

Yigal Rosen, Ph.D.

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Yigal is a Richard L. Menschel Senior Research Scientist in The Vice Provost for Advances in Learning (VPAL) at Harvard University. He leads the Harvard VPAL Research Team that advances data analytics and digital learning research initiatives in Harvard and beyond, including HarvardX and Canvas. The interdisciplinary team is comprised of researchers from learning science, statistics, and computer science fields. His recent studies focused on innovative technologies for learning and assessment of real-world skills, such as problem solving, critical thinking, and collaboration. Yigal is teaching 'Design and Development of Technology-Enhanced Assessments' in The Technology, Innovation, and Education (TIE) master's program at Harvard Graduate School of Education.

Prior to joining Harvard, Yigal led Pearson's research and development of next generation assessment of higher-order skills as the Senior Research Scientist. He supported large-scale national and international programs, such as PARCC, NAEP and PISA 2015 & 2018. Yigal worked with product teams on development of Common Core adaptive learning and assessment technologies (e.g., SuccessMaker, iLit) and conducting efficacy studies (e.g., WISC-V, Pearson AccessNext). Yigal previously held academic appointments at the University of Haifa, the Open University, and Ben-Gurion University in Israel. Yigal was a Head of Assessment & Evaluation of an Israeli ed tech start up company Time To Know. He was a member of OECD's PISA 2015 Assessment Framework Expert Group and consulted to Microsoft, Intel, ETS, and the National Authority for Measurement & Evaluation in Israel. He obtained his Ph.D. degree in Education from the University of Haifa, being the youngest recipient of a doctoral degree in the University. Yigal was a post-doctoral fellow at Harvard University Graduate School of Education and at Tel Aviv University School of Education. Prior to his academic career, Yigal taught science, computer science, and math in grades 5 through 12. He is the author of over 80 publications, including articles in International Journal of Artificial Intelligence in Education, Journal of Educational Computing Research, and Review of Educational Research. Yigal is a leading editor of the recently published book, "Handbook of Research on Technology Tools for Real-World Skill Development".

Higher Education

- 2008 Post-doctoral Fellow in Education (Educational Measurement)
Graduate School of Education, Harvard University, Cambridge, MA.
- 2007 Post-doctoral Fellow in Education (Educational Policy)
School of Education, Tel-Aviv University, Israel.
- 2006 Ph.D. in Education (Measurement and Assessment in Education)
Faculty of Education, University of Haifa, Israel.
- 2004 M.A. in Educational Technology (Magna Cum Laude)
Faculty of Education, University of Haifa, Israel.
- 2001 B.A. in Technology and Education (Double Major - Magna Cum Laude)
Computer Science and Teaching Program, Ort Academic College, Jerusalem,
Israel.

Additional Education

- 2010 Evidence Centered Design in Computer-based Assessments
Research Seminar, Graduate School of Education,
Harvard University, Cambridge, MA.
- 2007 Teaching Certificate in Science and Computer Applications K-12
Department of Electrical Engineering, School of Engineering
Southern Methodist University, Dallas, TX.
- 2001 Teaching Certificate in Computer Science K-12
Ort Academic College, Jerusalem, Israel.

Principal Research Interests

- Computer-based learning and assessment of higher-order skills
- Innovative performance assessments in Math, English Language Arts and Science
- Efficacy studies of learning and assessment technologies
- Psychometric qualities of innovative assessments

Research and Development Positions

- 2015-current Richard L. Menschel Senior Research Scientist in The Vice Provost for Advances in Learning (VPAL) at Harvard University, Cambridge, MA
He leads the Harvard VPAL Research Team that advances data analytics and digital learning research initiatives in Harvard and beyond, including HarvardX and Canvas. The interdisciplinary team is comprised of researchers from learning science, statistics, and computer science fields.
- 2012-2015 *Senior Research Scientist*, Center for Next Generation Learning and Assessment

Pearson Education, Boston, MA.

Yigal led Pearson's research on next generation online assessment of higher-order thinking skills as the Senior Research Scientist. His recent studies focused on critical thinking, communication and collaboration skills and innovative technologies for learning and assessment. He supported large-scale national and international programs, such as PARCC, NAEP and PISA 2015 & 2018. Yigal worked with product teams on development of Common Core adaptive learning technologies (e.g., SuccessMaker, iLit) and conducting efficacy studies (e.g., WISC-V, Pearson AccessNext).

2010-2012 *Head of Assessment and Evaluation, Time To Know* (currently McGraw-Hill Education), New York, NY.

Yigal established and oversaw all the work in the company related to pioneering computer-based innovative assessment R&D, data-mining, as well as efficacy studies in the United States, Israel, South Korea and Singapore.

2006-2012 *Research Fellow, Faculty of Education, University of Haifa, Israel.*

Yigal led studies on effects of online learning and assessment programs on higher-order thinking skills (e.g., Brainpop) and developed innovative methods in assessing 21st century skills.

Research and Development Projects

2016-current HarvardX and MITx: Analysis of open online courses (Principal Investigator), Harvard, Cambridge, MA

Surveys and student activity on HarvardX (Principal Investigator), Harvard, Cambridge, MA

Public service programs at Harvard College: Evaluation study (Principal Investigator), Harvard, Cambridge, MA

2014-2015 *NAEP Technology and Engineering Literacy Standard Setting* (Co- Principal Investigator), Pearson, Boston, MA.

Designing efficacy studies on Wechsler Intelligence Scale for Children (WISC-V), (Principal Investigator), Pearson, Boston, MA.

Developing PISA 2018 Digital Reading and Global Competency Sample Assessment Tasks, (Principal Investigator), Pearson, Boston, MA.

Thinking Tools in Performance Assessments, (Principal Investigator), Pearson, Boston, MA.

Computer-based Speaking and Listening Common Core State Standards Assessment, (Co-Principal Investigator), Pearson, Boston, MA.

Prototypes for Innovative Performance Assessment in Math and English Language Arts Common Core State Standards Assessment, (Co-Principal Investigator), Pearson, Boston, MA.

Analyzing Students Problem Solving Strategies in Performance Assessment in Collaboration with University of Massachusetts Educational Assessment Research Center (Co-Principal Investigator), Pearson, Boston, MA.

SuccessMaker Efficacy Study, (Principal Investigator), Pearson, Boston, MA.
Next Generation College & Career Readiness Computer-based Assessment, (Principal Investigator), Pearson, Boston, MA.

2012-2013 *21st Century Skills Innovative Computer-based Assessment*, (Principal Investigator), Pearson, Austin, Texas.
PISA 2015 Collaborative Problem Solving Innovative Assessment Items, (Principal Investigator), OECD Paris, France & Pearson, London, UK.
Evaluation of educational technology programs: A scientific review in collaboration with Israel National Authority for Measurement and Evaluation, (Principal Investigator), University of Haifa, Israel.

2011-2012 *Contribution of Students' Behavioural Patterns to Success in Computer-based Assessment: Analysis of PISA 2012 Field Trial Log Files* (Principal Investigator), OECD, Paris, France.
Math and ELA Common Core Standards Computer-based Assessment, (Co-Principal Investigator), Time To Know Inc., New York, NY.
Lessons-Learned from Best Practices in 1:1 Laptop Program Implementation: The Case of NYC PS327, (Principal Investigator), New York Department of Education, Time To Know Inc., New York, NY.

2010-2011 *Computer-based Assessment of Reasoning and Critical Thinking: Israel, United States, South Korea, and France*, (Principal Investigator), Time To Know Inc., Tel Aviv.
Analyzing Teaching and Learning Patterns in Digital Platform : Educational Data Mining of Student Achievement (Principal Investigator), New York Department of Education, Time To Know Inc., New York, NY.
Effects of 1:1 Laptop Technology-rich Environment on Higher-order Thinking Skills (Principal Investigator), Time To Know Inc., New York, NY.
Differentiated Teaching and Learning in 1:1 Laptop Technology-rich Environment (Principal Investigator), Time To Know Inc., Dallas, Texas.
The Educational and Social Power of Digital Teaching Environment (Principal Investigator), Time To Know Inc., Tel Aviv.

- Patterns of Interaction Among Students in Collaborative On-line Database* (Co-Principal Investigator), The Open University of Israel, Raanana.
- Students Drawings as an Indicator for Learning Technology Challenges and Success* (Principal Investigator), The University of Haifa.
- 2007-2011 *The Effects of Non-formal Educational Programs on Attitudes and Beliefs of Youth and Teachers in Israel Toward the Jewish education* (Co-Principal Investigator), The AVI CHAI Foundation, Jerusalem.
- Are two better than one? Computer-based Assessment of Collaborative-Problem Solving in Google Docs Environment*, (Principal Investigator), Faculty of Education, University of Haifa and Department of Education and Psychology, The Open University of Israel, Raanana.
- 2008-2011 *Affective Aspects of Learning: Indicators for Educational Systems* (Principal Investigator), Ben-Gurion University, Beer Sheva.
- Social Implications of Web-based Learning* (Principal Investigator), Ben-Gurion University, Beer Sheva.
- 2005-2011 *Effects of Science and Technology Educational Programs on Student Knowledge and Higher-order Thinking Skills* (Principal Investigator), Intel, Israel Electric Corporation, Younes and Soraya Nazarian Foundation.
- 2009-2010 *Collaborative On-line Database as a Tool for Knowledge Constructing and Argumentation* (Co-Principal Investigator), The Open University of Israel, Raanana.
- Effects of Taglit-Birthright Program on Youth's Attitudes and Beliefs* (Co-Principal Investigator), The Henrietta Szold Institute, The National Institute for Research in the Behavioral Sciences, Jerusalem.
- The Effects of the Middle East Education through Technology (MEET) Summer Program* (Principal Investigator), Massachusetts Institute of Technology (MIT) and University of Haifa.
- 2008-2009 *Effects of Microsoft Unlimited Potential Program on Student Empowerment* (Co-Principal Investigator), Microsoft Israel and Appleseeds Academy, Tel Aviv.
- Affective Indicators in Education* (Co-Principal Investigator), Professional Committee for Indicators in Israeli Educational System, The Israel Academy of Sciences and Humanities, Jerusalem.
- 2007-2008 *Approaches for Long-term Sustainable Effects of Educational Programs* (Co-Principal Investigator), Harvard Graduate School of Education, Cambridge.
- 2007-2008 *Effects of Innovative Learning Environment on Higher-order Thinking skills and Learning Motivation* (Principal Investigator), BrainPOP and University of Haifa.

- 2005-2007 *Approaches for Analyzing Long-term Effects of Educational Programs* (Co-Principal Investigator), Spencer Foundation and University of Haifa.
- 2002-2006 *Effects of Constructivist Technology-rich Learning Environments Versus Traditional Ones on Students' Achievement: A Meta-analysis* (Co-Principal Investigator), University of Haifa.

Academic Teaching

<u>Title</u>	<u>Year</u>	<u>Type</u>	<u>Level</u>
<i>T521 Design and Development of Technology Enhanced Assessments</i> Geauate School of Education, Harvard University	2017-current	Lecture	M.A.
<i>Leadership in Educational Technology</i> Department of Leadership and Policy in Education, University of Haifa	2011-2012	Lecture	M.A.
<i>Assessment in Technology-rich Learning Environments</i> Department for Learning, Instruction and Teacher Education, University of Haifa	2009-2011	Lecture	M.A.
<i>Developing Higher-order Thinking Skills</i> Department for Learning, Instruction and Teacher Education, University of Haifa	2008-2012	Lecture	B.A.
<i>Technology in Education</i> Department of Leadership and Policy in Education, University of Haifa	2008-2011	Lecture	M.A.
<i>Assessment and Evaluation in Educational Systems,</i> Department for Learning, Instruction and Teacher Education, University of Haifa	2009-2011	Lecture	M.A.
<i>Management in Technology-rich Learning Environments</i> Department of Leadership and Policy in Education, University of Haifa	2007-2011	Lecture	M.A.
<i>Research Methods in Education</i> Department for Learning, Instruction and Teacher Education, University of Haifa	2009-2010	Lecture	B.A.
<i>From Search for Information to Construction of Knowledge in Technology-rich Environment</i> (Online course)	2007-2010	Seminar	M.A.

Department of Psychology and Education,
Open University of Israel

<i>Thesis Seminar: Conceptualization and Research</i>	2008-2009	Seminar	M.A.
Department of Interdisciplinary Studies, Ben-Gurion University of the Negev			
<i>Intercultural Implications of the Internet</i>	2008-2009	Seminar	M.A.
Department of Interdisciplinary Studies, Ben-Gurion University of the Negev			
<i>Technnology-rich Learning Environments</i>	2006-2007	Seminar	B.A.
Department for Learning, Instruction and Teacher Education, University of Haifa			
<i>Research and Design of Technology-rich Learning Environments</i> , Department for Learning, Instruction and Teacher Education, University of Haifa	2006-2007	Lecture	M.A.

Academic Dissertation Supervision

- 2008-2011 M.A. Thesis Supervisor (5 graduate students), Ben-Gurion University of the Negev, Israel.
- 2010-2011 M.A. Thesis Committee Chair, Ben-Gurion University of the Negev, Israel.

K-12 Teaching

- Computer science teacher (Grade 9-12), Director of Curriculum & Instruction, Atidim High School, Or Akiva, Israel (2001-2010).*
- Science teacher (Grade 1-10), Director of Curriculum & Instruction, Founder of 'Engineer of the Future' program (Adapted from the U.S. Infinity Project Curriculum), Technoda: Science and Technology Education Center, Israel (2000-2010)*
- Mathematics teacher (Grade 3-6), Hana Senesh Elementary School, Or Akiva (2004-2005).*

Editorial Reviewer

Journal of Educational Computing Research
Educational Evaluation and Policy Analysis
American Educational Research Journal
Review of Educational Research
Educational Researcher

Reeseearch Grants Reviewer

U.S. National Science Foundation

Israel Science Foundation

Scientific Conferences Reviewer

L@S: Annual ACM Conference on Learning at Scale (Program committee and reviewer), MIT, Cambridge, MA, 2017

International Society for Technology in Education (ISTE) Conference, San Antonio, TX, 2017

American Educational Research Association Annual Meeting, Washington, DC, 2016.

American Educational Research Association Annual Meeting, Philadelphia, PA, 2014.

International Society for Technology in Education (ISTE) Conference, Atlanta, GA, 2014

American Educational Research Association Annual Meeting, San Fransisco, CA, 2013.

International Society for Technology in Education (ISTE) Conference, San Diego, CA, 2013.

American Educational Research Association Annual Meeting (Reviewer and Session Chair), Vancouver, Canada, 2012.

International Society for Technology in Education (ISTE) Conference, San Diego, CA, 2012

Learning-Teaching-Research, Academic Counseling and Study Guidance, The Open University of Israel, 2009 (Member of Organization Committee).

American Educational Research Association Annual Meeting, New York, NY, 2008.

American Educational Research Association Annual Meeting, Chicago, IL, 2007.

Memberships in Professional/Scientific Societies

American Educational Research Association (AERA), 2006-current.

National Council on Measurement in Education (NCME), 2012-current.

European Association for Research on Learning and Instruction (EARLI), 2006-current.

International Society for Technology in Education (ISTE), 2010-current.

Presentations in Scholarly Conferences (2010-2017)

<u>Conference</u>	<u>Place and Dates</u>	<u>Title of Presentation</u>
National Council on Measurement in Education (NCME)	Washington DC, April 2016	<i>Collaborative problem solving assessment: Challenges and opportunities</i>
American Educational Research Association (AERA) Annual Meeting	Washington DC, April 2016	<i>Evidence-centered concept map in assessing critical thinking skills</i>
PIACC Research Conference	Arlington, VA, December, 2015	<i>Exploring response patterns in problem-solving items using process data: Insights from log files of Problem Solving in Technology-Rich Environments (PS-TRE) in PIAAC</i>

European Association of Researchers on Learning and Instruction (EARLI)	Limasol, Cyprus, August, 2015	<i>Assessing collaborative problem solving through computer and human agents</i>
European Association of Researchers on Learning and Instruction (EARLI)	Limassol, Cyprus, August 2015	<i>Visualizing student thinking with evidence-centered concept map</i>
National Conference on Student Assessment	San Diego, CA June, 2015	<i>New approaches in assessing Common Core speaking and listening skills</i>
International Conference: Education Policy, Practice and Research	Astana, Kazakhstan October, 2014	<i>How to measure and promote collaborative problem solving skills in online environments? (Keynote speaker)</i>
International Society for Technology in Education (ISTE)	Atlanta, GA July 1, 2014	<i>Learning and assessing collaborative problem solving skills</i>
International Association for Educational Assessment (IAEA)	Singapore May, 2014	<i>New methods in online assessment of collaborative problem solving and global competency</i>
International Association for Educational Assessment (IAEA)	Singapore May, 2014	<i>Online performance assessment of creativity skills: Findings from international pilot study</i>
International Association for Educational Assessment (IAEA)	Singapore May, 2014	<i>Making student thinking visible through thinking tools in technology-enhanced assessment for learning</i>
International Association for Educational Assessment (IAEA)	Singapore May, 2014	<i>A device-delivered, automatically scored, formative assessment of English speaking and listening skills</i>
American Educational Research Association (AERA) Annual Meeting	Philadelphia, PA April, 2014	<i>Assessing critical thinking through computer-based thinking tools</i>
American Educational Research Association (AERA) Annual Meeting	Philadelphia, PA April, 2014	<i>Does it really matter if you collaborate with a computer or a human partner?</i>
American Educational Research Association (AERA) Annual Meeting	Philadelphia April, 2014	<i>Discussing uses and issues in cognitive diagnostic models</i>
California Educational Research Association (CERA) Annual Meeting	Anaheim, CA December, 2013	<i>How to assess critical thinking and creativity in Common Core era?</i>
California Educational Research	Anaheim, CA	<i>Automated assessment of student</i>

AssoCiation (CERA) Annual Meeting	December, 2013	<i>performance in Common Core State Standards of speaking and listening</i>
Florida Educational Research Association (FERA) Annual Meeting	Gainesville, FL November, 2013	<i>How to measure critical thinking, collaborative problem solving and creativity?</i>
International Association for Educational Assessment (IAEA)	Tel Aviv, Israel October, 2013	<i>Computer-based assessment of collaborative problem solving skills: Human-to-agent versus human-to-human</i>
International Association for Educational Assessment (IAEA)	Tel Aviv, Israel October, 2013	<i>Thinking tools in computer-based assessment of critical thinking: Technology advancements in large-scale assessment</i>
The National Conference on Student Assessment (NCSA)	National Harbor, MD June, 2013	<i>Measuring 21st Century Skills Assessments in a Common Core Era-How to Address Both CCSS and 21st Century Skills Assessments</i>
CCSSO, The National Conference on Student Assessment (NCSA)	National Harbor, MD June, 2013	<i>Transitioning to Next Generation Assessment: A Continuum of Performance Approaches</i>
Interdisciplinary Network for Group Research (INGRoup)	Chicago, IL July, 2012	<i>Complex interdisciplinary collaboration to assess collaborative problem solving skills across the globe</i>
ED-MEDIA World Conference on Educational Multimedia, Hypermedia & Telecommunications	Denver, CO June, 2012	<i>Student + Computer Agent = Collaborative Problem Solving in OECD's PISA 2015</i>
International Society for Technology in Education (ISTE)	San Diego, CA June, 2012	<i>Beyond 1:1 – Results from NYC's Time To Know initiative</i>
International Society for Technology in Education (ISTE)	San Diego, CA June, 2012	<i>How student drawings can document student technology access and use?</i>
American Educational Research Association (AERA) Annual Meeting	Vancouver, Canada April, 2012	<i>Differentiated teaching and learning: Analyzing one-to-one teacher-student interactions in technology-rich environment</i>
American Educational Research Association (AERA) Annual Meeting	Vancouver, Canada April, 2012	<i>Using student drawings to illustrate shifts in teaching, learning and classroom ecology</i>
European Association of Researchers on Learning and Instruction (EARLI)	Exeter, UK August 2011	<i>Effects of constructivist teacher-led digital platform on learning achievement</i>
International Conference on Education and New Learning Technologies (EDULEARN)	Barcelona, Spain July, 2011	<i>The educational and social power of digital teaching environment</i>

ED-MEDIA World Conference on Educational Multimedia, Hypermedia & Telecommunications	Lisbon, Portugal June, 2011	<i>Does digital teaching platform make a difference?(Best paper)</i>
International Society for Technology in Education (ISTE)	Philadelphia, PA June, 2011	<i>Intertwining digital content and one-to-one laptop learning environment</i>
American Educational Research Association (AERA) Annual Meeting	New Orleans, LA April, 2011	<i>Are two better than one? Social interaction patterns in online collaborative database environment</i>
American Educational Research Association (AERA) Annual Meeting	New Orleans, LA April, 2011	<i>The social promise of educational technology</i>
Global Learn Asia Pacific – Global Conference on Learning and Technology	Melbourne, Australia, March, 2011	<i>Teacher-led technology-rich environment: Educational effects</i>
Chais Conference on Instructional Technologies Research	Raanana, The Open University of Israel, February, 2011	<i>The effect of teaching and learning with Time To Know environment on math and English Language Arts learning achievements</i>
Chais Conference on Instructional Technologies Research	Raanana, The Open University of Israel, February, 2010	<i>Patterns of interaction among students in collaborative on-line database (Best paper)</i>

Colloquium Talks and other Invited Addresses (2010-2014)

- 2017 – Invited Address: *Adaptive assessment in HarvardX*. Assessment Deep Dive, Microsoft Learning Experiences, Microsoft, Redmond, WA.
- 2014 – Invited Address: *Challenges and Solutions in Collaborative Problem Solving Assessment*. K-12 Assessment Center, ETS, San Fransisco, CA.
- Colloquium: *Next Generation Assessment and Learning of Higher-order Thinking Skills*. Pearson, Boston, MA.
 - Invited Address: *Learning and Assessing Collaborative Problem Solving Skills*. Van Leer Institute, Israel.
- 2013 – Colloquium: *College & Career Readiness Next Generation Assessment*. Pearson, San Antonio, TX.
- 2012 – Colloquium: *Innovative approaches to assess 21st Century skills*. Pearson, Austin, TX.
- 2011 – Colloquium: *Assessing collaborative problem solving in technology-rich environments*. Israel National Authority for Measurement and Evaluation (RAMA), Tel Aviv, Israel.
- 2010 – Colloquium: *Indicators in education: Accountability illusion or a reliable photography of the reality*. Department of Education and Psychology, The Open University of Israel.

Scholarships, Awards, and Research Grants

Research grant, NAEP Technology and Engineering Literacy Standard Setting (2014). Pearson, Boston, MA.

Best NEO Innovation Award, Assessment Contest (2013). Pearson, Boston, MA.

Research grant, Common Core Speaking and Listening Learning and Assessment (2013). Pearson, Boston, MA.

Research grant, College & Career Readiness Next Generation Assessment (2013). Pearson, Boston, MA.

Research grant, Thinking tools research and development for innovative computer-based assessments (2013). Pearson, Boston, MA.

Research grant, Assessing 21st century skills in technology-rich environments (2012-2013). Pearson, Boston, MA.

Best research paper award (2011), ED-MEDIA: World Conference on Educational Multimedia, Hypermedia & Telecommunications (with Danny Livshits), The University of Lisbon, Portugal: Does digital teaching platform make a difference?

Best research paper award (2010), Chais Conference on Instructional Technologies Research (with Dr. Rikki Rimor and Kefaya Naser), The Open University of Israel: Patterns of interaction among students in collaborative on-line database.

Best research paper award (2009), Chais Conference on Instructional Technologies Research (with Dr. Rikki Rimor), The Open University of Israel: Collaborative on-line database as a tool for knowledge constructing and argumentation.

Special award for developing academic course on higher-order thinking skills (2009), Pedagogical Secretariat, Ministry of Education, Israel.

Excellence in research award (2009), Research Authority, The University of Haifa, Israel.

Excellence in teaching award (2009), Faculty of Education, The University of Haifa, Israel.

Research grant, Affective indicators in education: Scientific review (with Dr. Haggai Kupermintz) (2008-2009). Supported by the Professional Committee for Indicators in Israeli Educational System, The Israel Academy of Sciences and Humanities.

Research grant, Effects of Microsoft Unlimited Potential program on student empowerment (with Dr. Dani Ben-Zvi) (2008-2009). Microsoft Israel and Appleseeds Academy, Tel Aviv.

Research grant, Effects of innovative learning environment on higher-order thinking skills and learning motivation (2007-2008). Supported by BrainPOP Israel.

Doctoral scholarship for excellence (2005), Advanced Studies Authority, The University of Haifa.

Doctoral scholarship (2005), The Joseph Szydlowsky Foundation, Caesarea.

Faculty award for excellence (2004), Faculty of Education, The University of Haifa.

Education students scholarship (1997-2001), The Ministry of Education, Israel.

PUBLICATIONS

A. EDITED BOOKS

Rosen, Y., Ferrara, S., & Mosharraf, M. (Eds.) (2015). *Handbook of research on technology tools for real-world skill development*. Hershey, PA: Information Science Reference, IGI Global.

B. ARTICLES IN PEER-REVIEWED JOURNALS

- Rosen, Y. (2017). Assessing students in human-to-agent settings to inform collaborative problem solving learning. *Journal of Educational Measurement*, 54(1), 36-53.
- Rosen, Y. (2015). Computer-based assessment of collaborative problem solving: Exploring the feasibility of human-to-agent approach. *International Journal of Artificial Intelligence in Education*, 25(3), 380-406.
- Edelstein, R., & Rosen, Y. (2015). The effect of the induced compliance paradigm on emotions during inter-group conflict. *Peace and Conflict Studies*, 22(2), 112-136.
- Rosen, Y., & Foltz, P. (2014). Assessing collaborative problem solving through automated technologies. *Research and Practice in Technology Enhanced Learning*, 9(3), 389-410.
- Rosen, Y. (2014). Comparability of conflict opportunities in human-to-human and human-to-agent online collaborative problem solving. *Technology, Knowledge and Learning*, 19(1-2), 147-174.
- Rosen, Y. (2014). Thinking tools in computer-based assessment: Technology enhancements in assessing for learning. *Educational Technology*, 54(1), 30-34.
- Rosen, Y., & Tager, M. (2014). Making student thinking visible through a concept map in computer-based assessment of critical thinking. *Journal of Educational Computing Research*, 50(2), 249-270.
- Rosen, Y., & Perkins, D. (2013). Shallow roots require constant watering: The challenge of sustained impact in educational programs. *International Journal of Higher Education*, 2(4), 91-100.
- Rosen, Y., & Beck-Hill, D. (2012). Intertwining digital content and one-to-one laptop learning environment. *Journal of Research on Technology in Education*, 44(3), 223-239.
- Rosen, Y., & Manny-Ikan, E. (2011). The social promise of the Time To Know program. *Journal of Interactive Online Learning*, 10(3), 150-161.
- Rosen, Y., & Salomon, G. (2011). Durability of peace education effects in the shadow of conflict. *Social Psychology of Education: An International Journal*, 14, 135-147.
- Rosen, Y., & Wolf, I. (2011). Bridging the social gap through educational technology. *Educational Technology*, 51(5), 39-43.
- Rimor, R., Rosen, Y., & Naser, K. (2010). Complexity of social interactions in collaborative learning: The case of online database environment. *Interdisciplinary Journal of E-Learning and Learning Objects*, 6, 355-365.

- Bar-Tal, D., & Rosen, Y. (2010). Peace education in societies involved in an intractable conflict: Direct and indirect models. *Iyunim Bechinuch*, 3, 12-36. (Hebrew)
- Rosen, Y. (2009). The effects of animation-based online learning environment on transfer of knowledge and on motivation for science and technology learning. *Journal of Educational Computing Research*, 40(4), 439-455.
- Rosen, Y. (2009). Transformation of central and peripheral beliefs in the eyes of the other: Challenges for peace education. *Journal of Transformative Education*, 7(2), 1-12.
- Rosen, Y., & Rimor, R. (2009). Using collaborative database to enhance students' knowledge construction. *Interdisciplinary Journal of E-Learning and Learning Objects*, 5, 187-195.
- Bar-Tal, D., & Rosen, Y. (2009). Peace education in societies involved in intractable conflicts: Direct and indirect models. *Review of Educational Research*, 79(2), 557-575.
- Rosen, Y., & Salomon, G. (2007). The differential learning achievements of constructivist technology-intensive learning environments as compared with traditional ones: A Meta-Analysis. *Journal of Educational Computing Research*, 36(1), 1-14.

C. CHAPTERS IN BOOKS AND ARTICLES IN CONFERENCE PROCEEDINGS

- Stoeffler, K., Rosen, Y., & von Davier, A. (2017). Exploring the measurement of collaborative problem solving using a human-agent educational game. LAK 2017 Proceedings of the Seventh International Learning Analytics & Knowledge Conference (pp. 570-571). BC: Vancouver.
- Rosen, Y. (2017). Assessing collaborative problem solving through computer agent technologies. In M. Khosrow-Pour (Ed.), *Encyclopedia of information science and technology*, (4th Ed) (pp. 94-102). Hershey, PA: Information Science Reference, IGI Global.
- Graesser, A. C., Foltz, P. W., Rosen, Y., Shaffer, D. W., Forsyth, C., & Germany, M. (2017). Challenges of assessing collaborative problem solving. In E. Care, P. Griffin, and M. Wilson (Eds.), *Assessment and Teaching of 21st Century Skills*. Heidelberg, Germany: Springer Publishers.
- Rosen, Y., & Mosharraf, M. (2015). Computer agent technologies in collaborative assessments. In Y. Rosen, S. Ferrara, & M. Mosharraf (Eds.). *Handbook of Research on Technology Tools for Real-Life Skill Development* (pp. 319-343). Hershey, PA: Information Science, IGI Global.
- Rosen, Y., Mosharraf, M. (2015). Evidence-centered concept map in computer-based assessment of critical thinking. In Y. Rosen, S. Ferrara, & M. Mosharraf (Eds.). *Handbook of Research on Technology Tools for Real-Life Skill Development* (pp. 502-527). Hershey, PA: Information Science, IGI Global.
- Bakken, S., Bielinski, Johnson, C., & Rosen, Y. (2015). Animalia: Collaborative science problem solving learning and assessment. In Y. Rosen, S. Ferrara, & M. Mosharraf (Eds.). *Handbook of*

- Research on Technology Tools for Real-Life Skill Development* (pp. 360-384). Hershey, PA: Information Science, IGI Global.
- Rosen, Y. (2014). Assessing collaborative problem solving through computer agent technologies. In M. Khosrow-Pour (Ed.), *Encyclopedia of information science and technology*, (3rd Ed) (pp. 94-102). Hershey, PA: Information Science Reference, IGI Global.
- Rosen, Y. (2014). Beyond reality dissonance: Improving sustainability of peace education effects. In C. Borg, & M. Grech (Eds.), *Lorenzo Milani's culture of peace: Essays on religion, education and democratic life* (pp. 131-146). New York: Palgrave Macmillan.
- Rosen, Y., & Rimor, R. (2013). Teaching and assessing problem solving in online collaborative environment. In R. Hartshorne, T. Heafner, & T. Petty (Eds.), *Teacher education programs and online learning tools: Innovations in teacher preparation* (pp. 82-97). Hershey, PA: Information Science Reference, IGI Global.
- Rosen, Y. (2011). *Effects of constructivist teacher-led digital platform on learning achievement. Proceedings of EARLI 14th Biennial Conference on Learning and Instruction*. Exeter, UK.
- Rosen, Y. (2011). Teacher-led technology-rich environment: Educational effects. In S. Barton et al., (Eds.), *Proceedings of Global Learn Asia Pacific 2011* (pp. 1878-1885). Association for the Advancement of Computing in Education. Melbourne, Australia.
- Rosen, Y. (2011). *Intertwining digital content and one-to-one laptop learning environment*. Paper presented at International Society for Technology in Education Conference. Philadelphia, USA.
- Rosen, Y. (2011). *The effect of teaching and learning with Time To Know environment on math and English Language Arts learning achievements*. Paper presented at Chais Conference on Instructional Technologies Research. Raanana, The Open University of Israel.
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