

Boris Koichu – List of Publications

2020

Edited book

Felmer, P., Liljedahl, P., & Koichu, B. (Eds.). (2020, in press). *Problem solving in mathematics instruction and teacher professional development*. Cham: Springer.

Chapters in Refereed Conference Proceedings

Kohen, Z., Keller, N., & Koichu, B. (accepted, 2020). Metacognitive processes in online collaborative problem solving forums: mathematics teachers' dual roles. Proceedings of ICMI Study 25 Conference "Teachers of mathematics working and learning in collaborative groups". Lisbon, Portugal.

Koichu, B., Zaks, R., & Farber, M. (accepted, 2020). Teachers' voices from two communities of inquiry engaged in practices of mathematics education research. Proceedings of ICMI Study 25 Conference "Teachers of mathematics working and learning in collaborative groups". Lisbon, Portugal.

Parasha, R., Koichu, B., & Tabach, M. (accepted, 2020). A challenge of deciding who is right and why. To be presented at TSG46 "Mathematics competitions and other challenging activities" of the 14th *International Congress of Mathematics Education*. Shanghai, Republic of China.

Pinto, A., Levi Gamlieli, H., & Koichu, B. (accepted, 2020). The secondary-tertiary transition: An international perspective on where we are and how to move forward. To be presented at TSG2 "Mathematics education at tertiary level" of the 14th *International Congress of Mathematics Education*. Shanghai, Republic of China.

2019

Articles in Refereed Journals

Golumbic, Y., Baram-Tsabari, A., & Koichu, B. (2019, online first). Engagement and communication features of scientifically successful citizen science project. *Environmental Communication*. <https://doi.org/10.1080/17524032.2019.1687101>

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.

Koichu, B. (2019, online first). Problem posing in the context of teaching for advanced problem solving. *International Journal of Educational Research*. <http://doi.org/10.1016/j.jjer.2019.05.001>

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., & 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.

Tabach. M., & Koichu, B. (2019). Who is right? Theoretical analysis of representational activities. Presented at the 11th *Congress of the European Society for Research in Mathematics Education*. Utrecht, the Netherlands.

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 behalf 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 9th 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 9th 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. Papadopoulos and M. Tzekaki (Eds.), *Electronic Proceedings of the 6th 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 33rd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 1, pp. 196-200). Thessaloniki, Greece: PME.

Report

Berman, A., Dana-Pickard, N., Koichu, B., Medzinsky, S., Nahlieli, T., & Svarkman, A. (2009). *Exploration of the literature on secondary school mathematics programs*

in five countries (in Hebrew). Israel: Ministry of Education. Available at http://meyda.education.gov.il/files/Tochniyot_Limudim/Portal/Skirot/MathSkira.pdf

2008

Articles in Refereed Journals

Koichu, B. (2008). If not, what yes? *International Journal of Mathematical Education in Science and Technology*, 39(4), 443-454.

Chapters in Refereed Conference Proceedings

Koichu, B. (2008). Research opportunities in out-of-school activities for mathematically gifted students. In R. Leikin (Ed.), *Proceedings of the 5th International Conference on Creativity in Mathematics and the Education of Gifted Students* (pp. 437-439). Haifa, Israel.

Koichu, B., & Andžāns, A. (2008). Mathematical creativity and giftedness in out-of-school activities. In R. Leikin (Ed.), *Proceedings of the 5th International Conference on Creativity in Mathematics and the Education of Gifted Students* (pp. 415-417). Haifa, Israel.

Koichu, B. (2008). Theoretical framework for characterizing responses to multiple problem posing tasks. In R. Leikin, Levav-Waynberg & Appelbaum, M. (Eds.), *Proceedings of the International Workshop on Multiple Solution Connecting Tasks*, (pp. 45-52). Haifa, Israel.

Koichu, B. (2008). On composing multiple-choice tasks, thought experimentation and algebra teachers' knowledge base. *Proceedings of 5th International Colloquium on the Didactics of Mathematics*, the University of Crete, Rethymnon, Crete, Greece.

Koichu, B. (2008). On considerations of parsimony in mathematical problem solving. In O. Figueras, J.L. Cortina, S. Alatorre, T. Rojano & A. Sepulova (Eds.), *Proceedings of the 32nd Conference of the International Group for the Psychology of Mathematics Education* (Vol. 3, pp. 273-280). Morelia, Mexico.

2007

Articles in Refereed Journals

Koichu, B., Berman, A., & Moore, M. (2007). Heuristic literacy development and its relation to mathematical achievements of middle school students. *Instructional Science*, 35, 99-139.

Koichu, B. Berman, A., & Moore, M. (2007). The effect of promoting heuristic literacy on the mathematic aptitude of middle-school students. *International Journal of Mathematical Education in Science and Technology*, 38(1), 1-17.

Koichu, B., & Harel, G. (2007). Triadic interaction in clinical task-based interviews with mathematics teachers. *Educational Studies in Mathematics*, 65(3), 349-365.

Chapters in Refereed Conference Proceedings

Koichu, B. (2007). Issues in analysis of individual discourse concurrent with solving a mathematical problem. *Electronic Proceedings of the 5th Conference of the European Society for Research in Mathematics Education*, Larnaca, Cyprus. Available at http://www.cyprusisland.com/cerme/Group8/GROUP%208%20_13.doc

Koichu, B., Katz, E., & Berman, A. (2007). What is a beautiful problem? An undergraduate students' perspective. In J.-H. Woo, H.-C. Lew, K.-S. Park & D.-Y. Seo (Eds.), *Proceedings of the 31st Conference of the International Group for the Psychology of Mathematics Education* (Vol. 3, pp. 113-120). Seoul, Korea.

2006

Chapters in Refereed Conference Proceedings

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