

Curriculum Vitae and List of Publications

I. CURRICULUM VITAE

1. Personal Details

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2. Higher Education

2.A Undergraduate and Graduate Studies

	<i>Period of Study</i>	<i>Institution and Department</i>	<i>Degree</i>	<i>Year of Degree</i>
1.	1979–1983	University of Haifa, Israel	Bachelor of Arts (B.A.) with high honors, and High school teaching certificate	1984
2.	1995–2001	Weizmann Institute of Science, Department of Science Teaching, Israel	Doctor of Philosophy (Ph.D.)(in the direct Ph.D. program)	2001

2.B Post-Doctoral Studies

None

3. Academic Ranks and Tenure in Institutes of Higher Education

	<i>Dates</i>	<i>Institution and Department</i>	<i>Rank/Position</i>
1.	1995–2001	Weizmann Institute of Science, Science Teaching Department	Graduate research assistant
2.	2001–2002	University of Haifa, Faculty of Education	Lecturer, proposed rank
3.	2002–2008	University of Haifa, Faculty of Education	Lecturer
4.	2008–2015	University of Haifa, Faculty of Education	Tenured Senior Lecturer
5.	2015–	University of Haifa, Faculty of Education	Associate Professor

Note: * represents activities since the last promotion.

4. Offices in University Academic Administration

4.A Head of Academic Programs

<i>Dates</i>	<i>Position, Institution and Department</i>
1. 2002–2005	Head of the computers in education specialization M.A. program, Department of Education
2. 2005–2013	Founder and head of the educational technology M.A. graduate program, Department of Learning, Instruction, and Teacher Education.
3. 2008–2010	Head of the computers in education specialization M.A. program, the Program for Development of Educational Systems, Department of Learning, Instruction, and Teacher Education.
4. 2008–2011	Head of the computers in education specialization M.A. program, Department of Special Education.
5. 2010–2013	Founder and head of the Digital Cities Graduate Program: Technology, Leadership and Education ¹ .

4.B Other Academic Roles

1. 2001–2006	Member of the Faculty of Education computers committee.
2. 2001–2010	Member of the Faculty of Education examinations committee.
3. 2002–2005	Academic director of the Faculty of Education teaching and learning technological laboratories (MALAH).
4. 2005–2012	Academic advisor of teacher's in-service professional course: "Developing Educational Leadership in Information Literacy," Department of Continuing Education, Faculty of Education.
5. 2007–2010	Member of the teaching committee, The Faculty of Education.
6. 2008–	Academic head of the technology-enhanced instruction unit and information technology support center, University of Haifa.
7. 2008–2012	Member of the teaching committee, Department of Learning, Instruction, and Teacher Education.
8. 2008–2011	Member of the steering committee and head of the educational technology task force of the "Educational Vision" program, Collaboration of city of Nahariya and the University of Haifa.
9. 2008–	Member of the computers committee of the University of Haifa.
10. 2009–	Member of the M.A. committee, Mathematics Education Department.
11. 2010–	Member of the University of Haifa senate.
12. 2010	Member of the University of Haifa accessible education committee.
13. 2010–	Member of the University of Haifa board of governors representing the university senate.

¹ The "Digital Cities" was a M.A. program in educational technology implemented in a multi-cultural learning community of Jewish and Arab teachers from Nazareth and Nazareth Illit. The leadership program was funded by Cisco Systems, Inc.

14. 2014–2019 Founder and chair of the Rachel and Eliezer Silver Research Excellence in Educational Technology Grant Foundation.

5. Scholarly Positions and Activities Outside the University

5.A Offices in Professional Associations

- | <i>Date</i> | <i>Position and Activities</i> |
|--------------|--|
| 1. 1998– | Co-founder and co-chair of the International Collaboration for Research on Statistical Reasoning, Thinking, and Literacy (SRTL) ² . |
| 2. 1998–2000 | Co-chair of the International Discussion Group for Stochastics Teaching and Learning (PME) and co-editor of the Group's quarterly journal. |
| 3. 1999–2003 | Vice-president of the International Association for Statistical Education (IASE). |
| 4. 1999– | Regional coordinator of the International Association for Statistical Education (IASE). |
| 5. 2004– | Expert delegated member of the European Distance and E-Learning Network (EDEN). |
| 6. 2006–2012 | Member of the research advisory board of Consortium for the Advancement of Undergraduate Statistics Education (CAUSE). |
| 7. 2014– | Co-founder and co-chair of the Collaboration of International Researchers on Learning Communities (CIRCLES). |

5.B Responsibilities in Editing Journals and Books

1. 2002–2004 Co-editor of the book, *The Challenge of Developing Statistical Literacy, Reasoning, and Thinking*, Kluwer Academic Publishers (Springer).
2. 2003–2004 Guest editor of the autumn 2004 and spring 2005 special issues on: "Statistical Reasoning About Variability", *Statistics Education Research Journal* (SERJ).
3. 2006– Member of the editorial board of *Technology Innovations in Statistics Education* (TISE).
4. 2009–2011 Guest editor of the 2011 special issue on: "The role of context and evidence in informal inferential reasoning", *Mathematical Thinking and Learning*.
5. 2011–2015 Guest editor of the 2013 special issue on: "Learning to make informal statistical inferences from samples", *Educational Studies in Mathematics*.
6. 2013–2016 Co-editor of the forthcoming handbook, *The First Handbook of Research on Statistics Teaching and Learning*, Springer.

² The international SRTL professional organization runs a series of research forums and scientific activities and publications, sponsored by various prestigious academic institutions. The research forums offer an opportunity for a small, interdisciplinary group of researchers from around the world to share their work, discuss important issues, and initiate collaborative projects. These forums involve more than 80 active statistics education leading researchers, have significantly advanced the academic knowledge about statistical reasoning at all levels, and had a major impact on the statistics education community.

5.C Academic Consultation

1. 2000–2002 Scientific consultant in the area of statistics education to the committee for the reform of primary school mathematics curriculum (Curriculum 2000), the Ministry of Education, Israel.
2. 2003–2004 Member of the task force for the professional development of mathematics teachers in primary schools, the Ministry of Education, Israel.
3. 2005–2009 Scientific consultant for the development of primary school statistics curriculum and the uses of technological tools in statistics education at the Center for Educational Technology (CET), Israel.
4. 2005–2011 Member of the research committee of the joint International Commission on Mathematical Instruction (ICMI) and the International Association for Statistical Education (IASE) Study on: “Statistics education in school mathematics: challenges for teaching and teacher education.”
5. 2008–2012 Academic advisor of Time To Know, a digital learning platform company.
6. 2010–2011 Member of the steering committee: National e-learning standards, the Ministry of Education, Israel.
7. 2012– Academic advisor of World Ort (Kadima Mada) organization.

5.D Activities as Reviewer and Referee for Professional Journals, Scientific Conferences, Publishers, or Research Agencies

1. Activities as reviewer for the following peer-reviewed journals:
 - *Cognition and Instruction*
 - *Educational Studies in Mathematics* (ESM)
 - *Instructional Science*
 - *Interactive Learning Environments*
 - *International Journal of Cyber Behavior, Psychology and Learning*
 - *International Journal of Science and Mathematics Education* (IJMA)
 - *Journal of Mathematics Teacher Education* (JMTE)
 - *Journal of Statistics Education* (JSE)
 - *Mathematical Thinking and Learning* (MTL)
 - *Statistics Education Research Journal* (SERJ)
 - *Teaching Statistics*
 - *Technology Innovations in Statistics Education* (TISE)
 - *The International Journal on Mathematics Education* (ZDM)
2. Activities as referee for the following professional conferences:
 - 1999–2015 The International Research Forums on Statistical Reasoning, Thinking, and Literacy (SRTL).
 - 1999–2001 The International Group for the Psychology of Mathematics Education (PME) Annual Conferences.
 - 2002–2014 The International Conferences on Teaching Statistics (ICOTS).
 - 2004 The International Association for Statistics Education Roundtable on Statistics Curriculum.
 - 2004–2016 The International Congress on Mathematical Education (ICME).

- 2008 The International Conference on Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education.
- 2008–2015 The Annual Chais Conference on Instructional Technologies Research “Learning in the Technological Era.”
- 2008–2015 The National Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL).
- 2011 The Seventh Congress of the European Society for Research in Mathematics Education (CERME-7).

5.E Membership in Professional Organizations

1. 1996–2014 Member of the National Council of Teachers of Mathematics (NCTM), USA.
2. 1998–2014 Member of the International Association for Statistics Education (IASE).
3. 1999–2005 Member of the International Group for the Psychology of Mathematics Education.
4. 2013–2014 Member of the International Society of Learning Sciences (ISLS).

5.F Other Public Offices and Activities Related to my Academic Field

1. 1993–1995 Research fellow in the Science Teaching Department, Weizmann Institute of Science, Israel.
2. 2003–2004 Academic advisor of the Ministry of Education, Center for Teachers Professional Development, Haifa Region.
3. 2004–2006 Academic advisor of the Ghetto Fighters’ House, Korczak International School, Israel.
4. 2006–2014 Member of promotion and Ph.D. committees in the following universities: Holon Academic Institute of Technology; Illinois State University, USA; Pontifical catholic University of Valparaiso, Chile; Technion – Israel Institute of Technology; The Hebrew University, Jerusalem, Israel; The Open University, Israel; University of Queensland, Australia; University of Tasmania, Australia; University of Utrecht, The Netherlands
5. 2009–2010 Head of the Inter-University Center for e-Learning (MEITAL) grant committee.
6. 2013–2018 Member of the Academic Board of the Learning In a NetworKed Society Israeli Center of Research Excellence (LINKS I-CORE).

6. Participation in Scholarly Conferences

6.A Active Participation in Conferences

6.A1 Keynote Addresses in International Conferences

<i>Date</i>	<i>Name of Conference</i>	<i>Place</i>	<i>Subject and Publication</i>	<i>Role</i>
1. June 2008	Statistics Education in School Mathematics (Joint ICMI/IASE Conference)	Monterrey, Mexico	Technology in the teaching of statistics: Potentials and challenges in preparing the teachers (F16)	Keynote speaker

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|----|-----------------------------------|--|--|---|----------------------------|
| 2. | July
2008 | The 11 th
International
Congress on
Mathematical
Education
(ICME11) | Monterrey,
Mexico | Developing students'
statistical reasoning
(Pfannkuch) (E2.9) | Keynote
speaker |
| 3. | June
2009 | The 3 rd biennial
United States
Conference on
Teaching Statistics
(USCOTS3) | Ohio State
University,
USA | "Let go": Focus on
learning instead of focus
on teaching | Keynote
speaker |
| 4. | July
2010 | The 8 th International
Conference on
Teaching Statistics
(ICOTS8) | Ljubljana,
Slovenia | The role of formal
statistical inference in
school curricula. | Keynote
debater |
| 5. | June
2011 | The 3 rd Seminário
Internacional de
Educação
Matemática
(SIEMAT3) | São Paulo,
Brazil | Learning to reason about
statistical variability
(F34) | Keynote
speaker |
| 6. | Jan 2014 | Statistics Education
in School
Mathematics
Workshop | Valparaiso,
Chile | Developing students'
statistical reasoning in
SRLE classrooms | Keynote
speaker |
| 7 | June
2015
(forthco
ming) | Turning data into
knowledge: New
opportunities for
statistics education | Institute of
Education,
University
of Lisbon,
Portugal | Statistical reasoning and
educational technology | Keynote
speaker |

6.A2 Other Active Roles in International Conferences

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|----|--------------|--|--------------------|---|--------------------|
| 1. | July
1996 | The 8 th International
Congress on
Mathematical
Education (ICME8) | Seville,
Spain | A constructivist
approach to teaching
descriptive statistics | Invited
Speaker |
| 2. | July
1996 | The International
Association for
Statistics Education
Roundtable
Conference on
Technology in
Statistics Education | Granada,
Spain | Statistical thinking in a
technological
environment
(Friedlander) (E2.2) | Invited
Speaker |
| 3. | July
1996 | The 2 nd
International
Conference on
Teachers'
Education | Netanya,
Israel | Professional
development of statistics
teachers | Speaker |

4.	Aug. 1997	The 51 st Session of the International Statistical Institute	Istanbul, Turkey	Learning and teaching exploratory data analysis in a technological environment (F1)	Invited Speaker
5.	June 1998	The 5 th International Conference on Teaching Statistics (ICOTS5)	Singapore	Towards a characterization and understanding of students' learning in an interactive statistics environment (Arcavi) (F2)	Invited Speaker
6.	July 1999	The 1 st International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL1)	Be'eri, Israel	Statistical reasoning in visualization: Constructing meanings for trend in time plots	Invited Speaker
7.	July 1999	The 23 rd Annual Conference of the International Group for the Psychology of Mathematics Education (PME23)	Haifa, Israel	Constructing an understanding of data graphs (F3)	Speaker
8.	Aug. 1999	The 52 nd Session of the International Statistical Institute	Helsinki, Finland	Alternative assessment in statistics education (F4)	Invited Speaker
9.	Aug. 2001	The 53 rd Session of the International Statistical Institute	Seoul, Korea	Seventh grade students' sense making of data and data representations (Arcavi) (F5)	Invited Speaker
10.	Aug. 2001	The 2 nd International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL2)	Armidale, Australia	Developing experts' points of view on local-global approaches to data and data representations (Arcavi) (D2)	Invited Speaker
11.	July 2002	The 6 th International Conference on Teaching Statistics (ICOTS6)	Cape Town, South Africa	(1) Lecture: Seventh grade students' sense making of data and data representations (F6) (2) Poster: The International Research Forums on Statistical Reasoning, Thinking, and Literacy	Invited Speaker Poster presenter

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| 12. | July
2003 | The 3 rd International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL3) | Lincoln
Nebraska,
USA | The emergence of reasoning about variability in comparing distributions: A case study of two seventh grade students (D3, F7) | Invited
Speaker |
| 13. | July
2004 | The 10 th International Congress on Mathematical Education (ICME10) | Copenhagen
Denmark | (1) Lecture: Educational services of official statistics agencies: A landscape view (Gal) (F8)
(2) Poster: The International Research Forums on Statistical Reasoning, Thinking, and Literacy | Invited
Speaker

Poster
presenter |
| 14. | July
2005 | The 4 th International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL4) | Auckland,
New
Zealand | How do primary school students begin to reason about distributions? (Amir) (F9) | Invited
Speaker |
| 15. | July
2006 | The 7 th International Conference on Teaching Statistics (ICOTS7) | Salvador,
Brazil | (1) Lecture: Scaffolding students' informal inference and argumentation (F10)
(2) Poster: Reasoning about informal inference | Invited
Speaker

Poster
presenter |
| 16. | Aug.
2007 | The 5 th International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL5) | Coventry,
UK | What is hidden beyond the data? Helping young students to reason and argue about some wider universe (Gil, Apel) (F12) | Invited
Speaker |
| 17. | Aug.
2007 | The 56 th Session of the International Statistical Institute | Lisbon,
Portugal | Educational products of official statistics agencies: In search of vision, standards, and impact (Gal) (F11) | Speaker |
| 18. | Feb.
2008 | The 5 th International Conference on Creativity in Mathematics and the Education of Gifted Students (CMEG5) | Haifa, Israel | Creativity in learning to reason informally about statistical inference in primary school (Gil, Apel) (F14) | Speaker |

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| 19. | June
2008 | Statistics Education
in School
Mathematics:
Challenges for
Teaching and
Teacher Education
(Joint ICMI/IASE
Study) | Monterrey,
Mexico | Lecture: Preparing
school teachers to
develop students'
statistical reasoning
(Garfield) (F15);
(Pfannkuch) (E2.9) | Invited
Speaker |
| 20. | July
2008 | The 11 th
International
Congress on
Mathematical
Education
(ICME11) | Monterrey,
Mexico | (1) Current problems and
challenges in distance
teaching and learning
(2) Ariadne's string,
Daedalus' wings, and the
learner's autonomy
(Sfard) (D9) | Discussant

Invited Co-
Speaker |
| 21. | June
2009 | The 3 rd biennial
United States
Conference on
Teaching Statistics
(USCOTS3) | Ohio State
University,
USA | Using Wiki to promote
collaborative learning in
statistics education (D6) | Invited
Speaker |
| 22. | July
2009 | The 6 th International
Research Forum on
Statistical
Reasoning,
Thinking, and
Literacy (SRTL6) | Brisbane,
Australia | (1) Toward a framework
for understanding
students' informal
statistical inference and
argumentation (Makar,
Bakker) (F23)
(2) The role of
explanations and context
in informal inferential
reasoning among six
grade students (Gil)
(F22) | Invited
Speaker

Invited
Speaker |
| 23. | July
2010 | The 8 th International
Conference on
Teaching Statistics
(ICOTS8) | Ljubljana,
Slovenia | (1) The role of context in
the development of
students' informal
inferential reasoning.
(Gil) (F27)
(2) Emergence of
reasoning about
sampling among young
students in the context of
informal inferential
reasoning (Gil) (F28)
(3) Mentoring of new
researchers in statistics
education | Invited
speaker

Co-presenter

Invited
panelist |

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|-----|--------------|---|--------------------|---|-------------------------------------|
| 24. | Feb.
2011 | The 7 th Congress of the European Society for Research in Mathematics Education (CERME7) | Rzeszów, Poland | Children's emergent inferential reasoning about samples in an inquiry-based environment (Makar, Bakker, Aridor) (F31) | Invited speaker |
| 25. | June
2011 | The 13 th Interamerican Conference on Mathematics Education (IACME13) | Recife, Brazil | Challenges in developing statistical reasoning in school (F35) | Invited speaker |
| 26. | June
2011 | The Encontro Interamericano de Educação Estatística. | Recife, Brazil | Helping students develop statistical reasoning: implementing a statistical reasoning learning environment (F36) | Invited speaker |
| 27. | July
2011 | The 7 th International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL7) | Texel, Netherlands | (1) Learning to reason about sample and sampling in the context of developing informal inferential reasoning: A longitudinal perspective (Gil) (F33)
(2) Children's reasoning about samples in an inquiry-based learning environment (Makar, Bakker, Aridor) (F32) | Co-presenter

Invited Speaker |
| 28. | July
2012 | The 12 th International Congress on Mathematical Education (ICME12) | Seoul, South Korea | Children's wonder how to wander between data and context (Aridor) (E2.11, F39) | Invited Speaker |
| 29. | June
2013 | The 10 th International Conference on Computer Supported Collaborative Learning (CSCL2013) | Madison, WI, USA | (1) An adapted group psychotherapy framework for teaching and learning about CSCL (Hod) (F42)
(2) Productive subjective failure in a learning community: Process of explicating and negotiating norms (Hod) (F43) | Co-presenter

Poster |

30.	Aug. 2013	The 8 th International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL8)	Univ. of Minnesota, MN, USA	(1) Dealing with uncertainty in measurement: Statistical inferences in medical laboratories (Bakker, Kurvers, Makar) (F45)	Invited speaker
				(2) Children's accounts of uncertainty in statistical modeling (Pratt, Ainley) (F46)	Invited speaker
				(3) Students' emergent reasoning about uncertainty while building informal confidence intervals in an "integrated approach" (Manor, Aridor) (F44)	Invited speaker
31.	June 2014	The 11 th International Conference of The Learning Sciences (ICLS2014)	Boulder, CO, USA	(1) Current research and practice on learning communities: What we know, what are the issues, and where are we going? (Bielaczyc, Hod) (F51)	Co-presenter
				(2) Computer-enhanced dialogic-reflective discourse (Hagani) (F52)	Co-presenter
				(3) Linked reading and writing using Wikilinking: Promoting knowledge building within technology-enhanced classroom learning communities (Novik, Hod) (F54)	Co-presenter
32.	July 2014	The 9 th International Conference on Teaching Statistics (ICOTS9)	Flagstaff, AZ, USA	(1) Students' emergent roles in developing their reasoning about uncertainty and modeling (Aridor) (F59)	Co-presenter
				(2) Long term impact of the connections program on students' informal inferential reasoning (Gil) (F60)	Co-presenter
				(3) Students' reasoning about uncertainty while making informal statistical inferences in an Integrated Pedagogic Approach (Manor) (F61)	Co-presenter

33.	Sep. 2014	The Second International Workshop on Inferentialism	Örebro, Sweden	Reducing Uncertainty in a Hospital Laboratory: Webs of Reasons Involved in Making a Statistical Inference (Bakker, Makar) (F62)	Co-presenter
34	June 2015	The Eleventh Computer Supported Collaborative Learning Conference (CSCL11)	Gothenburg, Sweden	Developing a framework to enhance creativity and creative collaboration via video self-reflection. (Hod, Weiss) (F64) Collaboration over time: How learning communities emerge, develop, and sustain (Bielaczyc, Hod) (F65) The emergence of norms in a technology-enhanced learning community (Basil-Shachar, Hod) (F66) Technology-enhanced learning communities on a continuum between ambient to designed: What can we learn by synthesizing multiple research perspectives? (Kali, Tabak, Kidron) (F67)	Co-presenter Co-presenter Co-presenter Co-presenter
35	July 2015	the Ninth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL9)	Paderborn, Germany	Statistical modeling to promote students' aggregate view of data in the context of informal statistical inference (Aridor) (F69) Students' emergent articulations of models and modeling in making informal statistical inferences (Manor) (F70)	Co-presenter Co-presenter
				Tracing the emergence and growth of epistemic norms in a designed TEL community (Barzilai, Duek) (F68)	Co-presenter

6.A3 Active Participation in National Conferences

1.	1995	The 11 th Conference of the Association for Computers in Education	Tel-Aviv	Computers' impact on teaching statistics	Speaker
2.	1995	The 11 th Conference of the Israeli Association for Research on Education (AYALA)	Jerusalem	Teaching statistics in a computerized environment as a model for teaching mathematics	Speaker
3.	1995	The 12 th Conference of the Association for Computers in Education	Tel-Aviv	Learning statistical concepts in a computer assisted environment	Speaker
4.	July 1996	The 13 th Conference of the Israeli Association for Computers in Education	Jerusalem	The use of spreadsheets to promote statistical thinking	Speaker
5.	May 1998	The 5 th Conference of the Israeli Association for the Advancement of Mathematics Education	Achva College	Learning arenas that promote the meaningful learning of statistics	Speaker
6.	May 1999	The 6 th Conference of the Israeli Association for the Advancement of Mathematics Education	Tel-Aviv	Developing data graphical literacy	Speaker
7.	May 2000	The 7 th Conference of the Israeli Association for the Advancement of Mathematics Education	Tel-Aviv	Enculturation processes in the statistics class	Speaker
8.	Dec. 2000	The 2 nd Biannual Teachers of Teachers Conference	Netanya	Mathematics curriculum development for computerized environments	Speaker
9.	May 2001	The 8 th Conference of the Israeli Association for the Advancement of Mathematics Education	Tel-Aviv	Using projects in statistics education	Speaker

10.	May 2004	The 11 th Conference of the Israeli Association for the Advancement of Mathematics Education	Tel-Aviv	Primary and middle school students' statistical reasoning about comparing groups	Speaker
11.	May 2005	The 12 th Conference of the Israeli Association for the Advancement of Mathematics Education	Tel-Aviv	The emerging field of statistics education and reform curricula	Speaker
12.	Mar. 2005	The Opening Conference of Educational Technology M.A. Program	University of Haifa	Connecting education and technology	Speaker
13.	May 2006	Computer-Mediated Instruction in Higher Education	University of Haifa	Collaborative learning in CMC environments	Speaker
14.	July 2006	The MEITAL (the Inter-University Center for e-Learning, IUCEL) Workshop on Wiki Uses in Higher Education	University of Tel-Aviv	"Wikinquiry" – the uses of Wiki learning environment in a higher education	Speaker
15.	June 2007	The 5 th Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL)	Holon Institute of Technology	Characterization of collaborative learning in higher education, wiki-based learning environments	Speaker
16.	Feb. 2008	The 3 rd Chais Conference on Instructional Technologies Research "Learning in the Technological Era"	The Open University, Ra'anana	(1) Collaborative learning processes in wiki-based environments in higher education (Konja) (F18) (2) Using <i>TinkerPlots</i> to develop primary school students' reasoning about informal statistical inference (Apel, Gil) (F19)	Co-presenter Co-presenter
17.	Aug. 2008	The 6 th Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL)	University of Haifa	Social aspects of higher education collaborative learning in Wiki-based learning environment (Konja) (F21)	Speaker

18.	Feb. 2009	The 4 th Chais Conference on Instructional Technologies Research	The Open University, Ra'anana	The added value of wiki to collaborative learning as viewed by the learners (Konja) (F26)	Co-presenter
19.	Oct. 2009	The 7 th Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL)	Shenkar College, Ramat-Gan	(1) Wiki-based blended learning environment (Hagani-Mor) (F25) (2) Design considerations of a fully online wiki-based academic course (Gil) (F24)	Co-presenter Co-presenter
20.	Feb. 2010	The 5 th Chais Conference on Instructional Technologies Research	The Open University, Ra'anana	The design of wiki-based dialogue-enhanced collaborative learning environment (Hagani-Mor) (F30)	Co-presenter
21.	June 2010	The 2 nd Wikipedia Academy Conference	Tel Aviv University	The use of wiki for educational change	Speaker
22.	Feb. 2011	The 6 th Chais Conference on Instructional Technologies Research.	The Open University, Ra'anana	An aptness between teachers' perception of their roles and their teaching strategies while integrating ICT in science education (Nissim, Barak) (F37)	Co-presenter
23.	Aug. 2011	Wikimania 2011	University of Haifa	Wiki as a means to enhance dialog in the classroom (Hagani-Mor) (F38)	Co-presenter
24.	Feb. 2012	The 7 th Chais Conference on Instructional Technologies Research.	The Open University, Ra'anana	Enculturation in action: Developing understanding about technology-enhanced classroom learning communities (Hod) (F41)	Co-presenter
25.	Feb. 2013	The First Jerusalem Conference on Research in Mathematics Education	Jerusalem College of Technology	Students' articulations of uncertainty while making informal statistical inferences (F47)	Invited Speaker

26.	Jan. 2014	The 9 th Chais Conference for the Study of Innovation and Learning Technologies: Learning in the Technological Era	The Open University, Ra'anana	(1) The development of norms in a technology-enhanced classroom learning community (Basil-Shachar, Hod) (F48)	Co-presenter
				(2) Metacognitive aspects of writing personal-reflective diaries in a Wiki-enhanced collaborative learning environment (Gofer) (F49)	Co-presenter
				(3) Productive failure in an emerging learning community: A group developmental perspective (Hod) (F50)	Co-presenter
27	July 2014	The 12 th Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL)	Levinsky College, Tel-Aviv	(1) Learning communities: Issues and challenges (F55)	Invited Speaker
				(2) Developing participatory learning practices when studying the learning sciences (Hod) (F58)	Co-presenter
				(3) Characterizing group norms in a technology-enhanced learning community (Basil-Shachar, Hod) (F56)	Co-presenter
28.	Jan. 2015	The 10 th Chais Conference for the Study of Innovation and Learning Technologies: Learning in the Technological Era	The Open University, Ra'anana	(4) Computer-enhanced dialogic-reflective discourse in learning communities (Hagani-Mor) (F57)	Co-presenter
				Technology-enhanced teacher learning community (Novik, Levy) (F63)	Co-presenter

6.B Organization of Conferences or Sessions

6.B1 International Scientific Conferences

Date Name of Conference and Role

1. 1999 Co-chair of the International Program Committee of the First International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL1), Be'eri, Israel.

2. 2000 Member of the International Scientific Committee of the International Association for Statistical Education (IASE) Round Table Conference on Training Researchers in the Use of Statistics, Japan.
3. 2001 Co-chair of the International Program Committee of the Second International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL2), Armidale, Australia.
4. 2002 Co-chair of the International Program Committee and Scientific Secretary of the Sixth International Conference on Teaching Statistics (ICOTS6), Durban, South Africa.
5. 2003 Co-chair of the International Program Committee of the Third International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL3), Lincoln, Nebraska, USA.
6. 2003 Co-organizer of Invited Paper Meeting on “Teaching and learning approaches aimed at developing statistical reasoning, thinking, and literacy” in the 54th Session of the International Statistical Institute (ISI54), Berlin, Germany.
7. 2004 Member of the International Scientific Committee of Topic Group on “Research and development in the teaching and learning of probability and statistics,” in the 10th International Congress on Mathematical Education (ICME10), Copenhagen, Denmark.
8. 2004 Member of the International Scientific Committee of the International Association for Statistics Education (IASE) Roundtable Conference on “Curricular development in statistics education”, Lund, Sweden.
9. 2005 Co-chair of the International Program Committee of the Fourth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL4), Auckland, New Zealand.
10. 2006 Member of the International Program Committee, Co-Convener of Topic 2 on “Statistics education at the school level”, Co-organizer of Invited Session on “Socio-cultural aspects of learning statistics”, and Co-organizer of Special Interest Group on “International research forums on statistical reasoning, thinking, and literacy” in the Seventh International Conference on Teaching Statistics (ICOTS7), Salvador, Brazil.
11. 2007 Co-chair of the International Program Committee of the Fifth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL5), Warwick, UK.
12. 2008 Member of the International Scientific Committee of the International Joint ICME/IASE Conference on “Statistics education in school mathematics: challenges for teaching and teacher education”, Monterrey, Mexico.
13. 2008 Member of the Scientific Committee of the Discussion Group on “Current problems and challenges in distance teaching and learning” in the 11th International Congress on Mathematical Education (ICME11), Monterrey, Mexico.
14. 2009 Co-chair of the International Program Committee of the Sixth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL6), Brisbane, Australia.

15. 2010 Co-organizer of Invited Sessions on “Assessing statistical reasoning and statistical thinking: Examples, problems, solutions,” and on “Research on developing students’ statistical reasoning.” Co-organizer of Special Interest Group on “International Research Forums on Statistical Reasoning, Thinking and Literacy” in the Eighth International Conference on Teaching Statistics (ICOTS8), Ljubljana, Slovenia.
 16. 2011 Co-chair of the International Program Committee of the Seventh International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL7), Texel, The Netherlands.
 17. 2011 Co-chair of the First International Workshop on the Use of TinkerPlots in Statistics Education, University of Kassel, Germany.
 18. 2012 Co-chair of Topic Study Group on “Teaching and learning of statistics” in the 12th International Congress on Mathematical Education (ICME12), Seoul, South Korea.
 19. 2013 Co-chair of the International Program Committee of the Eighth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL8), USA.
 20. 2014 Co-chair of the International Program Committee of the Second International Research Forum on Developing Statistical Reasoning with TinkerPlots, Israel.
 21. 2014 Co-covenor of a Topic on “Technology in statistics education” and Organizer of a Session on “Educational software for helping students learn statistics” in the Ninth International Conference on Teaching Statistics (ICOTS9), Flagstaff, Arizona, USA.
 22. 2014 Co-chair of the International Conference of the Learning Sciences pre-conference workshop: “Current research and practice on learning communities: What we know, what are the issues, and where are we going?” Boulder, Colorado, USA.
 23. 2015 Co-chair of pre-conference workshop: “Collaboration over time: How learning communities emerge, develop, and sustain?” and co-chair of a symposium: “Technology-enhanced learning communities on a continuum between ambient to designed: What can we learn by synthesizing multiple research perspectives?” in the International Computer Supported Collaborative Learning Conference (CSCL11), Gothenburg, Sweden. (forthcoming)
 24. 2015 Member of the Scientific Committee of the international conference “Turning data into knowledge: New opportunities for statistics education”, Institute of Education, University of Lisbon, Portugal. (forthcoming)
 25. 2015 Co-chair of the International Program Committee of the Ninth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL9), Paderborn, Germany. (forthcoming)
 26. 2015 Member of the Scientific Program Committee (PC) of the international conference “CSCL and Learning Sciences” in the International Conference on Computers in Education (ICCE), HangZhou, China.
 27. 2016 Co-chair of Topic Study Group on “Teaching and learning of statistics” in the 13th International Congress on Mathematical Education (ICME-13), Hamburg, Germany. (forthcoming)
- 6.B2 National Scientific Conferences
1. 2004 Member of the Scientific Program Committee of the Eleventh Annual Conference of the Israeli Association for the Advancement of Mathematics Education, Tel-Aviv.

2. 2008 Member of the Scientific Committee of the Third Chais Conference for the Study of Innovation and Learning Technologies, The Open University of Israel.
3. 2008 Chair of the Program Committee of the seventh National Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL): "New Directions in E-Learning in Higher Education", University of Haifa.
4. 2009 Member of the Scientific Program Committee of the eighth National Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL), Shenkar College, Ramat-Gan.
5. 2009 Member of the Scientific Committee of the Fourth Chais Conference for the Study of Innovation and Learning Technologies, The Open University of Israel.
6. 2010 Member of the Scientific Committee of the Fifth Chais Conference for the Study of Innovation and Learning Technologies, The Open University of Israel.
7. 2011 Member of the Scientific Committee of the Sixth Chais Conference for the Study of Innovation and Learning Technologies, The Open University of Israel.
8. 2012 Member of the Scientific Program Committee of the Tenth National Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL), Weizmann Institute of Science, Rehovot, Israel.
9. 2012 Member of the Scientific Committee of the Seventh Chais Conference for the Study of Innovation and Learning Technologies, The Open University of Israel.
10. 2013 Member of the Scientific Program Committee of the First Annual LINKS I-CORE Retreat, Haifa, Israel.
11. 2014 Member of the Scientific Committee of the Ninth Chais Conference for the Study of Innovation and Learning Technologies, The Open University of Israel.
12. 2014 Member of the Scientific Program Committee of the 12th Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL), Tel-Aviv, Israel.
13. 2015 Member of the Scientific Committee of the Tenth Chais Conference for the Study of Innovation and Learning Technologies, The Open University of Israel.
14. 2015 Member of the Scientific Program Committee of the 13th Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL), Technion, Haifa, Israel.

7. Invited Lectures

<i>Date</i>	<i>Place</i>	<i>Name of Forum</i>	<i>Lecture Title</i>
1. Apr. 2006	Ramat Gan, Israel	Mathematics in Primary School Conference	Connecting worlds via exploratory data analysis
2. Jan. 2008	University of Haifa, Israel	Library Studies departmental colloquium	Web 2.0 in education
3. Jan. 2008	University of Haifa, Israel	Educational Technology departmental colloquium	Educational uses of Web 2.0 ideas and applications
4. Jan. 2008	Baqa El-Garbiah, Israel	Al-Qasemi College of Education, Computer Science Studies	Integrating educational technology in learning and teaching processes
5. Apr. 2010	Tel-Aviv, Israel	The MOFET Institute	Online teaching

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| 6. | June
2010 | Beit Berl,
Israel | Academic teaching forum | Stirring up technology-enhanced learning in academia |
| 7. | June
2010 | Tel-Aviv,
Israel | National committee on inquiry in education | Data analysis: The bridge to inquiry |
| 8. | May
2011 | Technion,
Haifa, Israel | Project-Based Learning Conference | Challenges in project-based learning |

8. Colloquium Talks

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| 1. | Jan.
2001 | Weizmann
Institute of
Science,
Israel | Science Teaching
Department
colloquium | Junior high school students
constructing understanding of data
representations |
| 2. | Mar.
2001 | The Hebrew
University,
Israel | Faculty of Education
colloquium | Enculturation processes in statistics
education |
| 3. | Mar.
2001 | Ben-Gurion
University,
Israel | Faculty of Education
colloquium | Developing experts' points of view on
local-global approaches to data and
data representations |
| 4. | Jan.
2002 | Tel-Aviv
University,
Israel | The Annual E.
Fischbein's
Commemoration
Seminar | Statistical reasoning in computerized
learning environment |
| 5. | Aug.
2009 | Freudenthal
Institute,
Utrecht
University,
Netherlands | Institute colloquium | Children's emerging reasoning about
informal statistical inference. (Co-
presenters: Makar, K. & Bakker, A.) |
| 6. | Oct.
2010 | ORT Braude
College
Karmiel,
Israel | Institute colloquium | Technology-enhanced learning in
higher education |
| 7. | Mar.
2011 | Faculty of
Humanities,
University of
Haifa | Faculty colloquium | Academic teaching and learning in
the digital age |
| 8. | Feb.
2012 | Freudenthal
Institute,
Utrecht
University,
Netherlands | Institute colloquium | Supporting students' statistical
reasoning with dynamic tools
in an inquiry-based environment. (Co-
presenters: Makar, K. & Bakker, A.) |
| 9. | Nov.
2013 | Freudenthal
Institute,
Utrecht
University,
Netherlands | Institute colloquium | Variability, modeling and uncertainty
as building blocks of a bridge
between science and mathematics
curricula. (Co-presenter: Janet
Ainley) |

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| 10. | Dec.
2013 | Institute of
Education,
University of
Lisbon,
Portugal | Institute colloquium | Developing students' statistical
reasoning using TinkerPlots
at basic education. |
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9. Research Grants

9.A Grants Awarded

<i>Role</i>	<i>Other Researchers</i>	<i>Topic</i>	<i>Sum</i>	<i>Funded by</i>	<i>Year</i>
1.	PI	Developing students' statistical reasoning	16,000 NIS	University of Haifa, Faculty of Education	2002–2006
2.	PI	Book publication grant: <i>The Challenge of Developing Statistical Literacy, Reasoning, and Thinking</i>	5,000 NIS	University of Haifa, the Research Authority	2003
3.	PI	Book Publication grant: <i>Developing Students' Statistical Reasoning: Connecting Research and Teaching Practice</i>	5,000 NIS	University of Haifa, the Research Authority	2005
4.	PI	Professional development of primary school teachers in statistics	50,000 NIS	Ministry of Education, Culture and Sports, Israel	2004–2005
5.	PI	The advancement of statistical literacy among 9 th & 10 th grade students	140,000 NIS	Ministry of Education, Culture and Sports, Israel	2004–2005
6.	PI	Kali-PI The design of Wiki-based online collaboration academic courses	10,000 US\$	University of Haifa and Technion Joint Research Fund	2006
7.	PI	Design principles for using Wiki technology in online courses for higher education.	3,000 US\$	University of Haifa, the Research Authority	2006
8.	PI	Kali, Zilberstein & Sagi-PIs The use of CMC to transfer responsibility to students in academia	12,000 NIS	Meital	2010
9.	PI	Makar & Bakker-PIs For the sake of the argument: Developing students' inferential arguments in statistics	177,000 AUS\$	Australian Research Council (ARC) Discovery Project Grant (DP120100690)	2012–2014

10.	PI	Ainley & Pratt-PIs	Children's interpretation of graphs through active statistical modeling	8,800£	British Academy Small Research Grant Scheme (SG112288)	2012–2014
11.	PI	Tsabari, Elias, Koren, Kali, Raban, Rafaeli, Schejter, Weiss, Yerushalmy, & Zuckerman-PIs	Learning In a Networked Society (LINKS): Co-creation of knowledge in technology-enhanced communities of learning	35 million NIS	ISF Israel Centers Of Research Excellence (I-CORE)	2013–2018

9.B Submission of Research Proposals – Pending

	<i>Role</i>	<i>Other Researchers</i>	<i>Topic</i>	<i>Fund</i>	<i>Years</i>
1.	PI	Engel, Ridgway, Campos, Gal, & Kovacs-PIs	Open data and promoting participation in civil society (ProCivil-Stat)	Erasmus +	2015–2017
2.	PI	Weiss	Developing a Framework to Enhance Creativity and Creative Collaboration via Video-Self-Reflection	ISF: Individual Research Grant	2015–2018
3.	PI	O'Flynn, Marinova, Fernández, Dragoev, Wong, Yang, Meletiou, & Marinoni-PIs	PERITIA: The Establishment of a New Profession for e-Infrastructure Professionals	The EU Horizon 2020	2016–2018

10. Scholarships, Awards and Prizes

<i>Year</i>	<i>Details</i>
1. 1997	<i>The Orly Kaplan Award</i> for the outstanding graduate student of the Science Teaching Department, Feinberg Graduate School, Weizmann Institute of Science, Israel.
2. 2001	<i>The Gad Reshef Award</i> for the outstanding graduate student, Feinberg Graduate School, Weizmann Institute of Science, Israel.
3. 2001	<i>The Knesset (Israeli Parliament) Prize of Distinction</i> for outstanding graduate student presented by the Committee of the Presidents of the Israeli Universities.
4. 2001–2004	<i>Guastalla Fellowship, Sacta-Rashi Foundation, Israel.</i> A three-year scholarship for promising researcher in mathematics and science education. (Peer-reviewed external funding)

11. Teaching

11.A Courses Taught in Recent Years

	<i>Years</i>	<i>Name of Course</i>	<i>Type</i>	<i>Degree</i>	<i>Students</i>
1.	2001– 2003	Research on teaching and learning exploratory data analysis in technological environments	Seminar	Graduate	20
2.	2001–	Introduction to mathematics education (The Integrative course)	Course	Graduate	20
3.	2002– 2006	Technology-enhanced collaborative learning	Seminar	Undergraduate	20
4.	2002– 2008	Inquiry-based learning in technology-enhanced learning communities	Seminar	Graduate	20
5.	2004, 2008	Innovative computer applications: inspiring research & development in education (in cooperation with the Caesarea Rothschild Institute, University of Haifa)	Seminar	Graduate	20
6.	2004, 2006, 2008–	Developing statistical reasoning in a collaborative inquiry-based learning environment	Seminar	Graduate	20
7.	2005, 2010	Project-based learning in technology-enhanced environments	Seminar	Graduate	20
8.	2005–	Educational technology: Issues and challenges	Course	Graduate	20
9.	2013– 2014	Advanced seminar: Teaching and learning in learning communities	Course	Graduate	20
10	2014– 2015	Advanced seminar: Learning sciences and the future of education	Seminar	Graduate	20

11.B Teacher Professional Development Courses Taught in Recent Years

	<i>Year</i>	<i>Title</i>	<i>Institute</i>
1.	1994– 2001	Teaching and learning statistics in middle school	Weizmann Institute of Science, Department of Science Teaching.
2.	2003	Teaching exploratory data analysis at the primary level	Primary school mathematics teacher professional program, Kiryat Shemona.
3.	2004	Ordinary People: Hitler's Willing Executioners	Korczak International School, Ghetto Fighters' House Museum, Israel.
4.	2005– 2012	Developing educational leadership in computerized information literacy	Department of Continuing Studies, Faculty of Education, University of Haifa.

11.C Supervision of Graduate Students

11.C1 Doctoral Students

	<i>Name</i>	<i>Title of Thesis</i>	<i>Degree</i>	<i>Completion</i>	<i>Achievements & Publications</i>
1.	Soledad Estrella	The table object: An epistemological, cognitive and didactic study	Ph.D.	Jan. 2014	Graduated with distinction: Summa cum laude. Co-advised with Dr. Mena-Lorca, Pontificia Universidad Católica de Valparaíso, Chile
2.	Einat Gil	Long term effects of promoting informal inferential statistical reasoning in an inquiry-based and technology-enhanced learning environment	Ph.D.	Sep. 2014	D14; E2.8; F12, 14, 19, 22, 24, 27, 28, 33, 60; H1.2; H2.13, 16, 19
3.	Yotam Hod	Enculturation-in-action: Students' developing practices in technology-enhanced classroom learning communities	Ph.D.	Jan. 2015	Participant–ICLS2012 doctoral consortium; Co-chair–ICLS2014 workshop; Member–the Faculty of Education excellent PhD student program. D22; F41, 42, 43, 48, 50, 51, 54, 56, 58, 64, 65, 66
4.	Shiri Hagani-Mor	Reflective-dialogic discourse in hybrid collaborative computer supported learning environment	Ph.D.	In process	D18; F25, 29, 30, 38, 53, 57
5.	Hana Manor	Sampling reasoning among elementary school students while making informal statistical inferences	Ph.D.	In process	F44, 46, 61, 70; H2.20
6.	Guy Hefetz	Expanding self-expression in technology-enhanced learning communities	Ph.D.	In process	
7.	Oshra Duek	Personal epistemology in reflective diaries in a technology-enhanced learning community	Ph.D.	In process	Co-advised with Dr. Sarit Barzilai. F68

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| 8. | Keren Aridor-Berger | Developing students' aggregate view of data through modeling activities | Ph.D. | In process | D20; E2.11; F31, 32, 39, 44, 46, 59, 61, 69; H2.20 |
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11.C2 M.A. Students

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| 1. | Yael Amir-Sharett | The emergence of distributional thinking among second-grade students | M.A. | 2005 | Graduated with distinction: Gained the dean's list for graduate studies. F9 |
| 2. | Sivan Videnfeld | The development of informal reasoning about distribution in a technological learning environment | M.A. | 2005 | Graduated with distinction: Cum laude. |
| 3. | Orly Segal Ben-Moshe | Developing fourth-grade students' statistical reasoning about distribution with <i>TinkerPlots</i> software | M.A. | 2007 | Graduated with distinction: Summa cum laude. H2.8, 10 |
| 4. | Michael Konja | Wiki-based collaborative learning in higher education | M.A. | 2009 | Graduated with distinction: Gained the dean's list for graduate studies. F18, 21, 26 |
| 5. | Einat Gil | Design principles for exploratory data analysis learning environment in primary school | M.A. | 2009 | Graduated with distinction: Summa cum laude. Continued to Ph.D. studies. |
| 6. | Naomi Apel | The role of directed and spontaneous questions in the development of statistical reasoning in primary school | M.A. | 2009 | Graduated with distinction: Summa cum laude. E2.8; F12, 14, 19 |

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| 7. | Yael Nissim | Science teachers' perception of their roles and their teaching strategies while integrating ICT technologies | M.A. | 2010 | D16, 19; F37 |
| 8. | Dalia Ofdenbrach-Yunker | Structuring, sharing and reusing asynchronous collaborative pedagogy | M.A. | 2011 | |
| 9. | Ruth Gofer | Metacognitive thinking in reflective writing: Metacognitive aspects of writing personal-reflective diaries in a wiki-based collaborative learning environment among junior high school students | M.A. | 2012 | Graduated with distinction: Summa cum laude. F49 |
| 10. | Keren Aridor-Berger | The emergent relationship between the context world and the data world while developing informal inferential statistical reasoning | M.A. | 2013 | Graduated with distinction: Summa cum laude. Continued to Ph.D. studies. |
| 11. | Tali Ben-Arush | Informal inferential reasoning of fifth grade students' in inquiry-based learning environment from an instrumental point of view | M.A. | 2014 | Graduated with distinction: Cum laude. E2.12 |

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| 12. | Oren Ben-Aharon | Design and evaluation of a socio-constructivist learning environment for the learning of usability | M.A. | Thesis submitted for review 18/12/14 | Co-advised with Prof. Miky Ronen. |
| 13. | Jacqueline Basil-Shachar | The Emergence of Norms in a Technology-Enhanced Learning Community | M.A. | In process | F48, 56, 66 |
| 14. | Atar Ron | Distributional reasoning in primary school | M.A. | In process | |
| *15. | Novik Tamar | Technology-enhanced teacher learning community | M.A. | In process | F54, 63 |
| 11.C3 <u>Post Doctorate Students</u> | | | | | |
| *1. | Rivka Taub | Citizen and data sciences | Post Doctorate | In process | |

II. PUBLICATIONS

Notes:

- # denotes a M.A. or Ph.D. student who is supervised by me.

A. Ph.D. Dissertation

Title: Children as Explorers: Exploratory Data Analysis by Junior High School Students in a Computer Assisted Environment

Language: English

University: Weizmann Institute of Science, Rehovot, Israel

Number of Pages: 238 pages

Date of the Dissertation: August 24, 2001

Names of Supervisors: Prof. A. Arcavi and Dr. A. Friedlander

Online: www.stat.auckland.ac.nz/iasedissert

B. Scientific Books (Refereed)

B.1 Authored Books

Published

1. Garfield, J., & **Ben-Zvi, D.** (2008). *Developing students' statistical reasoning: connecting research and teaching practice*. Springer. (410 pages.)

B.2 Edited Books

Published

1. **Ben-Zvi, D.**, & Garfield, J. (1999). *Statistical reasoning, thinking, and literacy: selected readings*. Rehovot, Israel: Weizmann Institute of Science. (257 pages.)
- 2a. **Ben-Zvi, D.**, & Garfield, J. (2004). *The challenge of developing statistical literacy, reasoning, and thinking*. Dordrecht, the Netherlands: Kluwer Academic Publishers (Springer). (423 pages.)
- 2b. **Ben-Zvi, D.**, & Garfield, J. (2011). *The meaning of statistical thinking and learning* [in Korean]. Seoul, Korea: Kyung Moon Publishers. (Translation of the book *The challenge of developing statistical literacy, reasoning, and thinking* (2a) to Korean, 494 pages.) ISBN: 978-89-6105-273-3
3. **Ben-Zvi, D.** (Editor) (2008). *Innovative E-learning in higher education* [In Hebrew]. Proceedings of the 6th Annual Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL). University of Haifa, Israel. (240 pages)
- *4. **Ben-Zvi, D.**, & Makar, K. (Eds.) (2015). *Reasoning about models and modelling in the context of informal statistical inference* (Proceedings of SRTL-9). Paderborn, Germany: University of Paderborn. (188 pages)
- *5. Zieffler, A., **Ben-Zvi, D.**, Chance, B., Garfield, J., & Gould, R. (Eds.) (2015). *Reasoning about uncertainty: learning and teaching informal inferential reasoning*. Minneapolis, MN: Catalyst Press. (204 pages)

Accepted for Publication**B.3 Edited Journal Volumes**Published

1. **Ben-Zvi, D.**, & Garfield, J. (2004). Research on reasoning about variability. *Statistics Education Research Journal*, 3(2). (113 pages)
2. Garfield, J., & **Ben-Zvi, D.** (2005). Teaching and assessing reasoning about variability (Special Section). *Statistics Education Research Journal*, 4(1). (73 pages)
3. Makar, K., & **Ben-Zvi, D.** (2011). The role of context and evidence in informal inferential reasoning. *Mathematical Thinking and Learning*, 13(1-2). (173 pages)
4. **Ben-Zvi, D.**, Bakker, A., & Makar, K. (2015). Statistical reasoning: Learning to reason from samples. *Educational Studies in Mathematics*, 88(3). (180 pages)

Accepted for Publication**C. Monographs**

None

D. Articles in Refereed JournalsPublished

1. **Ben-Zvi, D.** (2000). Toward understanding the role of technological tools in statistical learning. *Mathematical Thinking and Learning*, 2(1&2), 127-155.
2. **Ben-Zvi, D.**, & Arcavi, A. (2001). Junior high school students' construction of global views of data and data representations. *Educational Studies in Mathematics*, 45, 35-65.
3. **Ben-Zvi, D.** (2004). Reasoning about variability in comparing distributions. *Statistics Education Research Journal*, 3(2), 42-63.
4. **Ben-Zvi, D.**, & Garfield, J. (2004). Research on Reasoning about Variability. *Statistics Education Research Journal*, 3(2), 4-6.
5. Garfield, J., & **Ben-Zvi, D.** (2005). A framework for teaching and assessing reasoning about variability. *Statistics Education Research Journal*, 4(1), 92-99.
6. **Ben-Zvi, D.** (2007). Using Wiki to promote collaborative learning in statistics education. *Technology Innovations in Statistics Education*, 1(1), 1-18.
7. Chance, B., **Ben-Zvi, D.**, Garfield, J., & Medina, E. (2007). The role of technology in improving student learning of statistics. *Technology Innovations in Statistics Education*, 1(1), Article 2 (26 pages).
8. Garfield, J., & **Ben-Zvi, D.** (2007). How students learn statistics revisited: A current review of research on teaching and learning statistics. *International Statistical Review*, 75(3), 372-396.
9. **Ben-Zvi, D.**, & Sfard, A. (2007). Ariadne's string, Daedalus' wings, and the learner's autonomy [In English]. *Education and Didactics (Éducation & Didactique)*, 1(3), 117-134.

10. Roseth, C. J., Garfield, J. B., & **Ben-Zvi, D.** (2008). Collaboration in learning and teaching statistics. *Journal of Statistics Education*, 16(1), 1-15.
11. **Ben-Zvi, D.**, & Garfield J. (2008). Introducing the emerging discipline of statistics education. *School Science and Mathematics*, 108(8), 355-361.
- 12a. Garfield, J., & **Ben-Zvi, D.** (2009). Helping students develop statistical reasoning: Implementing a Statistical Reasoning Learning Environment. *Teaching Statistics*, 31(3), 72-77.
- 12b. Garfield, J., & **Ben-Zvi, D.** (2010). Eine lernumgebung zur entwicklung statistischen argumentierens. *Stochastik in der Schule*, 30(2), 2-7. (Translation of article 12a to German)
13. Makar, K., Bakker, A., & **Ben-Zvi, D.** (2011). The reasoning behind informal statistical inference. *Mathematical Thinking and Learning*, 13(1-2), 152-173.
14. Gil[#], E., & **Ben-Zvi, D.** (2011). Explanations and context in the emergence of students' informal inferential reasoning. *Mathematical Thinking and Learning*, 13(1-2), 87-108.
15. Makar, K., & **Ben-Zvi, D.** (2011). The role of context in developing reasoning about informal statistical inference. *Mathematical Thinking and Learning*, 13(1-2), 1-4.
16. Barak, M., Nissim[#], Y., & **Ben-Zvi, D.** (2011). Aptness between teaching roles and teaching strategies while integrating ICT in science education. *Interdisciplinary Journal of E-Learning and Learning Objects*, 7, 305-322. Informing Science Institute.
17. **Ben-Zvi, D.** (2011). Statistical reasoning learning environment. *Ibero-America Journal of Mathematics and Technology Education*, 2(2), 1-13.
18. Hagani-Mor[#], S., & **Ben-Zvi, D.** (2011). From wisdom of the crowds to collaborative wisdom (In Hebrew). *Journal of Librarianship and Information Science*, 7, 14-18.
19. Nissim[#], Y., Barak, M., & **Ben-Zvi, D.** (2012). The role perception and teaching strategies of teachers who include advanced technologies in their lessons (Hebrew). *Dapim: Journal for Studies and Research in Education*, 54, 193-218.
20. **Ben-Zvi, D.**, Aridor[#], K., Makar, K., & Bakker, A. (2012). Students' emergent articulations of uncertainty while making informal statistical inferences. *ZDM - The International Journal on Mathematics Education*, 44(7), 913-925.
21. Garfield, J., Le, L., Zieffler, A., & **Ben-Zvi, D.** (2014). Developing students' reasoning about samples and sampling variability as a path to expert statistical thinking. *Educational Studies in Mathematics*, 88(3), 327-342.
22. Hod[#], Y., & **Ben-Zvi, D.** (2014). A group psychotherapeutic perspective on transforming participation in a learning community. *Instructional Science*, 42(6), 949-970.
23. **Ben-Zvi, D.**, Bakker, A., & Makar, K. (2015). Learning to reason from samples. *Educational Studies in Mathematics*, 88(3), 291-303.
- *24. Hod[#], Y., & **Ben-Zvi, D.** (2015). Students negotiating and designing their collaborative learning norms: a group developmental perspective in learning communities. *Interactive Learning Environments*. DOI: 10.1080/10494820.2015.1063511
- *25. Makar, K., Bakker, A., & **Ben-Zvi, D.** (2015). Scaffolding norms of argumentation-based inquiry in a primary mathematics classroom. *ZDM - The International Journal on Mathematics Education*. <http://link.springer.com/article/10.1007/s11858-015-0732-1>

E. Articles or Chapters in Scientific Books – Refereed

E.1 Chapters in Handbooks

Published

1. Hershkowitz, R., Dreyfus, T., Schwarz, B., **Ben-Zvi, D.**, Friedlander, A., Hadas, N., Resnick, T., & Tabach, M. (2002). Mathematics curriculum development for computerized environments: A designer – researcher – teacher – learner activity. In L.D. English (Ed.), *Handbook of International Research in Mathematics Education* (pp. 657-694). London: Laurence Erlbaum Associates Publishers.
2. **Ben-Zvi, D.**, Garfield, B.J., & Zieffler, A. (2006). Research in the statistics classroom: Learning from teaching experiments. In G.F. Burrill (Ed.), *Thinking and Reasoning with Data and Chance (The Sixty-eighth Yearbook of the National Council of Teachers of Mathematics)* (pp. 467-481). Reston, VA: The National Council of Teachers of Mathematics.
3. Biehler, R., **Ben-Zvi, D.**, Bakker, A., & Maker, K. (2013). Technology for enhancing statistical reasoning at the school level. In M. A. Clements, A. Bishop, C. Keitel, J. Kilpatrick, and F. Leung (Eds.), *Third International Handbook of Mathematics Education* (pp. 643-690). Springer.

E.2 Chapters in Books

Published

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2. **Ben-Zvi, D.**, & Friedlander, A. (1997). Statistical thinking in a technological environment. In J. Garfield & G. Burrill (Eds.), *Research on the Role of Technology in Teaching and Learning Statistics* (pp. 45-55). Voorburg, The Netherlands: International Statistical Institute.
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4. **Ben-Zvi, D.** (2004). Reasoning about data analysis. In D. Ben-Zvi & J. Garfield (Eds.), *The Challenge of Developing Statistical Literacy, Reasoning, and Thinking* (pp. 121-145). Dordrecht, The Netherlands: Kluwer Academic Publishers (Springer).
5. **Ben-Zvi, D.**, & Garfield, J. (2004). Statistical literacy, reasoning, and thinking: goals, definitions, and challenges. In D. Ben-Zvi & J. Garfield (Eds.), *The Challenge of Developing Statistical Literacy, Reasoning, and Thinking* (pp. 3-15). Dordrecht, The Netherlands: Kluwer Academic Publishers/Springer.
6. Garfield, J., & **Ben-Zvi, D.** (2004). Research on statistical literacy, reasoning, and thinking: issues, challenges, and implications. In D. Ben-Zvi & J. Garfield (Eds.), *The Challenge of Developing Statistical Literacy, Reasoning, and Thinking* (pp. 397-409). Dordrecht, The Netherlands: Kluwer Academic Publishers/Springer.
7. Salomon, G., & **Ben-Zvi, D.** (2006). The difficult marriage between education and technology: Is the marriage doomed? In L. Verschaffel, F. Dochy, M. Boekaerts and S. Vosniadou (Eds.), *Instructional psychology: Past, present and future trends (Essays in honor of Erik De Corte)* (pp. 209-222). Elsevier.

8. **Ben-Zvi, D.**, Gil[#], E., & Apel[#], N. (2009). Creativity in learning to reason informally about statistical inference in primary school. In R. Leikin, A. Berman & B. Koichu (Eds.), *Creativity in mathematics and the education of gifted students* (pp. 325-344). Rotterdam: Sense Publishers.
9. Pfannkuch, M., & **Ben-Zvi, D.** (2011). Developing teachers' statistical thinking. In C. Batanero, G. Burrill, and C. Reading (Eds.), *Teaching Statistics in School Mathematics- Challenges for Teaching and Teacher Education* (A Joint ICMI/IASE Study, The 18th ICMI Study) (pp. 323-333). Springer.
10. **Ben-Zvi, D.**, & Makar, K. (2013). Teaching and learning of statistics: International perspectives. In D. Ben-Zvi and K. Makar. (Eds.), *Teaching and learning of statistics: International perspectives* (pp. 1-11). University of Haifa, Israel: Statistics Education Center.
11. **Ben-Zvi, D.**, & Aridor[#], K. (2013). Children's wonder how to wander between data and context. In D. Ben-Zvi and K. Makar. (Eds.), *Teaching and learning of statistics: International perspectives* (pp. 200-209). University of Haifa, Israel: Statistics Education Center.
12. **Ben-Zvi, D.** & Ben-Arush[#], T. (2014). EDA instrumented learning with TinkerPlots. In D. Frischemeier, P. Fischer, R. Hochmuth, T. Wassong and P. Bender (Eds.), *Using tools for learning mathematics and statistics* (pp. 193-208). Springer.
- *13. Manor[#], H., & **Ben-Zvi, D.** (2015). Students' articulations of uncertainty in informally exploring sampling distributions. In A. Zieffler & E. Fry (Eds.), *Reasoning about uncertainty: Learning and teaching informal inferential reasoning* (pp. 57-94). Minneapolis, Minnesota: Catalyst Press.
- *14. Garfield, J., & **Ben-Zvi, D.** (2015). The International Collaboration for Research in Statistical Reasoning, Thinking, and Literacy (Foreword). In A. Zieffler & E. Fry (Eds.), *Reasoning about uncertainty: Learning and teaching informal inferential reasoning* (pp. XV-XVIII). Minneapolis, Minnesota: Catalyst Press.

F. Articles in Conference Proceedings

All articles are peer-reviewed research papers presented in scientific conferences.

1. **Ben-Zvi, D.** (1997). Learning statistics in a technological environment. *Proceedings of the 51st Session of the International Statistical Institute, I* (pp. 411-415). Ankara, Turkey: State Institute of Statistics.
2. **Ben-Zvi, D.**, & Arcavi, A. (1998). Towards a characterization and understanding of students' learning in an interactive statistics environment. In L. Pereira-Mendoza, L. S. Kea, T. W. Kee & W. K. Wong (Eds.), *Proceedings of the Fifth International Conference on Teaching of Statistics, II* (pp. 647-653). Voorburg, The Netherlands: International Statistical Institute.
3. **Ben-Zvi, D.** (1999a). Constructing an understanding of data graphs. In O. Zaslavsky (Ed.), *Proceedings of the 23rd Annual Conference of the International Group for the Psychology of Mathematics Education, II* (pp. 97-104). Haifa, Israel: Technion.
4. **Ben-Zvi, D.** (1999b). Alternative assessment in statistics education. *Proceedings of the 52nd Session of the International Statistical Institute, III* (pp. 175-176). Helsinki, Finland: Edita Ltd.
5. **Ben-Zvi, D.**, & Arcavi, A. (2001). Developing experts' points of view on local-global approaches to data and data representations. *Bulletin of the ISI 53rd Session Proceedings, 2* (pp. 215-217). Seoul, Republic of Korea.

6. **Ben-Zvi, D.** (2002). Seventh grade students' sense making of data and data representations. In B. Phillips (Ed.), *Proceedings of the Sixth International Conference on Teaching of Statistics* (CD-ROM). Voorburg, The Netherlands: International Statistical Institute.
7. **Ben-Zvi, D.** (2004). The emergence of reasoning about variability in comparing distributions: a case study of two seventh grade students. In C. Lee (Ed.), *Reasoning about variability: A collection of current research studies*. Proceedings of the Third International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL3), University of Nebraska, Lincoln, Nebraska, 23-28 July, 2003. Mount Pleasant, Michigan: Central Michigan University. (29 pages with video segments, CD-ROM)
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10. **Ben-Zvi, D.** (2006). Scaffolding students' informal inference and argumentation. In A. Rossman and B. Chance (Eds.), *Proceedings of the Seventh International Conference on Teaching Statistics* (CD-ROM), Salvador, Bahia, Brazil, July, 2006. Voorburg, The Netherlands: International Statistical Institute.
11. Gal, I., & **Ben-Zvi, D.** (2007). Educational products of official statistics agencies: In search of vision, standards, and impact. *Proceedings of the 56th Session of the International Statistical Institute*, 22-29 August, Lisbon, Portugal. Voorburg, Netherlands: International Statistical Institute.
12. **Ben-Zvi, D.**, Gil[#], E., & Apel[#], N. (2007). What is hidden beyond the data? Helping young students to reason and argue about some wider universe. In D. Pratt & J. Ainley (Eds.), *Reasoning about Informal Inferential Statistical Reasoning: A collection of current research studies*. Proceedings of the Fifth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL5), University of Warwick, UK, August, 2007.
13. Garfield, J., & **Ben-Zvi, D.** (2007). The discipline of statistics education. In C. Batanero (Ed.), *Background Papers of the Joint ICMI /IASE Study on Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education*. Spain: University of Granada.
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15. Garfield, J. & **Ben-Zvi, D.** (2008). Preparing school teachers to develop students' statistical reasoning. In C. Batanero, G. Burrill, C. Reading & A. Rossman (Eds.), *Proceedings of the Joint ICMI /IASE Study on Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education*. Monterrey, Mexico: ITESM. (7 pages)
16. **Ben-Zvi, D.** (2008). Partners in innovation: Helping teachers to integrate technology in the teaching of statistics. In C. Batanero, G. Burrill, C. Reading & A. Rossman (Eds.), *Proceedings of the Joint ICMI /IASE Study on Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education*. Monterrey, Mexico: ITESM. (5 pages)

17. **Ben-Zvi, D.** (2008). Research on developing statistical reasoning: Reflections, lessons learned, and challenges. In *The 11th International Congress on Mathematical Education (ICME-11) Annals*. Monterrey, Mexico: The Universidad Autonoma de Nuevo Leon.
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21. Konja[#], M., & **Ben-Zvi, D.** (2008). Social aspects of higher education collaborative learning in Wiki-based learning environment (in Hebrew). In D. Ben-Zvi (Ed.), *Innovative E-learning in higher education*, Proceedings of the 6th Annual Conference of MEITAL (the Inter-University Center for e-Learning, IUCEL) (pp. 13-15). University of Haifa, Israel.
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23. **Ben-Zvi, D.**, Makar, K., & Bakker, A. (2009). Towards a framework for understanding students' informal statistical inference and argumentation. In K. Makar (Ed.), *Proceedings of the Sixth International Research Forum on Statistical Reasoning, Thinking, and Literacy*. University of Queensland, Brisbane, Australia [CD-ROM]. (14 pages)
24. Gil[#], E., **Ben-Zvi, D.**, & Kupermintz, H. (2009). Design considerations of a fully online wiki-based academic course (in Hebrew). In E. Gruengard (Ed.), *Proceedings of the 7th Annual Conference of MEITAL* (the Inter-University Center for e-Learning, IUCEL). Ramat Gan, Israel: Shenkar College. (4 pages)
25. Hagani-Mor[#], S., & **Ben-Zvi, D.** (2009). Wiki-based blended learning environment: a spiral, reflective and collaborative educational process (in Hebrew). In E. Gruengard (Ed.), *Proceedings of the 7th Annual Conference of MEITAL* (the Inter-University Center for e-Learning, IUCEL). Ramat Gan, Israel: Shenkar College. (4 pages)
26. Konja[#], M., & **Ben-Zvi, D.** (2009). The added value of wiki to collaborative learning as viewed by the learners (in Hebrew). In Y. Eshet-Alkalai, A. Caspi, S. Eden, N. Geri, & Y. Yair (Eds.), *Proceedings of the Chais conference on instructional technologies research 2009: Learning in the technological era* (pp. 145-151). Ra'anana: The Open University of Israel.
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39. **Ben-Zvi, D.**, & Aridor[#], K. (2012). Children's wonder how to wander between data and context. *Proceedings of the 12th International Congress of Mathematical Education* (ICME-12). Seoul: South Korea: ICMI. (10 pages)

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52. Bielaczyc, K., **Ben-Zvi, D.**, & Hod[#], Y. (2014). Current research and practice on learning communities: What we know, what are the issues, and where are we going? In J.L. Polman et al. (Eds.), *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS)*, (Vol. 3, pp. 1677-1679). Boulder, CO, USA: International Society of the Learning Sciences.
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68. Barzilai, S., **Ben-Zvi, D.**, & Duek[#], O. (2015). Tracing the emergence and growth of epistemic norms in a designed technology-enhanced learning community. In O. Lindwall, P. Koschman, T. Tchounikine, & S. Ludvigsen (Eds.), *Exploring the Material Conditions of Learning: The Computer Supported Collaborative Learning Conference (CSCL), Volume II* (pp. 620-621). Gothenburg, Sweden: The International Society of the Learning Sciences.
69. Aridor[#], K., & **Ben-Zvi, D.** (2015). Statistical modeling to promote students' aggregate view of data in the context of informal statistical inference. In *Proceedings of the Ninth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL9)* (pp. 87-97). Paderborn, Germany: University of Paderborn.
70. Manor[#], H., & **Ben-Zvi, D.** (2015). Students' emergent articulations of models and modeling in making informal statistical inferences. In *Proceedings of the Ninth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL9)* (pp. 107-117). Paderborn, Germany: University of Paderborn.

71. Makar, K., Bakker, A., & **Ben-Zvi, D.** (2015). Teacher's scaffolding over the year to develop norms of mathematical inquiry in a primary classroom. In M. Marshman et al. (Eds.), *Mathematics education in the margins (Proceedings of the 38th annual conference of the Mathematics Education Research Group of Australasia)*. Sunshine Coast: MERGA.
72. Novik[#], T., **Ben-Zvi, D.** (2015). Technology-enhanced teacher learning community formed around authentic context and grounded in daily practice. In *the Third Learning in a Networked Society (LINKS) Retreat*. Beer Sheva: Ben-Gurion University of the Negev.

G. Entries in Encyclopedias

Published

1. **Ben-Zvi, D.** (2014). Data handling and statistics teaching and learning. In: S. Lerman (Ed.), *Encyclopedia of mathematics education* (pp. 137-140). Springer Dordrecht, Heidelberg, New York, London.

H. Creative Products Connected to the Scholarly Field

Note: This section refers to design, development and study of educational materials for the learning of mathematics and statistics.

H.1 Text Books in English (Curricula)

Published

1. **Ben-Zvi, D.** (Contributing Author) (2007). *Innovative instructional materials for introductory statistics courses*. The AIMS Project. University of Minnesota, USA.
2. Gil[#], E., & **Ben-Zvi, D.** (2008). *Data analysis for sixth grade using TinkerPlots – Student's workbook* (International edition). Haifa, Israel: University of Haifa. 48 pages.

H.2 Text Books in Hebrew (Curricula)

Published

1. Bruckheimer, M., Ofir, R., & **Ben-Zvi, D.** (1996). *Computation methods in ancient Egypt*. The History of Mathematics Series (Vol. I). Rehovot, Israel: Weizmann Institute of Science. 60 pages.
2. **Ben-Zvi, D.**, & Friedlander, A. (1997). *Statistics: Exploratory Data Analysis Activities with Spreadsheet – Student's Workbook*. Rehovot, Israel: Weizmann Institute of Science. 164 pages.
3. Bruckheimer, M., Ofir, R., & **Ben-Zvi, D.** (1997). *Ancient Digits and Computation Methods*. The History of Mathematics Series (Vol. II). Rehovot, Israel: Weizmann Institute of Science. 60 pages.
4. Bruckheimer, M., Ofir, R., & **Ben-Zvi, D.** (1998). *Solving Word Problem without Equations*. The History of Mathematics Series (Vol. III). Rehovot, Israel: Weizmann Institute of Science. 60 pages.
5. Bruckheimer, M., Ofir, R., & **Ben-Zvi, D.** (1999). *Pi and the Circle Perimeter*. The History of Mathematics Series (Vol. IV). Rehovot, Israel: Weizmann Institute of Science. 60 pages.
6. **Ben-Zvi, D.**, & Ozruso, G. (2001). *Statistical Investigations with Spreadsheets: Teacher's Guide*. Rehovot, Israel: Weizmann Institute of Science. 329 pages.
7. Friedlander, A., Hadas, N., Prusak, N., **Ben-Zvi, D.**, & Albert, J. (2002). *A collection of mathematical inquiry activities for grades 4–6*. Rehovot, Israel: Weizmann Institute of Science.
8. **Ben-Zvi, D.**, Ben-Moshe, O., & Kvatinsky, T. (2005). *Fostering Mathematical Literacy in Statistics and Probability*. Jerusalem: Ministry of Education. (210 pages, 35 activities for students in ninth and tenth grade, fully annotated for teachers.)

9. Levin, N., & **Ben-Zvi, D.** (2005). *Statistics Curriculum for the Professional Development of Primary School Mathematics Teachers*. The National Committee for the Professional Development of Primary School Mathematics Teachers in Israel. Jerusalem: Ministry of Education. (78 pages, 15 activities for teacher development courses)
10. Ben-Moshe, O., & **Ben-Zvi, D.** (2005). *Distribution: Exploratory Data Analysis for Fourth Grade Using TinkerPlots – Student’s Workbook*. Haifa, Israel: University of Haifa. 32 pages.
11. Rota, S., & **Ben-Zvi, D.** (2005a). Exploratory Data Analysis – My Family (Student’s Textbook in the *Pathways Series*) (pp. 43-71). Tel-Aviv: The Center for Educational Technology.
12. Rota, S., & **Ben-Zvi, D.** (2005b). Exploratory Data Analysis – My Family (Teacher’s Guide in the *Pathways Series*) (pp. 37-57). Tel-Aviv: The Center for Educational Technology.
13. Gil[#], E., & **Ben-Zvi, D.** (2006). *Growing Samples: Exploratory Data Analysis for Fifth Grade Using TinkerPlots – Student’s Workbook*. Haifa, Israel: University of Haifa. 32 pages.
14. Rota, S., & **Ben-Zvi, D.** (2006a). Exploratory Data Analysis – My Neighborhood (Student’s Textbook in the *Pathways Series*). Tel-Aviv: The Center for Educational Technology.
15. Rota, S., & **Ben-Zvi, D.** (2006b). Exploratory Data Analysis – My Neighborhood (Teacher’s Guide in the *Pathways Series*). Tel-Aviv: The Center for Educational Technology.
16. Gil[#], E., & **Ben-Zvi, D.** (2007). *Informal Statistical Inference: Data Analysis for Sixth Grade Using TinkerPlots – Student’s Workbook*. Haifa, Israel: University of Haifa. 48 pages.
17. Rota, S., & **Ben-Zvi, D.** (2008a). Exploratory Data Analysis – The Water Around Us (Student’s Textbook in the *Pathways Series*). Tel-Aviv: The Center for Educational Technology.
18. Rota, S., & **Ben-Zvi, D.** (2008b). Exploratory Data Analysis – The Water Around Us (Teacher’s Guide in the *Pathways Series*). Tel-Aviv: The Center for Educational Technology.
19. Gil[#], E., & **Ben-Zvi, D.** (2010). *Data Analysis for Fifth Grade Using TinkerPlots– Student’s Workbook and Teacher Guide* (Hebrew, 2nd edition). Haifa, Israel: University of Haifa. 48 pages.
20. Manor[#], H., **Ben-Zvi, D.**, & Aridor[#], K. (2013). *The Integrative Approach to Data Analysis for Middle School Using TinkerPlots2 – Student’s Workbook* (Hebrew, 1st edition). Haifa, Israel: University of Haifa.

I. Other Scientific Publications

Published

1. Cohen, H., & **Ben-Zvi, D.** (1998). Challenges in Constructing Graph Understanding Using a Graphical Calculator. *TI Math*, 1(2). Israel: Texas Instruments.
2. **Ben-Zvi, D.** (2002). Junior high school students’ construction of global views of data and data representations. *Statistics Education Research Journal*, 1(1), 34.
3. Ottaviani, M. G., **Ben-Zvi, D.**, & Phillips, B. (2002). Developing a statistically literate society. *The International Commission on Mathematical Instruction Bulletin*, 51, 69-72.
4. **Ben-Zvi, D.** (2004). *Data Analysis: Advanced Module: Curriculum outline for primary school teachers* (Hebrew). Jerusalem: The Ministry of Education.
5. **Ben-Zvi, D.**, & Garfield, J. (2004). *The SRTL Forums: International Research Forums on Statistical Reasoning, Thinking, and Literacy* (IASE Matters). *Teaching Statistics*, 26(3), i-iv.

6. **Ben-Zvi, D.** (Spring 2004). Developing students' statistical reasoning. *Outlook - The Journal of the University of Haifa*, 28-31. University of Haifa: Israel.
7. Batanero, C., Hodgson, B., Rossman, A., Albert, A., & **Ben-Zvi, D.** et al. (2006). Statistics education in school mathematics: Challenges for teaching and teacher education (Discussion document). *ZDM - The International Journal on Mathematics Education*, 38(6), 506-516.
8. **Ben-Zvi, D.** (2007). Reasoning about Informal Statistical Inference (SRTL5). *ISI Newsletter*, 31(2), 27.

J. Submitted Articles

1. **Ben-Zvi, D.** (preparing for re-submission). Beginnings are messy: Children's emergent distributional reasoning. *Mathematical Thinking and Learning*. (25 pages)
2. Dierdorff, A., Bakker, A., **Ben-Zvi, D.**, & Makar, K. (preparing for re-submission). Secondary students' considerations of variability in measurement activities based on authentic practices. *Statistics Education Research Journal*. (30 pages)

K. Additional Information on Scientific Activity and Research Plans

RESEARCH

My research interests focus on two important aspects of human life: statistical reasoning and technology-enhanced learning. The first refers to the kind of thinking involved in creating and evaluating data-based claims that are used ubiquitously as means of forming credible arguments and of making decisions under uncertainty. All citizens need nowadays to be able to engage in this kind of thinking processes and have basic statistical literacy and numeracy skills. It should therefore be a standard ingredient of every learner's education. The second aspect, technology, is rapidly transforming the way people communicate and collaborate, consume information and create knowledge, learn and teach. Educational technologies can mediate and facilitate thinking about complex domains – such as statistics, mathematics or science, making them more accessible to all learners.

These two themes are simultaneously present and closely intertwined in my work: I study (a) students' statistical learning and the development of their statistical reasoning as it occurs in the social context of the classroom; and (b) the roles of innovative tools in offering new forms of understanding, learning and communication in technology-enhanced learning communities. I pursue these themes in classroom studies that foster inquiry, reasoning, argumentation, collaboration, reflection, and learners' use of technological tools. I use design experiment methodology, geared toward the double aim of promoting theory and improving practice. More specifically, while “engineering” particular forms of learning, I develop domain-specific theories by systematically studying those forms of learning and the means of supporting them.

Recently, I had a major role in the establishment of the prestigious Learning in a Networked Society (LINKS) Israeli Center of Research Excellence (ICORE) on “Co-creation of knowledge in technology-enhanced communities of learning.” LINKS is committed to generating a critical mass of research that will bring about a paradigm shift in preparation of citizens for lifelong learning in today's information-based, networked society in three areas: a) ways in which shared knowledge and understanding develop in technology-enhanced communities; b) ways in which technology-enhanced communities build shared practices, norms and regulations; and c) ways in which technology can foster learning within and between a diversity of people from various sectors.

Research on learning to reason statistically

My research in this area focuses on the emergence of statistical reasoning of students (grades 4–9, aged 10–15) and the ways it can be promoted. This is a microgenetic and longitudinal research program implemented for ten years in the Connections Project. I developed ingenious technology-enhanced scenarios to engage young students in authentic statistical investigations structured around core statistical concepts and the interrelations among them.

In my studies, I explain how students learn to analyze data, make informal statistical inferences, build conceptual understanding of statistics, argue about data, and articulate uncertainty. I consider educational practice issues in proposing key elements that are needed to nurture students' statistical reasoning, a framework for alternative teaching and assessing, design principles of statistics learning environments, helping teachers to develop statistical thinking, and the role of technological tools in these classes. These studies are conducted with colleagues and graduate students and use powerful innovative visualization tools that are designed to help students develop statistical reasoning by inventing their own ways of organizing authentic data and discussing them to answer their own questions. The results of these studies are summarized and presented in two books and in four Special Issues of journals. These publications are recognized among the cornerstones of the statistics education literature as evidenced by their high citation ranking.

In my future research in this area, I plan to make further theoretical, methodological and practical extensions and refinements, in studies on students' statistical reasoning focusing on conceptual change and use of language and tools that support learning. In particular, I plan to engage in the following activities: a) Developing and testing empirically a theoretical framework for *informal inferential reasoning*, a fundamental element of statistical thinking. The role of data-based *argumentation* in these processes will be emphasized. This will be done in the context of inquiry-based classes in primary school. b) Studying the *development of students' statistical reasoning* about other related key statistical concepts (e.g., modeling and sampling), including its psychological, social, pedagogical and epistemological dimensions. In these studies the development of statistical reasoning will be *mapped* as it occurs in the social context of the classroom. c) *Focusing on learning difficulties* in order to advance our understanding of the challenges in learning and teaching statistics; this study will hopefully inspire improved instructional methods and materials, enhanced design of learning environments and technology, and alternative assessment methods.

Research on new forms of learning with innovative technology

My studies in this area analyze the use of innovative technological tools to promote collaboration and communication in dialogic-reflective learning communities, and the role of dynamic and interactive technological tools in learning. Future research will be oriented towards constructing a theoretical framework, improving methodologies, as well as creating innovative instructional activities and pedagogies. In particular, I plan to engage in the following research activities: a) Design and study the role of technological tools in improving learning and teaching of complex domains in the context of inquiry-based classrooms. b) Design and study innovative collaborative technologies that can revolutionize learning processes in collaborative learning communities by enabling learners' active participation and co-creation of knowledge.

ACADEMIC LEADERSHIP

International

I feel fortunate to have been able to contribute to the consolidation of the emerging field of statistics education and I plan to continue doing so. I am a co-founder and co-chair of the *International Collaboration for Research on Statistical Reasoning, Thinking, and Literacy* (SRTL) – an international professional organization which, since 1999, has been running a series of biannual research forums and scientific activities and publications sponsored by prestigious academic institutions. These forums have significantly advanced the understanding of statistical reasoning, and had a significant impact on the statistics education community by signifying future research

directions as well as nurturing the future leadership of scholars.

I served in several key international roles, including Vice-President of the International Association for Statistical Education and a member of several program committees of international conferences on learning and teaching statistics. I co-chaired the Sixth International Conference on Teaching Statistics (2002) and served as a member of the Joint International Commission on Mathematical Instruction and The International Association for Statistical Education Study on “Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education” (2008–2011). I have been invited to present keynote addresses in international conferences.

National

I have taken a leading role in research and development programs in statistics education in Israeli K–12 schools. The purposes of these activities are to add a data and chance strand to the national curriculum in mathematics, develop professional standards in this area, design curricular materials and tools and evaluate them, and plan professional development program for school teachers. In the field of educational technology, an integral part of my role in the LINKS ICORE is contributing to the community by accessing digital gaps at the community level, implementing and evaluating technologies of learning and play in schools, and providing professional development of teacher-trainers in collaboration with the Israeli Ministry of Education. I have served on various national roles and I have a leadership role in the two major conferences on educational technology in Israel. I take all these activities as an evidence of the recognition with which my work has been received by the Israeli community at large, and the Ministry of Education in particular.

In the University of Haifa

Educational Technology Graduate Program. I have led the founding of the *Educational Technology Graduate Program*, which is now in its ninth year with increasing numbers of faculty, students and graduates. The Program graduates have taken key roles in innovating teaching and learning in Israeli schools, universities, workplaces and informal learning settings. One of my achievements as the head of this Program is the recent recruitment of Prof. Y. Kali, an international expert in educational technology. I plan to strengthen and expand the Program by offering new research projects and degree programs, workshops and seminars.

The University Center for the Advancement of Computer-Mediated Instruction. In my role as the head of this Center (since 2008), I have supported the University core mission to advance knowledge and educate students by working in partnership with the faculty, students, and staff to maximize the value of information and learning technologies to their work. Under my leadership, the Center successfully integrated e-learning into daily life at the University. Today, 6,000 course websites are opened each year and more than 15,000 students are enrolled in them.

Digital Cities: Technologies, Leadership and Education Graduate Program. In 2010, I have initiated and established the “Digital Cities” two-year M.A. program in educational technology supported by the *Cisco Systems, Inc.* The program was designed to address the needs of educators in Upper Nazareth and Nazareth, and establish a joint Arab-Jewish leadership group, which harnessed the latest technological advances in the service of the most advanced pedagogical practices, for the benefit of both communities. The 23 students in the program achieved impressive results – both academically and in their practical educational work.

Teaching and graduate course design. Over the years I developed several new graduate courses in mathematics education and in educational technology, in which the content and the learning processes are combined to create technology-enhanced learning communities. For example, “Challenges and Approaches to Technology-Enhanced Learning and Teaching” (CATELT) is a semester-long graduate course focusing on “how people learn” and educational technology. It has a blended learning design that involves reflection sessions and collaborative activities in both face-to-face meetings and in a multi-generational course wiki-based website.

Students. I currently supervise seven Ph.D. students and four M.A. students in mathematics education and educational technology. Twelve students have already graduated. The experience and skills they developed enabled them to take up leading roles in the professional system: teaching at the University of Haifa and in schools, designing new learning environments and instructional activities, and contributing in professional groups. As I look ahead, I see my mission to continue educating students and younger faculty members in the fields of statistics education and educational technology through the activities I am involved in.

L. Publications in Preparation

Handbook

1. **Ben-Zvi, D.**, & Garfield, J., & Makar, K. (Editors) (Expected 2016). *The first handbook of research on statistics teaching and learning*. Springer.

Chapters in Books

2. **Ben-Zvi, D.**, & Gravemeijer, K. Design of learning environments in statistics education. In D. Ben-Zvi, & J. Garfield and K. Makar (Eds.). *The first handbook of research on statistics teaching and learning*. Springer.

Articles in Refereed Journals

3. Hod[#], Y., & **Ben-Zvi, D.** A process-oriented approach to teaching the learning sciences to graduate students. *International Journal of Computer-Supported Collaborative Learning (ijCSCL)*.
4. **Ben-Zvi, D.**, & Ben-Arush[#], T. Students' instrumental genesis: The case of EDA instrumented learning with TinkerPlots. *Technology, Knowledge and Learning*.
5. **Ben-Zvi, D.**, & Aridor[#], K. Visualization of students' reasoning between data and context. *Educational Studies in Mathematics*.
6. Bakker, A., **Ben-Zvi, D.**, & Makar, K. Reducing Uncertainty in a Hospital Laboratory: Webs of Reasons Involved in Making a Statistical Inference. *Mathematical Thinking and Learning*.
7. **Ben-Zvi, D.**, & Gal, I. Educational online products of statistical agencies. *Public Understanding of Science*.
8. **Ben-Zvi, D.**, Kali, Y., & Tabak, I. A Framework for Studying Learning in a Networked Society. *Journal of the Learning Sciences*.
9. Estrella, S., Mena, A., & **Ben-Zvi, D.** Vergnaud's theory applied to basic school students' statistical representations.
10. Bakker, A., **Ben-Zvi, D.**, & Makar, K. Types, sources and considerations of uncertainty when drawing a statistical inference.
11. **Ben-Zvi, D.**, & Gil[#], E. Learning to reason about sample and sampling in the context of developing informal inferential reasoning: A longitudinal perspective. *Mathematical Thinking and Learning*.
12. **Ben-Zvi, D.**, & Hagani-Mor[#], S. Dialogic arenas in Wiki-based learning environments. *The International Journal of CyberBehavior, Psychology and Learning*.

13. **Ben-Zvi, D.**, & Apel[#], N. Learning to ask good statistical questions. *Journal of research of Mathematics Education*.
14. **Ben-Zvi, D.**, & Gofer[#], R. Collaborative learning supported by reflective writing. The *International Journal of Computer-Supported Collaborative Learning (ijCSCL)*.
15. Makar, K., Bakker, A., & **Ben-Zvi, D.** Developing initial practices of argumentation-based inquiry: Initiating and scaffolding dialogic interactions in a primary mathematics classroom. *ZDM - The International Journal on Mathematics Education*.
16. Manor[#], H., & **Ben-Zvi, D.** Students' reasoning about uncertainty while exploring sampling distributions in an "integrated pedagogic approach."
17. **Ben-Zvi, D.**, Bakker, A., & Makar, K. Statistical reasoning: Learning to make informal statistical inferences from samples. *Educational Studies in Mathematics*.