Boris Koichu – List of Publications

2021

Book

Koichu, B., & Zazkis, R. (2021). *Mathematical encounters and pedagogical detours. Stories of disturbance and learning opportunities in teacher education*. Springer.

Articles in Refereed Journals

Koichu, B., Parasha, R., & Tabach, M. (2021). Who-Is-Right tasks as a means for supporting collective looking-back practices. *ZDM–Mathematics Education*, 53(4), 831–846.

Pinto, A., & Koichu, B. (2021). Implementation of mathematics education research as crossing the boundary between disciplined inquiry and teacher inquiry. *ZDM – Mathematics Education*, 53(5), 1085-1096.

Marmur, O., & Koichu, B. (2021). Between expert and student perspectives: Instructors' heuristic-didactic discourse in the undergraduate classroom. *Mathematical Thinking and Learning*. doi: doi.org/10.1080/10986065.2021.1940432

Koichu, B., Aguilar, M. S., & Misfeldt, M. (2021). Implementation-related research in mathematics education: The search for identity. *ZDM – Mathematics Education*, 53(5), 975-989.

Book Chapters (peer reviewed)

Cooper, J., & Koichu, B. (2021). In the pursuit of impact: Design and practice of three innovative professional development programs for mathematics teachers. In A. Hofstein, A. Arcavi, B.-S. Eylon, & A. Yarden (Eds.), *Long-term Research and Development in Science Education: What have we learned?* (pp. 333-359). Brill.

Koichu, B. (accepted). The art of being specific while theorizing for and from practice of mathematics teachers' collaboration. Reaction on a plenary talk and a chapter by Susanne Prediger. In H. Borko, & Potari, D. (Eds.), *Teachers of mathematics working and learning in collaborative groups. The 25th ICMI Study*. Springer.

Invited Editorials

Jankvist, U. F., Aguilar, M. S., Misfeldt, M., & Koichu, B. (2021). Launching Implementation and Replication Studies in Mathematics Education (IRME), *Implementation and Replication Studies in Mathematics Education*, *1*(1), 1-19.

Jankvist, U. F., Aguilar, M. S., Misfeldt, M., & Koichu, B. (2021). What to replicate? *Implementation and Replication Studies in Mathematics Education*, *1*(2), 1-10

Chapters in Refereed Conference Proceedings

Parasha, R., Koichu, B., & Tabach, M. (2021). A challenge of deciding who is right and why. Presented at TSG46 "Mathematics competitions and other challenging activities" of the 14th *International Congress of Mathematics Education (ICME)*. Shanghai, Republic of China.

Pinto, A., Levi Gamlieli, H., & Koichu, B. (2021). The secondary-tertiary transition: An international perspective on where we are and how to move forward. Presented at

TSG2 "Mathematics education at tertiary level" of the 14th *International Congress of Mathematics Education (ICME)*. Shanghai, Republic of China.

Cooper, J., Levi Gamlieli, H., Koichu, B., Karsenty, R., & Pinto, A. (2021). Instructional Innovation in Mathematics Courses for Engineering Programs – A Case Study. In M. Imprasitha, N. Changsri, & N. Boonsena (Eds.), *Proceedings of the 44nd Conference of the International Group for the Psychology of Mathematics Education*, Vol. 2, pp. 189-198. Khon Kaen, Thailand: PME.

Schwarz, B., Heyd-Metzuyanim, E., Koichu, B., Tabach, M., & Yarden, A. (August, 2021). Interdisciplinarity and school-learning in schools that comply with dialogic pedagogies. Accepted for presentation at *19th Biennial EARLI (European Association for Research on Learning and Instruction) Conference* (online).

Widder, M., Tabach, M., & Koichu, B. (September, 2021). Epistemic tensions as springboards to actions: Mathematics teachers' enculturation in an inquiry-based professional development community. Accepted for presentation at *ECER-2021, annual conference of European Educational Research Association*, Geneva (online).

2020

Articles in Refereed Journals

Golumbic, Y., Baram-Tsabari, A., & Koichu, B. (2020). Engagement and communication features of scientifically successful citizen science project, *Environmental Communication*, 14(4), 465-480.

Koichu, B. (2020). Problem posing in the context of teaching for advanced problem solving. *International Journal of Educational Research*, 102, 101428. doi: http://doi.org/10.1016/jijer.2019.05.001

Chapters in Refereed Conference Proceedings

Kohen, Z., Keller, N., & Koichu, B. (2020). Metacognitive processes in online collaborative problem solving forums: mathematics teachers' dual roles. In Borko, H., & Potari, D. (Eds.), *Proceedings of ICMI Study 25 Conference "Teachers of mathematics working and learning in collaborative groups"*, pp. 484-491. Lisbon, Portugal.

Koichu, B., Zaks, R., & Farber, M. (2020). Teachers' voices from two communities of inquiry engaged in practices of mathematics education research. In Borko, H., & Potari, D. (Eds.), *Proceedings of ICMI Study 25 Conference "Teachers of mathematics working and learning in collaborative groups"*, pp. 364-371. Lisbon, Portugal.

2019

Edited Book

Felmer, P., Liljedahl, P., & Koichu, B. (Eds.). (2019). *Problem solving in mathematics instruction and teacher professional development*. Cham: Springer.

Articles in Refereed Journals

Widder, M., Berman, A., & Koichu, B. (2019). An a priori measure of visual difficulty of 2-d sketches depicting 3-D objects. *Journal of Research in Mathematics Education, 50*(5), 489-528.

Palatnik, A., & Koichu, B. (2019). Flashes of creativity. *For the Learning of Mathematics, 39(2),* 8-12.

Boor Chapters (peer reviewed)

Koichu, B. (2019). A discursively oriented conceptualization of mathematical problem solving. In Felmer, P., Liljedahl, P., & Koichu, B. (Eds.), *Problem solving in mathematics instruction and teacher professional development* (pp. 43-66). Cham: Springer.

Koichu, B., & Keller, N. (2019). Creating and sustaining online problem-solving forums: Two perspectives. In P. Liljedahl & L. M. Santos Trigo (Eds.), *Mathematical Problem Solving: ICME 13 Monograph* (pp. 263-287). Springer.

Chapters in Refereed Conference Proceedings

Koichu, B., & Pinto, A. (2019). Implementation through participation: Theoretical considerations and an illustrative case. *Proceedings of the 11th Congress of the European Society for Research in Mathematics Education.* Utrecht, the Netherlands. Available at https://hal.archives-ouvertes.fr/hal-02429776/document.

Tabach. M., & Koichu, B. (2019). Who is right? Theoretical analysis of representational activities. *Proceedings of the 11th Congress of the European Society for Research in Mathematics Education.* Utrecht, the Netherlands. Available at https://hal.archives-ouvertes.fr/hal-02435330/document

Cooper, J., & Koichu, B. (2019). Reconciling tensions between lecturing and active learning in professional learning communities. In Graven, M., Venkat, H., Essien, A., & Vale, P. (Eds), *Proceedings of the 43th Conference of the International Group for the Psychology of Mathematics Education*, Vol. 2, pp. 169-178. Pretoria, South Arica: PME.

Invited paper

Koichu, B., & Pinto, A. (on behave of EMS Education Committee) (2019). The secondary-tertiary transition in mathematics: What are our current challenges and what can we do about them? *EMS Newsletter,* 112, 34-35.

2018

Articles in Refereed Journals

Koichu, B., & Pinto, A. (2018). Developing education research competencies in mathematics teachers through TRAIL: Teacher-Research Alliance for Investigating Learning. *Canadian Journal of Science, Mathematics and Technology Education, 18,* 68-85.

Koichu, B. (2018). On making epistemological inferences based on linguistic observations: a commentary on Shinno et al. *For the Learning of Mathematics*, *38*(2), 25-26.

Book chapters (peer reviewed)

Zazkis, R., & Koichu, B. (2018). Dialogues on dialogues: The use of classical dialogues in mathematics teacher education. In Zazkis, R. & Herbst, P. (Eds.). *Mathematical Dialogue: Scripting approaches in mathematics education research and practice* (pp. 365-387). Springer: Cham.

Koichu, B., & Zazkis, R. (2018). "I understand" talk in script writing. A case from Euclid's Elements. In Zazkis, R. & Herbst, P. (Eds.). *Mathematical Dialogue: Scripting approaches in mathematics education research and practice* (pp. 163-184). Springer: Cham.

Koichu, B., Biton, Y. Gendler, O., & Keller, N. (2018). Problem-solving forums at social networks that accompany mathematics study in Israeli high school. In N. Movshovitz-Hadar (Ed.), *Israel Mathematics Education K-12* (pp. 198-208). World Scientific.

Biton, Y., Fellus, O., Raviv, D. Feilchenfeld, D., & Koichu, B. (2018). Mathematics at the virtual school: Why? Why not? Who? What? And so what? In N. Movshovitz-Hadar (Ed.), *Israel Mathematics Education K-12* (pp. 145-153). World Scientific.

Koichu, B. (2018). Mathematical problem solving in choice-affluent environments. In Kaiser, G., Forgasz, H, Graven, M., Kuzniak, A., Simmt, E. & Xu, B. (Eds.) *Invited Lectures from the 13th International Congress on Mathematics Education*, ICME-13 Monographs (pp. 307-324). Springer.

Chapters in Refereed Conference Proceedings

Widder, M., Berman, A., & Koichu, B. (2018). Characterizing action strategies in a 3-D dynamic geometry environment. In Eshet-Alkalai, Y., Blau, I., Caspi, A., Etgar, S., Geri, N., Kalman, Y., & Silber-Varod, V. (Eds.), *Proceedings of the 13th Chais Conference for the Study of Innovation and Learning Technologies* (pp. 53-61). Ra'anana: Open University of Israel.

Marmur, O., & Koichu, B. (2018). Which key memorable events are experienced by students during calculus tutorials? In E. Bergqvist, M. Österholm, C. Granberg, & L. Sumpter (Eds.). *Proceedings of the 42nd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 3, pp. 347-354). Umeå, Sweden: PME.

Widder, M., Berman, A., & Koichu, B. (2018). Action strategies in spatial geometry problem solving supported by dynamic geometry software. In E. Bergqvist, M. Österholm, C. Granberg, & L. Sumpter (Eds.). *Proceedings of the 42nd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, pp. 435-442). Umeå, Sweden: PME.

2017

Articles in Refereed Journals

Leikin, R., Koichu, B., Berman, A., & Dinur, S. (2017). Does general giftedness play a role in classes of students motivated to study mathematics at a high level? Focus on students' questions. *ZDM Mathematics Education, 49*, 65-80.

Palatnik, A., & Koichu, B. (2017). Sense making in the context of algebraic activities. *Educational Studies in Mathematics, 95*, 245-262.

Koichu, B. (2017). On mathematics with distinction, a learner-centered conceptualization of challenge and choice-based pedagogies. *The Mathematics Enthusiast*, *14*(1-3), 517-540.

Koichu, B., Katz, E., & Berman, A. (2017). Stimulating student aesthetic response to mathematical problems by means of manipulating the extent of surprise. *Journal of Mathematical Behavior, 46*, 42-57.

Book chapters (peer reviewed)

Keller, N., & Koichu, B. (2017). A dialogue about integrating a class environment and an online environment in mathematics education. In Schwarz, B. B., Rosenberg, H. & Asterhan, C. S. C. (Eds.), *Breaking down barriers? Teachers, students and social network sites* (pp. 156-180). MOFET, Israel (in Hebrew).

Chapters in Refereed Conference Proceedings

Koichu, B., Atrash, E., & Marmur, O. (2017). Problem solving opportunities in frontal classes: Inquiry in teaching practices and learning strategies. In Göller, R., Biehler, R., Hochmuth, R., Rück, H.-G. (Eds.). *Didactics of Mathematics in Higher Education as a Scientific Discipline – Conference Proceedings* (pp. 281-285). Kassel, Germany: Universitätsbibliothek Kassel.

Koichu, B., & Keller, N. (2017). Implementation enterprise through the lens of a theory of diffusion of innovations: A case of online problem-solving forums. In Dooley, T. & Gueudet, G. (Eds.), *Proceedings of the 10th Congress of the European Society for Research in Mathematics Education.* Institute of Education, Dublin City University, Ireland and ERME. Available at https://keynote.conference-services.net/resources/444/5118/pdf/CERME10_0562.pdf.

Palatnik, A., & Koichu, B. (2017). Sense making through algebraic activities. In Dooley, T. & Gueudet, G. (Eds.), *Proceedings of the 10th Congress of the European Society for Research in Mathematics Education.* Institute of Education, Dublin City University, Ireland and ERME. Available at https://keynote.conference-services.net/resources/444/5118/pdf/CERME10_0157.pdf.

Marmur, O., & Koichu, B. (2017). What can calculus students like about and learn from a challenging problem they did not understand? In Dooley, T., & Gueudet, G. (Eds.), *Proceedings of the 10th Congress of the European Society for Research in Mathematics Education* (pp. 2193-2200). Dublin, Ireland: DCU Institute of Education and ERME.

2016

Articles in Refereed Journals

Kontorovich, I., & Koichu, B. (2016). A case study of an expert problem poser for mathematics competitions. *International Journal of Science and Mathematics Education*, *14*(1), 81-99.

Marmur, O., & Koichu, B. (2016). Surprise and the aesthetic experience of university students: A design experiment. *Journal of Humanistic Mathematics*, *6*(1), 127-151.

Raveh, I., Koichu, B., Peled, I., & Zaslavsky, O. (2016). Four (algorithms) in one (bag): An integrative framework of knowledge for teaching the standard algorithms of the basic arithmetic operations. *Research in Mathematics Education*, *18*(1), 43-60.

Koichu, B., Zaslavsky, O. & Dolev, L. (2016). Effects of variations in task design on mathematics teachers' learning experiences: A case of a sorting task. *Journal of Mathematics Teacher Education*, *19*(4), 349-370.

Invited papers

Koichu, B. (on behave of EMS Education Committee) (2016). Practices for identifying, supporting and developing mathematical giftedness in school children: The scene in Israel. *EMS Newsletter*, 99, 53-54. The extended version of the paper is available at http://euro-math-soc.eu/reports.

Koichu, B. (2016). Response paper: What is reflected in the special issue about the development of the commognitive theory via its implications? *Research and Its Consideration in Mathematics Education, 4*, 194-208 (in Hebrew).

2015

Articles in Refereed Journals

Zazkis, R., & Koichu, B. (2015). A fictional dialogue on infinitude of primes: Introducing virtual duoethnography. *Educational Studies in Mathematics*, *88*, 163-181.

Palatnik, A., & Koichu, B. (2015). Exploring insight: Focus on shifts of attention. *For the Learning of Mathematics*, *2*, 9-14.

Koichu, B., & Leron, U. (2015). Proving as problem solving: The role of cognitive decoupling. *Journal of Mathematical Behavior*, *40*, 233-244.

Widder, M., Berman, A., & Koichu, B. (2015). Dismantling visual obstacles to comprehension of 2-D sketches depicting 3-D objects in spatial geometry instruction. *Alon LeMorej HaMatematika* (*Bulletin for Mathematics Teachers*), 52, 19-28 (in Hebrew).

Book chapters (peer reviewed)

Klinshtern, M., Koichu, B., & Berman, A. (2015). What do high school teachers mean by saying "I pose my own problems"? In F. M. Singer, N. Ellerton & J. Cai (Eds.). *Problem posing: From research to effective practice*. (pp. 449-467). New York, NY: Springer.

Chapters in Refereed Conference Proceedings

Koichu, B. (2015).Towards a confluence framework of problem solving in educational contexts. In K. Krainer and N. Vondrová (Eds.), Proceedings of the 9^{th} *Conference of the European Society for Research in Mathematics Education* (pp. 2668-2674). Charles University in Prague, Czech Republic.

Koichu, B. (2015). Problem solving and choice-based pedagogies. In Singer, F. M., Toader, F., & Voica, C. (Eds.), *Electronic Proceedings of the* 9^{th} *International Conference Mathematical Creativity and Giftedness* (pp. 68-73). Sinaia, Romania (ISBN: 978-606-727-100-3). Available at http://mcg-9.net/pdfuri/MCG-9-Conference-proceedings.pdf

Invited paper

Koichu, B. (2015). Challenging mathematics for all and choice-based pedagogies. Plenary address. In D. Desli, I. Papadopoulus and M. Tzekaki (Eds.), *Electronic Proceedings of the* 6^{th} *Conference of the Greek Association for Research in Mathematics Education* (pp. 20-34). Thessaloniki, Greece: GARME.

2014

Articles in Refereed Journals

Koichu, B. (2014). Networking theories by iterative unpacking. *PNA*, 151-161 (reprint).

Lachmy, R., & Koichu, B. (2014). The interplay of empirical and deductive reasoning in proving "if" and "only if" statements in a Dynamic Geometry environment. *Journal of Mathematical Behavior*, *36*, 150-165.

Raveh, I., & Koichu, B. (2014). Mathematical knowledge for teaching the standard algorithms of the four basic arithmetic operations. *Mispar Hazak* (*Strong Number*), 25, 51-61 (in Hebrew).

Book chapters (peer reviewed)

Koichu, B. (2014) (with contributions by Gerald Goldin, Izzie Weinzweig, Shlomo Vinner and Roza Leikin). Reflections on problem solving. In M. N. Fried & T. Dreyfus (Eds.), *Mathematics & Mathematics Education: Searching for Common Ground. Advances in Mathematics Education* (pp. 113-135). Dordrecht, Netherlands: Springer.

Chapters in Refereed Conference Proceedings

Palatnik, A., & Koichu, B. (2014). What counts for being creative? A mathematically gifted student's perspective. Proceedings of the *8th International Conference on Creativity in Mathematics Education and the Education of the Gifted Students* (pp. 96-103). Denver, USA. Available at http://www.igmcg.org/images/proceedings/MCG-8-proceedings.pdf

Widder, M., Berman, A., & Koichu, B. (2014). Dismantling visual obstacles to comprehension of 2-D sketches depicting 3-D objects. In P. Liljedahl, C. Nicol, S. Oesterle, & D. Allan (Eds.), *Proceedings of the 38th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 5, pp. 369-376). Vancouver, Canada: PME.

Palatnik. A., & Koichu, B. (2014). Reconstruction of one mathematical invention: Focus on structures of attention. In P. Liljedahl, C. Nicol, S. Oesterle, & D. Allan (Eds.), *Proceedings of the 38th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 4, pp. 377-384). Vancouver, Canada: PME.

2013

Articles in Refereed Journals

Koichu, B., & Kontorovich, I. (2013). Dissecting success stories on mathematical problem posing: A case of the Billiard Task. *Educational Studies in Mathematics, 83*(1), 71-86.

Koichu, B., Harel. G., & Manaster, A. (2013). Ways of thinking associated with mathematics teachers' problem posing in the context of division of fractions. *Instructional Science, 41*(4), 681-698.

Koichu, B., & Zazkis, R. (2013). Decoding a proof of Fermat's Little Theorem via script writing. *Journal of Mathematical Behavior, 32*, 364-376.

Chapters in Refereed Conference Proceedings

Berman, A., Koichu, B., & Shvartsman, L. (2013). Understanding understanding equivalence of matrices. Electronic Proceedings of the *8th Conference of the European Society for Research in Mathematics Education,* Antalya, Turkey. Available at http://cerme8.metu.edu.tr/wgpapers/WG14/WG14_Berman.pdf.

Raveh, I., & Koichu, B. (2013). A reference framework for teaching the standard algorithms of the four basic arithmetic operations: From theoretical analysis to task design. Electronic Proceedings of the *8th Conference of the European Society for Research in Mathematics Education,* Antalya, Turkey. Available at http://cerme8.metu.edu.tr/wgpapers/WG17/WG17_Raveh.pdf.

Koichu, B. (2013). Networking theories by iterative unpacking. Electronic Proceedings of the *8th Conference of the European Society for Research in Mathematics Education,* Antalya, Turkey. Available at http://cerme8.metu.edu.tr/wgpapers/WG16/WG16_Koichu.pdf.

Koichu, B., & Zazkis, R. (2013). A dialogic method of presenting proofs: Focus on Fermat's Little Theorem. Presented at the 15th Conference of SIGMAA on RUME (Special Interest Group of MAA on Research in Undergraduate Mathematics Education), Denver, Colorado. Available at http://sigmaa.maa.org/rume/crume2013/Abstracts_Files/rume16_submission_55.pdf

Koichu, B., Zaslavsky, O., & Dolev, L. (2013). Effects of variations in task design using different representations of mathematical objects on learning: A case of a sorting task. In Margolinas, C., Ainley, J., Frant, J. B., Doorman, M., Kieran, C., Leung, A., Ohtani, M., Sullivan, P., Thompson, D., Watson, A., & Yang, Y. (Eds.). *Proceedings of ICMI Study 22 Task Design in Mathematics Education* (pp. 463-372). Oxford, UK.

Klinshtern, M., Koichu, B., & Berman, A. (2013). What do high school teachers mean by saying "I pose my own problems"? In Lindmeier, A. M. & Heinze, A. (Eds.). *Proceedings of the 37th Conference of the International Group for the Psychology of Mathematics Education* (Vol. 3, pp. 185-192). Kiel, Germany: PME.

2012

Articles in Refereed Journals

Kontorovich, I. & Koichu, B. (2012). Feeling of innovation in expert problem posing. *Nordic Studies in Mathematics Education*, *17*(3-4), 199-212.

Kontorovich, I., Koichu, B., Leikin, R., & Berman, A. (2012). An exploratory framework for handling the complexity of students' mathematical problem posing in small groups. *Journal of Mathematical Behavior*, *31*(1), 149-161.

Koichu, B. (2012). Enhancing an intellectual need for defining and proving: A case of impossible objects. *For the Learning of Mathematics*, *32*(1), 2-7.

Book chapters (peer reviewed)

Koichu, B. (2012). Some gold is found - much more is in the mine. A commentary on Gilah Leder's chapter "Looking for gold: Catering for mathematically gifted students within and beyond ZDM". In Forgasz, H. & Rivera, F. (Eds.). *Toward equity: Gender, culture, and diversity* (pp. 407-410). Advances in Mathematics Education series, Part 3. Dordrecht, Netherlands: Springer.

Tall, D., Yevdokimov, O., Koichu, B., Whiteley, W., Kondratieva, M., & Cheng, Y.-H. (2012). Cognitive development of proof. In M. De Villiers & G. Hanna (Eds.), *Proof and proving in mathematics education* (pp. 13-49). New York, NY: Springer.

Chapters in Refereed Conference Proceedings

Koichu, B. (2012). On attaining devolution in an inquiry-based activity focused on defining and proving. Presented at the *International Colloquium "The didactics of mathematics: approaches and issues" in honor of Prof. Michele Artigue*, Paris, France.

Kontorovich, I. & Koichu, B. (2012). Achieving the feeling of innovation in expert problem posing. *Presented at the 17th MAVI (Mathematical Views) Conference*. Helsinki: Finland.

2011

Articles in Refereed Journals

Koichu, B. (2011). Overcoming a pitfall of circularity in research on problem solving by mathematically gifted schoolchildren. *Canadian Journal of Science, Mathematics and Technology Education*, *11*(1), 67-77.

Koichu, B. (2011). On the role of basic assumptions in the debate on the equity issue in gifted education: A commentary on the Gagné's paper. *Talent Development and Excellence*, *3*(1), 79-82.

Chapters in Refereed Conference Proceedings

Koichu, B. (2011). Exploring impossible objects: On the way from Escher to deductive proof in 3-D geometry. In M. Avotina, D. Bonka, H. Meissnera, L. Ramana, L. Sheffield, & E. Velikova (Eds.), *Proceedings of the 6th International Conference on Creativity in Mathematics Education and the Education of the Gifted Students* (pp. 115-120). University of Latvia, Riga, Latvia.

Kontorovich, I., Koichu, B., Leikin, R., & Berman, A. (2011). Indicators of creativity in mathematical problem posing: How indicative are they? In M. Avotina, D. Bonka, H. Meissnera, L. Ramana, L. Sheffield, & E. Velikova (Eds.), *Proceedings of the 6th International Conference on Creativity in Mathematics Education and the Education of the Gifted Students* (pp. 120-125). University of Latvia, Riga, Latvia.

Biton, Y., & Koichu, B. (2011). Peer assessment and mathematical creativity. In M. Avotina, D. Bonka, H. Meissnera, L. Ramana, L. Sheffield, & E. Velikova (Eds.), *Proceedings of the 6th International Conference on Creativity in Mathematics Education and the Education of the Gifted Students* (pp. 30-34). University of Latvia, Riga, Latvia.

Invited paper

Koichu, B. (2011). Three on-going studies on (authentic) problem posing for different educational needs. *MCG Newsletter*, 1, 13-16.

2010

Articles in Refereed Journals

Koichu, B. (2010). On the relationships between (relatively) advanced mathematical knowledge and (relatively) advanced problem solving behaviours. *International Journal of Mathematical Education in Science and Technology*, *41*(2), 257-275.

Andžāns, A., Berman, A., & Koichu, B. (2010). Mathematical competitions and creativity: The cases of Latvia and Israel. *Mediterranean Journal for Research in Mathematics Education*, *9*(2), 107-117.

Koichu, B., & Orey, D. (2010). Creativity or ignorance: Inquiry in calculation strategies of mathematically disadvantaged (immigrant) high school students. *Mediterranean Journal for Research in Mathematics Education*, *9*(2), 75-92.

Harel, G., & Koichu, B. (2010). An operational definition of learning. *Journal of Mathematical Behavior*, *29*, 115-124.

2009

Edited book

Leikin, R., Berman, A., & Koichu, B. (Eds.) (2009). *Creativity in mathematics and the education of gifted students*. Rotterdam, Netherlands: Sense Publishers.

Book Chapters (peer reviewed)

Koichu, B., & Andžāns, A. (2009). Mathematical creativity and giftedness in out-of-school activities. In R. Leikin, A. Berman & B. Koichu (Eds.), *Creativity in Mathematics and Education of Gifted Students* (pp. 285-308). Rotterdam, Netherlands: Sense Publishers.

Leikin, R., Koichu, B., & Berman, A. (2009). Mathematical giftedness in terms of qualities of problem solving acts. In R. Leikin, A. Berman & B. Koichu (Eds.), *Creativity in Mathematics and Education of Gifted Students* (pp. 115-128). Rotterdam, Netherlands: Sense Publishers.

Chapters in Refereed Conference Proceedings

Abramovitz, B., Berezina, M., Koichu, B., & Schwartzman, L. (2009). Urging calculus students to be active learners: What works and what doesn't. *Electronic Proceedings of the 6th Conference of the European Society for Research in Mathematics Education, Lyon, France.* Available at http://www.inrp.fr/publications/edition-electronique/cerme6/wg12-14-abramovich.pdf

Koichu, B. (2009). What can pre-service teachers learn from interviewing high school students on proof and proving? In F.-L. Lin, F.-J. Hsieh, G. Hanna & M. de Villiers (Eds.), *Proceedings of the ICMI Study 19 Conference: Proof and Proving in Mathematics Education* (Vol. 2, pp. 9-15). Taipei, Taiwan: National Taiwan Normal University.

Kontorovich, I., & Koichu, B. (2009). Towards a comprehensive framework of mathematical problem posing. In Tzekaki, M., Kaldrimidou, M. & Sakonidis, C. (Eds.), *Proceedings of the 33rd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 3, pp. 401-408). Thessaloniki, Greece: PME.

Biton, Y., & Koichu, B. (2009). Creating conditions for diffusion of alternative assessment in pre-university mathematics education. In Tzekaki, M., Kaldrimidou, M. & Sakonidis, C. (Eds.), *Proceedings of the 33rd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 2, pp. 177-185). Thessaloniki, Greece: PME.

Invited papers

Koichu, B. (2009). Middle school students' heuristic behaviors in mathematical problem solving. *Proceedings of the International Scientific and Methodical Conference "Heuristic teaching of mathematics"* (pp. 31-32). Donetsk, Ukraine: Donetsk National University.

Koichu, B. (2009). On exploring cognitive characteristics of mathematically gifted students. In Zinigrad, M., Starichenco, B., Sinuany-Stern, Z., Milgram, R., Shacham, S., Offir, B., Hativa, N., Iram, Y. Davidovich, N. & Ribakov, Y. (Eds.), *Proceedings of the 6th International Conference on Excellence in Academia* (pp. 165-170). Ariel, Israel.

Koichu, B. (2009). What is so special about problem solving by mathematically gifted students? In Tzekaki, M., Kaldrimidou, M. & Sakonidis, C. (Eds.), *Proceedings of the*

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Report

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