Presentations (\*students)

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Webber, W.B., **Soylu, F.**, & Burnham, J.J (2020). *Using neuroscience to inform counseling: An EEG study of stereotyping*. Content session scheduled for the 2020 Conference of the Alabama Counseling Association.

**Soylu, F.** (2020). *Developmental associations between the finger tactile and motor systems, and mathematical functions*. In Bahnmüller, J. & Barrocas, R., Digits grasp digits: The interplay of fingers and numbers in early numerical learning. Symposium for the 3rd Mathematical Cognition and Learning Society Conference, Dublin, Ireland: July, 2020. [postponed due to COVID19]

**Soylu, F.** & Suárez Pellicioni, M. (2020). *Gray Matter Correlates of Mathematical Fluency in Children*. The 3rd Mathematical Cognition and Learning Society Conference, Dublin, Ireland: July, 2020. [postponed due to COVID19]

Anchan, M.\*, Choi, Y., & **Soylu, F.** (2020). *Predictors of Math Performance: Language of Instruction, Gender, Math Preference, and Bullying*. The 3rd Mathematical Cognition and Learning Society Conference, Dublin, Ireland: July, 2020. [postponed due to COVID19]

Rivera, B.\*, **Soylu, F.**, Malaia, E. (2020). *Neural Bases of Numerical and Social Information Transfer in Autism Spectrum Disorder*. The 3rd Mathematical Cognition and Learning Society Conference, Dublin, Ireland: July, 2020. [postponed due to COVID19]

Kim, J.\*, Rivera, B.\*, Anchan, B.\*, & **Soylu, F.** (2019). *Gray Matter Correlates of Mathematical Fluency in Children*. Poster presented at the 8th Alabama Advanced Imaging Consortium Retreat: August, 2019.

**Soylu, F.**, Rivera, B.\* Anchan, M.\*, & Shannon, N.\* (2019). *Testing the Motor Simulation Theory in Processing Canonical and Non-Canonical Finger Numeral Configurations*. The 2nd Mathematical Cognition and Learning Society Conference, Ottawa, Canada: June, 2019.

Anchan, M.\*, Rivera, B.\*, Shannon, N.\*, & **Soylu, F.** (2019). *Does It Add Up? Comparing Arithmetic Processing in Bilinguals and Monolinguals*. The 2nd Mathematical Cognition and Learning Society Conference, Ottawa, Canada: June, 2019.

Rivera, B.\* & **Soylu, F.** (2019). *The ERP effects of shared components in fraction comparisons*. The 2nd Mathematical Cognition and Learning Society Conference, Ottawa, Canada: June, 2019. Anchan, M.\* & Soylu F. (2019). *Does It Add Up? Comparing Arithmetic Processing in Bilinguals*

- and Monolinguals. 26th Annual Cognitive Neuroscience Society Conference. San Francisco, CA, March 23-26, 2019.
- Anchan, M.\* & **Soylu, F.** (2018). *Does it Add Up? Comparing Arithmetic Processing in Monolinguals and Bilinguals*. 59th Annual Meeting of the Psychonomic Society, New Orleans, LA: October, 2018.
- Rivera, B.\*, & **Soylu, F.** (2018). *The Effects of Shared Components in Fraction Comparisons: Evidence From ERPs*. Poster presented at the 6th Biennial International Mind Brain and Education Conference. The University of Southern California, Los Angeles, CA: September, 2018.
- Soylu, F.**, Anchan, M.\*, & Newman, S.D. (2018). *Sex differences in gray matter correlates of finger gnosis in children: a VBM study*. Poster presented at the 2018 Organization for the Study of Sex Differences Conference. Atlanta, GA.
- Soylu, F.**, Raymond, D.R., Gutierrez, A.M., & Newman, S.D. (2018). *The Relation between Finger Sense and Arithmetic: An fMRI Study of Children in Second and Third Grades*. Paper presented at the 2018 AERA (American Educational Research Association) Annual Meeting (SIG - Brain, Neurosciences, and Education). New York, NY: April, 2018
- Soylu, F.**, Gutierrez, A.M., Hanson, M., & Newman, S.D. (2018). *Effects of Structured Block Play on Arithmetic Processing: An fMRI Study*. Paper presented at the 2018 AERA (American Educational Research Association) Annual Meeting (SIG - Brain, Neurosciences, and Education). New York, NY: April, 2018
- Rivera, B.\*, Shannon, N., & **Soylu, F.** (2017). *ERP Markers for Number Gesture Processing*. Poster presented at the The National Diversity in STEM Conference. Salt Lake City, UT: October, 2017.
- Wagh, A., Novak, M., & **Soylu, F.** (2016). *Integrating agent-based modeling and case studies to learn about population dynamics: A design framework*. Paper presented at the 2016 National Association of Researchers of Science Teaching (NARST) Conference. Baltimore, MD: April, 2016.
- Irwin, A.\*, Guyotte, K., **Soylu, F.**, & Houser, Rick. (2016). *Using neuroscience in educational research: A qualitative inquiry of ethics, power, and participation*. Paper presented at the Twelfth International Congress of Qualitative Inquiry. Champaign-Urbana, IL: May, 2016.
- Soylu, F.** & Newman, S. (2012). *Shared use of neural resources between finger tapping and addition*. Poster presented at the Cognitive Neuroscience Society Conference, Chicago, IL: March, 2012.
- Hickey, D., Bishop S., **Soylu, F.** (2011). *Wikifolios, reflections, and exams for online engagement, understanding, and achievement*. Poster presented at the International Society for the Scholarship of Teaching and Learning (ISSOTL) Conference, Milwaukee, WI: October, 2011.
- Soylu, F.**, Newman, S. (2011). *Finger based representation of numbers: correlation between finger tapping ability and digit span*. Abstract for the 33th Annual Conference of the Cognitive Science Society, Boston, MA: July, 2011.
- Soylu, F.**, Soylu, M. and Davis, H. (2010). *Relating embodiment and phenomenology to art experience*. Paper presented at the National Art Education Association Conference, Baltimore, MD: April, 2010.
- Soylu, F.**, and Millard, M. (2009). *Use of embodied learning approaches in teaching technology*. Paper presented at the Association for Educational Communications and Technology (AECT) meeting, Louisville, KY: October, 2009.
- Millard, M., Hallett, K., van Leusen, P. and **Soylu, F.** (2009). *Online student course evaluation systems: Effective strategies and best practices*. Poster presented at the Association for Educational Communications and Technology (AECT) meeting, Louisville, KY: October, 2009.
- Soylu, F.**, and Yalvac, B. (2009). *What does embodied cognition have to offer for science education?* Paper presented at the European Science Education Research Association (ESERA) Conference, Istanbul: August, 2009.

**Soylu, F.** (2008). *Academics' views on and uses of Wikipedia*. Paper presented at the 10th International Conference on Education, Athens: May, 2008.

**Soylu, F.** (2008). *Application of design principles of Eksisozluk to online learning communities*. Paper presented at the Harvard GSE Student Research Conference, Cambridge, MA: March, 2008.

### Local Conference Presentations (\*students)

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Kim, J.\*, & **Soylu, F.** (2019). *Approaches to defeat math anxiety: Where should we start?* Poster presented at the 11th Annual Educational Studies in Psychology, Research Methodology, and Counseling Graduate Research Symposium. The University of Alabama, Tuscaloosa: April, 2019.

Anchan, M.\*, & **Soylu, F.** (2019). *Does It Add Up? Comparing Arithmetic Processing in Bilinguals and Monolinguals*. Poster presented at the 11th Annual Educational Studies in Psychology, Research Methodology, and Counseling Graduate Research Symposium. The University of Alabama. Tuscaloosa: April, 2019.

Rivera, B.\*, & **Soylu, F.** (2019). *The ERP Effects of Shared Components in Fraction Comparisons*. Poster presented at the 11th Annual Educational Studies in Psychology, Research Methodology, and Counseling Graduate Research Symposium. The University of Alabama, Tuscaloosa: April, 2019.

Somers, C.\*, & **Soylu, F.** (2019). *Let's Face it-N170 Rules: Temporal Processing of Facial Features in the Brain Using Event-Related Potential*. Poster presented at the 2019 Undergraduate Research & Creativity Activity (URCA) Symposium. The University of Alabama, Tuscaloosa: March, 2019.

Anchan, M.\* & **Soylu, F.** (2018). *Comparing Math Processing in Bilinguals and Monolinguals: Retrieval-based and Calculation-based Arithmetic*. 1st STEM Forward Conference. Tuscaloosa, AL: April, 2018.

Rivera, B.\*, & **Soylu, F.** (2018). *A Mass Univariate Analysis of Fraction Processing Event Related Potentials*. Poster presented at the 1st STEM Forward Conference. Tuscaloosa, AL: April, 2018.

Rivera, B.\*, & **Soylu, F.** (2018). *A Mass Univariate Analysis of Fraction Processing Event Related Potentials*. Poster presented at the 10th Annual Educational Studies in Psychology, Research Methodology, and Counseling Graduate Research Symposium. The University of Alabama, Tuscaloosa: March, 2018.

Anchan, M.\*, Hsin L. & **Soylu, F.** (2018). *Retrieval-based and Calculation-based Arithmetic: Comparing Bilinguals and Monolinguals*. Poster presented at the 10th Annual Educational Studies in Psychology, Research Methodology, and Counseling Graduate Research Symposium. The University of Alabama, Tuscaloosa: March, 2018.

Anchan, M.\*, **Soylu, F.** & Hsin L. (2018). *Precursor Math Skills and Arithmetic Performance: Comparing Bilinguals and Monolinguals*. Poster presented at the 10th Annual Educational Studies in Psychology, Research Methodology, and Counseling Graduate Research Symposium. The University of Alabama, Tuscaloosa: March, 2018.

Remmes, R.\*, & **Soylu, F.** (2018). *Structural Brain Features Associated with Autism in Children: A VBM Study*. Poster presented at the 2018 Undergraduate Research & Creativity Activity (URCA) Symposium. The University of Alabama, Tuscaloosa: March, 2018.

Denkiewicz, J.\*, & **Soylu, F.** (2018). *Structural Brain Features Associated with Mild Cognitive Impairment in the Elderly: A VBM Study*. Poster presented at the 2018 Undergraduate Research & Creativity Activity (URCA) Symposium. The University of Alabama, Tuscaloosa: March, 2018.

Rivera, B.\*, & **Soylu, F.** (2017). *The Arithmetic N400 in Fraction Processing*. Poster presented at the 9th Annual Educational Studies in Psychology, Research Methodology, and Counseling Graduate Research Symposium. The University of Alabama, Tuscaloosa: March, 2017.

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**Invited Talks**


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- Soylu, F.** (2020) Educational Neuroscience: Fundamental Theories and Findings. Virtual seminar for the Professional Development Seminar Series, Inonu University, Malatya, Turkey: April, 2020.
- Soylu, F.** (2020). Educational Neuroscience Research on Mathematical Cognition. Cognitive Psychology Colloquium, The University of Alabama, Tuscaloosa, AL: March, 2020.
- Soylu, F.** (2019). *Embodied Cognition, Neuroscience, and Education*. Online guest lecture for the MSTU 4133: Cognition and Computers Course. Teacher's College, Columbia University: November, 2019.
- Soylu, F.** (2019). *Eğitimsel sinirbilim nedir ve neden gereklidir?* Trabzon University online guest lecture. Trabzon, Turkey: May, 2019.
- Soylu, F.** (2018). *What do educators need to know about neuroscience, brain development, and learning?* The University of Alabama Literacy Leadership Conference, Tuscaloosa, AL: August, 2018
- Soylu F. (2018). *Mass Univariate Methods & Machine Learning Classification to Analyze ERP Data*. The 7th Alabama Advanced Imaging Consortium Retreat: July, 2018.
- Soylu, F.** (2018). *What is Educational Neuroscience & Why Now?.* Middle East Technical University School of Education Visiting Faculty Seminar, Ankara: June, 2018.
- Soylu, F.** (2018). *Bodily and evolutionary origins of numerical cognition: Why you can count on your fingers to do math*. Middle East Technical University, Cognitive Science Program Colloquium, Ankara: June, 2018.
- Soylu, F.** (2018). *Bodily and evolutionary origins of numerical cognition: Why you can count on your fingers to do math*. University of Alabama – Birmingham, Department of Psychology Colloquium Series, Birmingham: February, 2018.
- Soylu, F.** (2017). *Embodied Cognition, Neuroscience, and Education*. Online guest lecture for the MSTU 4133: Cognition and Computers Course. Teacher's College, Columbia University: November, 2017.
- Soylu, F.** (2017). *Bodily origins of numerical cognition: The relation between bodily abilities and numerical skills during development*, Clinical Psychology Colloquium, Department of Psychology, The University of Alabama, Tuscaloosa: October, 2017.
- Soylu, F.** (2017). *The differential relationship between finger sense, and addition and subtraction: an fMRI study*. The 6th Alabama Advanced Imaging Consortium Retreat: July, 2017
- Soylu, F.** (2017). *Educational Neuroscience: Goals, methods and trends*. The University of Alabama Undergraduate Neuroscience Club, Tuscaloosa: February, 2017.
- Soylu, F.** (2016). *Bodily origins of numerical cognition: Why you can count on your fingers to do math*. Cognitive Science Colloquium Series, Department of Psychology, Mississippi State University, Starkville: April, 2016.
- Soylu, F.** (2016). *Bodily and evolutionary origins of numerical cognition*. Mind, Medicine, Brain and Culture meeting, Department of Anthropology, The University of Alabama, Tuscaloosa: February, 2016.
- Soylu, F.** (2016). *Participation of finger sensorimotor systems in mathematical cognition*. Neuroimaging Club Talk- University of Alabama, Birmingham: February, 2016.
- Soylu, F.** (2016). *Using Excel pivot charts & tables to make sense of complex data sets*. UA Faculty Resource Center, faculty technology showcase presentation: February, 2016.
- Soylu, F.** (2015). *Embodied cognition, Neuroscience, and Education*. Online guest lecture for the MSTU 4133: Cognition and Computers Course. Teacher's College, Columbia University: November, 2015.

**Soylu, F.** (2015). *You can count on your fingers: How and why we use fingers for number processing*. Developmental Psychology Contemporary Issues, Psychology Department Weekly Colloquium. The University of Alabama, Tuscaloosa: April, 2015.

**Soylu, F.** (2014). *Contribution of executive and memory systems to symbolic learning in STEM*. Symposium conducted at the International Mind Brain Education Society (IMBES) Conference, Fort-Wayne, TX: November, 2014.

**Soylu, F.** (2014). *The promises, challenges and future of educational neuroscience*. Keynote address for the College of Education 6th Annual ESPRMC Graduate Symposium. The University of Alabama, Tuscaloosa: March, 2014.

## Research Grants

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2019-2021 “Brain pathways for perception-to-cognition in ASD: Reconciling divergent evidence from computational and emotional behavior” - Alabama Life Research Institute (ALRI) Pilot Project Program (Award #3-7R), PI: Evie Malaia, CO-PI: Firat Soylu, \$24,800

2018-2020 “Mathematical Processing Differences between Bilinguals and Monolinguals” - The University of Alabama Research Grants Committee (RGC), Level 1 Grant (Award # A19-0199-001), PI: Firat Soylu, \$6000

2015-2017 “The Embodiment of Number Processing: The Relation between Fingers and Numbers” - The University of Alabama Research Grants Committee (RGC), Level 1 Grant (Award # RGC-2015-49), PI: Firat Soylu, \$5950

2015-2017 “The use of mobile EEG and stationary EEG amplifiers in a pilot study focused on the impact of low current brain stimulation on math understanding and calculations” - Research Grants Committee (RGC), Level 3 Grant PI: Rick Houser, CO-PI: Steve Thoma, Research Scientist: Firat Soylu, \$225,000

## Recent Courses Taught

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### The University of Alabama – Educational Psychology Program

- BEP 500 - Advanced Educational Psychology (Fall, 2014-2018)
- BEP 541 - Learning and Cognition (Summer, 2019 - )
- BEP 570 - Foundations of Educational Neuroscience (Fall, 2014 - )
- BEP 670 - Research Methods and Trends in Educational Neuroscience (Spring, 2014 - )

## Awards & Fellowships

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2016 UC-Davis ERP Boot Camp Attendance Award - NIH

2010 Cognitive Science Summer Research Fellowship, Indiana University

2010 The University Graduate School Doctoral Research Grant, Indiana University

2010 Achasa Beechler Dissertation Award, Indiana University

2010 Graduate Student Organization (GPSO) Research Award, Indiana University

2009 IST A.V. Summer Fellowship, Indiana University

- 2009 Achasa Beechler Dissertation Proposal Award, Indiana University
- 2004 Research Council of Norway Foreign Exchange Fellowship
- 2000-2002 Turkish Education Association Undergraduate Scholarship
- 1998-2002 Turkish Ministry of Education Full Undergraduate Fellowship

### **Graduate Students**

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#### **PhD Dissertation Chair/Co-Chair**

- 2017– Mona Anchan, UA Educational Psychology Program / Educational Neuroscience PhD Concentration.
- 2016– Brian Rivera, UA Educational Psychology Program / Educational Neuroscience PhD Concentration.
- 2016-2020 Wesley Webber, UA Counseling and Mental Health Program.

#### **PhD Dissertation Committee Member**

- 2020– Jiaqi Yu, UA Instructional Leadership.
- 2020– Kristina Baggett, UA Psychology.
- 2019– Kelsie Dawson, UA Educational Psychology / Educational Neuroscience PhD Concentration.
- 2016-2019 Erin O'Connor, UA Educational Psychology, Adult Literacy Learning: Perceptions and Motivations of Volunteer Tutors.
- 2017-2019 Anne-Charlotte Souto, UA Department of Economics, Finance, and Legal Studies, The Distribution of Returns to Education.

#### **PhD Dissertation Examiner**

- 2016 Polly K. Lai, The University of Sydney, Faculty of Education and Social Work, Learning Nanoscience from a Nanoparticle's Perspective: A Computationally Embodied Learning Experience, Committee chair: Michael Jacobson.

#### **MSc Thesis Committee Member**

- 2019 Jaimie Choi, UA Psychology Department, Aging Effects in Ambivalence.

#### **Professional Service**

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- 2019 Co-Organizer, Alabama Advanced Imaging Consortium Pre-Conference Workshop
- 2018- Associate Editor, Journal of Numerical Cognition
- 2017- Steering Committee Member, Alabama Advanced Imaging Consortium

Proposal reviewer for the following grant programs:

- 2020 Swiss National Science Foundation (Ad-hoc)
- 2020 NSF Graduate Research Fellowships Program (GRFP) Review Panel
- 2017,2018 US Department of Veteran Affairs, The Rehabilitation Research and Development Services - Spinal Cord Injury/Disorders and Neuropathic Pain Panel
- 2016 NSF EHR Cyberlearning Program Review Panel
- 2015 The Carnegie Trust for the Universities of Scotland

Ad-hoc reviewer for the following journals:

- American Educational Research Journal
- Behavioural Brain Research
- Brain Connectivity
- Journal of Numerical Cognition
- Journal of Learning and Individual Differences
- Frontiers in Psychology
- Cognitive Science
- Journal of Cognition

Regularly review proposals & papers for various conferences, most regularly for the Cognitive Science Society Conference and the AERA Conference – Brain Neuroscience Education SIG

### **Departmental/University Service**

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#### **The University of Alabama**

- 2019-2020 Chair, Faculty Search Committee - Assistant Professor of Educational Psychology & Educational Neuroscience Position
- 2020- Member, Graduate Council
- 2018-2019 Co-Chair, Faculty Search Committee - Assistant Professor of Educational Psychology & Educational Neuroscience Position
- 2018- Faculty Advisor, Association of Graduate Students in Educational Studies
- 2016-2017 Co-Chair, Faculty Search Committee - Assistant Professor of Educational Psychology & Educational Neuroscience Position
- 2016- Member, University of Alabama Evolution Working Group
- 2015-2016 Co-Chair, Faculty Search Committee - Assistant Professor of Educational Psychology & Educational Neuroscience Position
- 2014- Educational Neuroscience Initiative Co-Founder and Coordinator

### **Professional Memberships/Affiliation**

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- 2018- Mathematical Cognition and Learning Society
- 2014- IMBES (International Mind Brain and Education Society)
- 2012- AERA (American Educational Research Association)
- 2009- Cognitive Science Society

## Media Appearances

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- 1-10-2019 *Education Talk Radio*. Interview about the new educational neuroscience undergraduate major. <https://www.blogtalkradio.com/edutalk/2019/01/10/the-new-educational-neuroscience-undergrad-program-at-university-of-alabama>
- 12-4-2018 *WBRC - Fox 6 News*. Segment on Fox 6 News, featuring the new educational neuroscience undergraduate major, with a brief interview. [https://twitter.com/DavidMiller\\_UA/status/1069985986556379136?s=20](https://twitter.com/DavidMiller_UA/status/1069985986556379136?s=20)
- 11-26-2018 *Tuscaloosa News*. "UA to Launch State's First Educational Neuroscience Program." <https://www.ua.edu/news/2018/11/ua-to-launch-states-first-educational-neuroscience-program/>
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