**MANTYKA, Sherry Jan**

[previously published as Sherry J. May]

**Acronyms Used in My CV:**

|  |  |
| --- | --- |
| AARMS | Atlantic Association for Research in the Mathematical Sciences |
| ACOA | Atlantic Canada Opportunities Agency |
| AGATE-M | Atlantic Gateway to Mathematics |
| ASM | Academic Staff Member |
| ATINER  CAUT | Athens Institute for Education and Research Canadian Association of University Teachers |
| CLLRNet | Canadian Language and Literacy Research Network |
| DFKI | The German Research Center for Artificial Intelligence |
| ERC | Economic Recovery Commission |
| GMAT | Graduate Management Admission Test |
| HRD | Human Resource Development |
| IMACS | The International Association for Mathematics and Computers in Simulation |
| IRAP | Industrial Research Assistance Program |
| JI | Junior Instructor |
| JUMP | Junior Undiscovered Math Prodigies |
| LISTEN | Local Initiative Support Training and Education Networks |
| MLC | Mathematics Learning Centre |
| MPT | Mathematics Placement Test |
| MSI | Mathematics Skills Inventory (Precursor to the MPT) |
| MUCEP | Memorial Undergraduate Career Experience Program |
| NLTA | Newfoundland and Labrador Teachers’ Association |
| NORDCO | Newfoundland Ocean Research Development Corporation |
| NSERC | Natural Sciences and Engineering Research Council |
| PACEE | Partnership for Academic Career Education and Employment |
| RA | Research Assistant |
| SEED | Seeking Education Equity and Diversity |
| SCP | Summer Career Placement |
| SI | Student Instructor |
| SSP | Strategic Social Plan |
| TA | Teaching Assistant |
| WCSP | World Congress of Science Producers |
| WISE | Women in Science and Engineering |
| WISE Math | Western Initiative for Strengthening Education in Math |

**NOTE:** Citation references to **Dr. Mantyka**’s work are indented and displayed in a reduced font.

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**PERSONAL INFORMATION**

**Born:** January 27, 1949

**Citizenship:** Canadian

**Present Position:** Associate Professor, Department of Mathematics and Statistics;

**Date of Appointment:** September 1978

**Tenure Granted:** 1981

**Promotions:** Associate Professor, 1986

EDUCATION

1976-1982 *M.B.A.* (Industrial Rel.), University of Saskatchewan

1970-1973 *Ph.D.* (Applied Math.), University of Waterloo. Thesis: *On the Application of a Minimum Change Principle to Probability Kinematics*, November 1973.

* “The connection was first examined in Sherry May’s Ph.D. thesis, “On the Application of a Minimum Change Principle to Probability Kinematics”*, The Logic of Decision* (2nd edition), R**ichard C. Jeffrey, Profe**ssor of Philosophy, Princeton University, University of Chicago Press: 1983, p. 182.

1969-1970 *M. Math.*, University of Waterloo

1965-1969 *B.A. Math.* (Honours), University of Saskatchewan

EMPLOYMENT HISTORY

Apr. 1998-May 2000 Secondment to the Office of the Dean of Science, Memorial University, as Founder/Director of the Mathematics Learning Centre

Apr. 1994-Mar. 1997 Secondment to Continuing Education, Memorial University, as Founder/Director of the Mathematics Learning Centre

May 1986-Aug. 1987 Senior Mathematician, NORDCO (part-time appointment)

1978-1986 Assistant Professor, Memorial University, cross-appointed with the

Faculty of Business Administration

1977-1978 Assistant Professor, Acadia University

1976-1977 Sessional Lecturer (Commerce), University of Saskatchewan

1975, 1976 Sessional Lecturer (Mathematics), University of Saskatchewan

1971-1972 Sessional Lecturer (Applied Mathematics) University of Western Ontario

1971, 1969, 1968 Summer Research Assistant, Operations Research Analysis Establishment, Defence Research Board

**LEAVES**

Sept. 1998-Aug. 1999 Sabbatical, Aftermath Productions, East-West Media, Halifax, and a Series of Grass-Roots Investigations into the Difference Between Implicit and Explicit Learning in Ghana, Mexico and Cuba

Sept. 1984-Aug. 1985 Sabbatical, Department of Philosophy, Dalhousie University

Jan.-Dec. 1992 Sabbatical, Economic Recovery Commission, St. John’s, Newfoundland

AWARDS AND HONOURS

2017 Nominated for CAUT’s Lee Lorch Award. The Award is given annually to recognize an academic who has excelled in each of the three principal aspects of academic life: teaching, research, and service to the institution and to the community. The recipient will be an individual whose teaching, research and service has contributed significantly to the lives of students, to their institution, to their field of study, and to the community.

2014 Developing Competence and Potency in Grade Nine Math Students: Math 9+. A Nomination for the Premier’s Board of Education Award for Innovation and Excellence in Education (Saskatchewan). Submitted by the Saskatoon Public Schools School Division. Math 9+ was implemented in Saskatoon Public Schools by Garry Davis using educational materials developed by **Dr. S. Mantyka** following his week-long site visit to the Mathematics Learning Centre in 2008.

2012 **Dr. Mantyka** is featured as one of seven North American Innovators in Education by the Globe and Mail in a two-week multi-media presentation. The producer, Caroline Alphonso, explains **Dr. Mantyka**’s inclusion as follows: “We were looking for university professors deeply engaged with university education who had taken the initiative to address shortfalls. Your name came up in an area crucial to Canada's economic productivity - math education. Many students arrive in university unprepared for university level math and are at risk of dropping the subject. Your remedial math program not only keeps them in university, it is now being looked at by other universities as a way to deal with shortfalls in math education in secondary school.” (E-mail correspondence, Mar. 12, 2014)

2010 **Dr. Mantyka**’s Innovation at the Mathematics Learning Centre (MLC) is declared to be a ‘hidden gem’ in the Final Report of the Academic Program Review of the MLC

2009 Nominated for the Canadian Mathematics Society Adrien Pouliot Award for Sustained Contributions to Mathematics Education by: Dr. Serpil Kocabiyik, Professor, Math/Stats; Dr. Chris Radford, Head and Professor, Math/Stats; Dr. H.E.A. (Eddy) Campbell, Acting President and Vice-Chancellor; Dr. David Pike, Professor, Math/Stats; with letters of support from Dr.Bruce Shawyer, Professor and previous Head, Math/Stats, and previous winner of this award, and Dr. Robert Lucas, Dean of Science

2006 Long-listed for the 2006 Canadian Aid Literary Award for The Math Plaque

2005 Maclean’s Magazine Popular Professor Recognition

1974-1975 NSERC Postdoctoral Fellow (Math.), University of Saskatchewan

1974 NSERC Postdoctoral Fellow (Phil.), University of Western Ontario

SPECIAL PROVINCIAL GOVERNMENT APPOINTMENTS: RESEARCH AND/OR SCHOLARSHIP IN TEACHING

Apr. 2009-present Statistical Consultant, Economics and Statistics Branch, Department of Finance, Government of Newfoundland and Labrador

Jan. 2001-2004 Member, working group developing educational indicators for the Province’s Community Accounts, a component of the Strategic Social Plan

July 2000-Jan. 2002 Co-Chairman (with Brian Tobin, Vice-President, Academic and Student Services, College of the North Atlantic), Math Group, working sub-committee of the Council on Higher Education

Sept. 2000-2003 Student Transition Task Group, Central Region Steering Committee for the Strategic Social Plan

Sept. 2000-2003 Joint Project Coordinator for Memorial University and the Central Region Steering Committee for the Strategic Social Plan

1991-1992 Working Group, Senior High School Statistics, Department of Education

1990-1992 Provincial Advisory Committee for the Re-Design of the High School Mathematics Program, Department of Education

1990-1991 Writing sub-committee of the Senior High Mathematics Curriculum Advisory Committee

1990 Invited speaker: “The Impact of Unemployment Insurance Changes on Newfoundland and Labrador”, Newfoundland and Labrador Rural Development Council AGM, Gander, April 5-7.

1988-1989 Member of the Advisory Committee on the Task Force on Mathematics and Science Education

1987-1991 Member of a Tri-Institutional Committee on First-Year Post-Secondary Mathematics (Member Institutes: MUN, Cabot Institute, Marine Institute).

**INVITED FEDERAL AND PROVINCIAL GOVERNMENT ADDRESSES**

2002 **Dr. Mantyka** is invited to attend at a Provincial Government teacher in-service for the new APEF Senior High School Math Curriculum (Math 3204, Math 3013), St. John’s, NL, April.

2002 **Dr. Mantyka** is invited to attend at a Provincial Government teacher in-service for the new APEF Primary/Elementary Math Curriculum (Grade 3), St. John’s, NL, February.

2001 **Dr. Mantyka** is invited to attend at a Provincial Government teacher in-service for the new APEF Senior High School Math Curriculum (Math 3205, Math 3207), Gander, NL, October.

1991 The Department of Education asks **Dr. Mantyka** to address a meeting of the provincial Mathematics Coordinators to explain how the proposed new high school mathematics curriculum would address the skills deficiencies identified on the MSI, June 5-6.

1991 **Dr. Mantyka** is invited to deliver a series of workshops outlining the Math Foundation Program she developed, for Mathematics Instructors at the Province’s Community Colleges, May 2-6.

1991 **S. Mantyka**. “How the New Senior High Academic Mathematics Program Addresses Skills Deficiencies”, Gander Mathematics Co-ordinator’s Meeting, Department of Education, May.

1991 **Dr. Mantyka** is invited to deliver a presentation to the Employment and Immigration Canada (EIC) Youth Strategy and Stay-in-School Program Coordinating Committee outlining the spring-writing of the Mathematics Skills Inventory (MSI), the instructor workshop, and the summer institute that I had received funding to offer, Feb. 26.

1990 **Dr. Mantyka** is invited to deliver an address to the Presidents of the Community Colleges requested by Mr. Malachy Mandville, Director of Higher Education, Department of Education, regarding her joint EIC-Youth Strategy Project, Dec. 17.

1990 **Dr. Mantyka** is invited to deliver an address to the academic Management Committee of the Cabot Institute regarding the Math Foundation Programs she has developed, Dec. 11.

Oct. 9, 1990 **Dr. Mantyka** is invited by Forestry Canada to participate as a statistical consultant at a series of workshops on the development of the Hemlock Looper Management Support System

Jan. 30-Feb. 1, 1990

May 25, 1989

Mar- 1-3, 1989

Feb. 27-28, 1989 **Dr. Mantyka** is invited to participate in a Deliberative Conference of the Provincial Task Force on Mathematics and Science Education, St. John’s, NL.

1987-1991 **Dr. Mantyka** is invited to be the Memorial University representative on a Tri-Institutional Committee on First-Year Post-Secondary Mathematics (Member Institutes: Memorial University; the Cabot Institute, now the College of the North Atlantic (CONA); Marine Institute, now a separate campus of Memorial University).

research projects and grants

Grants to Support the Implementation of My Teaching Innovation

|  |  |  |
| --- | --- | --- |
| 2017-present  2017-present     2008-present       2004-present  2016    2015  2014 | Implementation of **Dr. Mantyka`s** Workbook Series in a Math Game. Collaboration with Dr. Boris Bauke, Incubation-Manager, IT Incubator, University of Saarland, Germany.  I modified (with T. Sheel) two of the perquisite skills diagnostic assessment instruments that I had developed for the Foundation Math Program, to administer to Dr Sheel`s first year Callus course (Math 1000). The average score for these students at the beginning of the semester was 30%. Only 6 students scored 50% or above, and the highest score was 56%.  WISE Math. Contact persons: Anna Stokke, University of Manitobia, and Robert Craigen, University of Winnipeg (Founders). Univ. of Manitoba funding.  School of Nursing, Memorial University, New Course Development: Math 102N, a compulsory course for N2004-Pharmacology and Nutrition Therapies, for students whose MPT score is less than 50. (Contact person: Dr. Karen Webber). MUN funds.  **Mantyka, S**. Teacher Training - Memorial University Undergraduate Career Experience Program (MUCEP) grant  **Mantyka, S**. Teacher Training - Memorial University Undergraduate Career Experience Program (MUCEP) grant  **Mantyka, S**. Teacher Training - Memorial University Undergraduate Career Experience Program (MUCEP) grant | $59, 680  $56, 349  $45,282 |
| 2014 | **Mantyka, S**. IRAP-NSERC (contracted through Mathtoons Inc) – Development of Educational Math Apps for Hand-Held Devices | $10,000 |
| 2010-2014  2008-2014 | T **Mantyka, S**.Teacher Training - Memorial University Undergraduate Career Experience Program (MUCEP) grant  Saskatchewan Teachers Federation and Saskatoon School Board, Saskatoon, SK. Contact Person: Garry Davis. Numerous Travel Grants. | $146,713 |
| 2010 | **Mantyka, S**.*Atlantic Association for Research in the Mathematical Sciences*, Teacher Workshops in Newfoundland, November 22-26 (with Jonathan Mauger, President, Newfoundland and Labrador Teacher Network) | $4,600 |
| 2010 | **Mantyka, S**.German Research Centre for Artificial Intelligence (DFKI), Travel Grant to attend a three-week workshop on Remedial Rules for Math-Bridge, an European Union on-line adaptive learning system project. March 13-April 3 (with T. Ricketts, Mathematics Learning Centre, MUN) | $6,000 |
| 2007-2010  2001-210 | Junior Undiscovered Math Prodigies (JUMP), Fields Institute, Toronto, ON. Contact person: John Mighton. JUMP funding.  **Mantyka, S**.Teacher Training - Memorial University Undergraduate Career Experience Program (MUCEP) grant | $246,282 |
| March 2001 | **Mantyka, S**.The fifteen undergraduate teaching assistants at **Dr. Mantyka`s** Foundation Math Programs were awarded a $200 grant from the Student Innovation Fund, to conduct a workshop looking at ways to enhance their involvement at **Dr. Mantyka`s** Foundation Math Programs to counteract student apathy of the Math 10XF registrants. This led to the development of **Dr. Mantyka`s** Foundation Math Programs “Junior Instructor” program. [Lead TA: Janna LeGrow] | $200 |
| Feb. 2001 | **Mantyka, S**.Travel Grant from the Dean of Student Affairs for a teaching assistant from the Mathematics Learning Centre to attend a Forum on Transitional Issues in Mathematics in the Central Region, Strategic Social Plan (SSP) initiative, Gander, NL, February 27. [TA: Andrea Burgess] | $500 |
| 1998 | **Mantyka, S**.Summer Career Placement Program, for Kathryn Butler | $1,547 |
| 1997 | **Mantyka, S**. Partnership for Academic Career Education and Employment, for Kathryn Butler | $1,073 |
| 1997 | **Mantyka, S**. Travel Grant from NSERC’s Atlantic Canada Chair to Promote Women in Science and Engineering, to attend the 5th World Congress of Science Producers, Copenhagen, Denmark, Oct. 3-7 | $1,307 |
| 1994 | **Mantyka, S**. NSERC Summer Undergraduate Research Award for Katherine Larson | $2,700 |
| 1993-2001 | **Mantyka, S**. Teacher Training - Memorial University Undergraduate Career Experience Program (MUCEP) grant | $33,000 |
| 1992  1992 | **Mantyka, S**. Employment and Immigration Canada (Youth Strategy Delivery Assistance)  **Mantyka, S**. Department of Employment and Labour Relations, Government of Newfoundland and Labrador | $25,065  $25,065 |
| 1991  1991 | **Mantyka, S**. Employment and Immigration Canada (Youth Strategy)  **Mantyka, S**. Challenge ‘91, “Development of Algebra Software for Mathematics 102F”, Charles Robertson | $90,000  $2,600 |
| 1990 | **Mantyka, S**. Department of Employment and Labour Relations, Government of Newfoundland and Labrador | $24,913 |
| 1989 | **Mantyka, S**. Challenge ‘89 – SEED Program, “Development of Mathematics Laboratory Materials” | $2,083 |
|  | **TOTAL** | **$784, 959** |

Grants to Support My Research Into Innovative Applications of Mathematics

|  |  |  |
| --- | --- | --- |
| 1993 | **Mantyka, S**.The Industrial Inquiry Commission Appointed to Investigate Industrial Relations Matters at Curling Fish Plant, “Sampling Issues Regarding the Survey of Plant Workers” | $500 |
| 1992 | **Mantyka, S**. Community Services Council (with M. Denny) | $50,000 |
| 1991 | **Mantyka, S**. Economic Research and Analysis Division, Cabinet Secretariat (with M. Denny) | $30,000 |
| 1990 | **Mantyka, S**.Department of Employment and Labour Relations, Government of Newfoundland and Labrador (with D. May and M. Denny) | $54,800 |
| 1989-1990 | **Mantyka, S**. Canadian Forestry Service, Standing Offer for Mathematical and Statistical Consulting (with C. Dalzell) | $3,500 |
| 1989 | **Mantyka, S**. Atlantic Canada Opportunities Agency “Proposal Development for the Creation and Evaluation of Income Security Reform” (with the Community Services Council) | $30,000 |
| 1988-1989 | **Mantyka, S**. Information Services, Inc., “Perception/Cognition Testing R & D Project” (with Drs. Michael Rabinowitz and Christine Arlett, Psychology) | $35,000 |
| 1988 | **Mantyka, S**. Provincial Government Task Force on Income Security | $7,000 |
| 1987-1988 | **Mantyka, S**. Canadian Forestry Service, Agriculture Canada, “Standing Offer for Statistical Consultation”, Project Manager (for NORDCO, Ltd.) | $4,000 |
| 1987 | **Mantyka, S**. Women’s Policy Division, Department of Career Development and Advanced Studies, “A study of the impact of a household based support program upon women in Newfoundland and Labrador” (with Dr. Ann Gregory) | $5,000 |
| 1987 | **Mantyka, S**. Department of Fisheries and Oceans, Evaluation Branch, “Canadian Hydrographic Services Users’ Needs Survey” (with Drs. Roy Bartlett, Tony Simmonds, and Dianne Draper, for NORDCO, Ltd.) | $80,000 |
| 1986-1987 | **Mantyka, S**. NORDCO Ltd., Research grant-in-kind for travel, use of computer system, assistance of technical personnel, office space, secretarial services, Xeroxing, long distance telephone charges, etc. | $15,000 |
| 1986  1986 | **Mantyka, S**. Royal Commission on Employment/Unemployment in Newfoundland, “Simulations of Three Economic Models Assessing the Impact of Employment Limitations”, Project Manager (for NORDCO, Ltd.)  **Mantyka, S**. Plutometric Alliance (for Bell-Core), Toronto, “Specification of Cost and Production Functions for Telephone Networks” | $4,300  $1,500 |
| 1986  1986 | **Mantyka, S**. NORDCO, (for Petro Canada), “Closed Form Probability Estimations of an Iceberg Track Simulator”  **Mantyka, S**. Royal Commission on Employment/Unemployment: “An Economic Model of Optimal Household Behaviour with Income Spill-over Effects on Household Production” | $4,725  $1,050 |
| 1982-1985 | **Mantyka, S**. NSERC: Applications of Catastrophe Theory to Dynamic Bargaining | $4,000  $4,240  $4,452 |
| 1979-1982 | **Mantyka, S**. NSERC: Measures of Nearness for Subjective Probability Functions | $1,878  $2,062  $2,268 |
| 1979 | **Mantyka, S**. Vice-President (Academic) Research Grant | $500 |
| 1975-1976 | **Mantyka, S**. Canada Council Research Grant | $1,685 |
|  | **TOTAL** | **$347, 460** |

Grants to Support My Research Collaborations

|  |  |  |
| --- | --- | --- |
| 2009 | **Mantyka, S**.Canadian Language and Literacy Research Network, contribution to Canadian Mathematical Society’s Special Session on Math Education, Summer Meetings, 2009 | $75,000 |
| 2009 | **Mantyka, S**. Atlantic Association for Research in the Mathematical Sciences, contribution to Canadian Mathematical Society’s Special Session on Math Education, Summer Meetings, 2009 | $4,282 |
| 2009 | **Mantyka, S**. President’s Office, Memorial University, contribution to Canadian Mathematical Society’s Special Session on Math Education, Summer Meetings, 2009 | $2,000 |
| 2008 | **Mantyka, S**. Atlantic Association for Research in the Mathematical Sciences, Public Lecture and Round-Table Discussion, Saskatoon Teacher Workshop, Mathematics Learning Centre, St. John’s, NL, May 12-16 | $1,321 |
| 2006 | **Mantyka, S**. Atlantic Association for Research in the Mathematical Sciences, funding for a member of the Newfoundland and Labrador Teacher Network to attend the Atlantic Community Math Network Conference, Acadia University, Wolfville, NS, November 25 | $600 |
| 2004 | **Mantyka, S**. Atlantic Association for Research in the Mathematical Sciences, funding for five members of the Newfoundland and Labrador Teacher Network to attend the 1st Annual AGATE-M Conference, Mount Allison University, Sackville, NB, December 4 | $3,500 |
| 2001-2002 | **Mantyka, S**. Canadian/Newfoundland Comprehensive Economic Development Agreement, “Operation Foresight” – a joint initiative between O’Donel High School and the Math Learning Centre, taking the Mathematics Learning Centre’s intervention program into the senior high school setting | $32,294 |
| 1993  1993 | **Mantyka, S**. Economic Recovery Commission, “Numeracy Upgrading for UI or SA Recipients”  **Mantyka, S**. Employment and Immigration Canada, “Delivery of Math Skills Inventory to High-School Students in their Graduating Year” | $14,800  $25,150 |
| 1987  1987  1987  1987 | **Mantyka, S**. Canadian Forestry Service, Agriculture Canada, “A Short Course on Applied Linear Regression Analysis”, Project Manager (with Dr. Roy Bartlett for NORDCO, Ltd.)  **Mantyka, S**. SSHRC Program of Aid to Occasional Scholarly Conferences, for Society for Exact Philosophy Annual Meeting, August 27-29, St. John’s, NL  **Mantyka, S**. Memorial University, Deans of Arts and Science, for the Society for Exact Philosophy Annual Meeting, August 27-29, St. John’s, NL  **Mantyka, S**. Government of Newfoundland and Labrador, for the Society for Exact Philosophy Annual Meeting, August 27-29, St. John’s, NL | $2,500  $5,500  $2,000  $700 |
|  | **TOTAL** | **$169,647.00** |

Grants to Support My General Professional Development

|  |  |  |
| --- | --- | --- |
| 1999 | **Mantyka, S**. Tuition Grant for Spanish 1000 | $330 |
|  |  |  |
| 1980-1981 | **Mantyka, S**. Vice-President (Academic) Research Grant, MUN tuition | $180 |
|  | **TOTAL** | **$510.00** |

PUBLICATIONS

Academic Conferences (Invited)

2014 **Mantyka, S**. “Deliberate Practice”, CMS Summer Meetings, Winnipeg, MB, June 7-10.

2014 **Mantyka, S**. Math Education Panel Member, CMS Summer Meetings, Winnipeg, Man., June 7-10.

2012 **Mantyka, S**. Workshop Leader, Teacher Workshops, Saskatoon School Board, Saskatoon, SK, Mar. 8-25.

2010 **Mantyka, S**. Collaborative Workshop to Incorporate Mantyka’s Mathdrill software into LeActiveMath (Language-Enhanced, User Adaptive, Interactive e-Learning for Mathematics), DFKI, University of Saarbrucken, Saarbrucken, Germany, Mar. 13 – April 2.

2009 **Mantyka, S**. Workshop on the Future of Mathematics Teaching, Helsinki University of Technology, Otaniemi, Finland, October 26. Further discussions at Tampere University of Technology, Tampere, Finland, October 27-28.

2008 **Mantyka, S**. Keynote Address, Western Ontario Mathematics Association Meeting, London, ON, November 29.

2008 **Mantyka, S**. Workshop Leader, Saskatoon School Board Teacher Workshop, Evan Hardy Collegiate, Saskatoon, SK, January 25.

2007 **Mantyka, S**. “The Math Problem”, Annual General Meeting of the Newfoundland and Labrador Federation of School Councils, Springdale, NL, April 27-29.

2007 **Mantyka, S**. “The Math Plague: Teaching and Learning Strategies for the Math Under-Achiever”, Leslie Harris Centre for Regional Policy and Development *Partners in Learning* Lunch-Time Session, Forteau, Labrador, delivered from St. John’s, NL, using Elumina-Live Technology, March 1.

2007 **Mantyka, S**. “Education Reform – Best (and Worst) Practices”, Faculty Development Workshop, Sir Wilfred Grenfell College, Corner Brook, NL, January 5.

2006 **Mantyka, S**. “Mathdrill”, German Bureau for Artificial Intelligence, Saarbrucken, Germany, November 6.

2003 **Mantyka, S**. Regional Executive Meeting of the *Atlantic Association for Research in the Mathematical Sciences*, Dalhousie University, Halifax, NS, October 16.

2001 **Mantyka, S**. “Teaching Resource-Based Learning” (with M. Rabinowitz and D. Mantyka), Symposium on Mathematical Understanding, June 1. Associated with the Canadian Mathematical Society Meetings, University of Saskatchewan, Saskatoon, SK, June 2-4.

2001 **Mantyka, S**. “Teaching at the Mathematics Learning Centre”, with E. Buckingham and R. Lynch. Newfoundland and Labrador Mathematical Association Meeting, St. John’s, NL, April 27-28.

2001 **Mantyka, S**. “Operation Foresight”, with L. Etchegary. Newfoundland and Labrador Mathematical Association Meeting, St. John’s, NL, April 27-28.

2001 **Mantyka, S**. “Transition Data”, Forum on Transitional Issues in Math and Language in the Central Region (SSP initiative), Gander, NL, February 27.

2000 **Mantyka, S**. “Mathematics by Coaching”, noon-hour lecture, Saskatoon School Board, Evan Hardy Collegiate, Saskatoon, SK, October 27.

2000 **Mantyka, S**. “Hockey, Group Theory, and the De-Mystification of Mathematics”, high school forum to celebrate WYM 2000, Prince of Wales Collegiate, St. John’s.

1997 **Mantyka, S**. Panel Member, “Television Programming about Mathematics – Can It Be Done?”, 5th World Congress of Science Producers, Copenhagen, Denmark, Oct. 3-7.

1996 **Mantyka, S**. “The Role of Automaticity in Learning”, Presidential Address, Society for Exact Philosophy Annual Meeting, Eastern Tennessee State University, Johnson City, Tennessee, October 11-13.

1996 **Mantyka, S**. “Learning the Laws of Exponents: A Software Demonstration”, Multimedia at MUN ‘96 Symposium, St John’s, March 26.

1995 **Mantyka, S**. “Software Development at the Mathematics Learning Centre”, Multimedia Technology and Marketing Workshop sponsored by the Newfoundland and Labrador Science and Technology Advisory Council, the Newfoundland and Labrador Alliance of Technical Industries, and the Department of Industry, Trade and Technology, St. John’s, November 8.

1995 **Mantyka, S**. Invited Participant, National Science Foundation and the United States Department of Education, “International Conference on Systemic Reform: *Joining Forces: Spreading Successful Strategies*,” Washington, DC, Feb. 23-25.

1992 **Mantyka, S**. “Calculus Readiness 3105: A University Perspective”, Teacher In-service for the Bonavista-Trinity-Placentia-Burin Integrated and Burin Roman Catholic School Boards, Swift Current, Newfoundland, November 25.

1991 **Mantyka, S**. Mathematicians in Educational Reform, Network Meeting, Tucson, AZ, February 2-4.

(Participation sponsorship is required and obtained from the Head, Department of Mathematics

and Statistics, MUN)

1990 **Mantyka, S**. “Prerequisite Skills and Success in Post-Secondary Mathematics”, Senior High School Teacher Workshop, Saskatoon School Board, Saskatoon, SK, Oct. 26.

1990 **Mantyka, S**. Workshop Leader, MUN’s Mathematics Remedial Program, Marine Institute, May 22-25 (with E. Hall).

1990 **Mantyka, S**. “Expanding Your Horizons in Mathematics and Science”, Workshop for Women Interested in New Career Options, Avalon Community College, January 11 (with E. Hall).

Mar. 31, 1989 **Mantyka, S**. Invited participant, conference honouring Prof. Hugues LeBlanc on his 65th birthday, Department of Philosophy, Temple University, Philadelphia, PA, USA.

1989 **Mantyka, S**. “Remediation in Mathematics”, Founding meeting of Newfoundland and Labrador Council of Post-Secondary Teachers of Mathematics, St. John’s (with D. Rehner, Marine Institute, and P. Cheema, Cabot Institute), March 13.

1988 **Mantyka, S**. “The Economic Triad in Rural Newfoundland: Household Production, Seasonal Employment, and UI Benefits”, Colloquium Speaker, Department of Economics, Dalhousie University (with D. May), March 4.

1985 **Mantyka, S**. “A Catastrophe Model of Collective Bargaining”, Invited Speaker at the Society for Exact Philosophy Meetings, University of Toronto, May 16-18.

1982 **Mantyka, S**. “A Catastrophe Model of Collective Bargaining”, Public Lecture, Concordia University, April 1.

1981 **Mantyka, S**. “A Catastrophe Model of Collective Bargaining”, Colloquium Speaker, Department of Philosophy, University of Western Ontario, November 11.

1978 **Mantyka, S**. “A General Theory of Extremals”, Colloquium, Department of Mathematics and Computer Science, Mount Allison University, February.

1977 **Mantyka, S**. “A Catastrophe Theory Model of Bargaining”, Invited Participant at a Colloquium on Catastrophe Theory, Idaho State University, June.

**Software Development**

* **Mantyka, S**.Mathtoons, Creation of Drill and Practice Apps (for hand-held devices) to Develop Automatic Recall in Mathematics, 2013 – 2015
* **Mantyka, S**. European Union Math-Bridge Module, Laws of Exponents – Drill and Practice to Develop Automatic Recall, 2011 - 2014
* **Mantyka, S**. Mathdrill, DOS-platform, drill program to build automaticity of response in core algebraic skills, with M. Rabinowitz, Katherine Larson, Stephen Hart, 1993-1995
* **Mantyka, S**. Algebra Factory, Mac-platform, hypercard-based (with E. Hall, Charles Robertson), interactive program which demonstrates pictorially the use of backwards reasoning in solving equations and formula rearrangement, 1991
* **Mantyka, S**. Algebra Tiles, Mac-platform, hypercard-based (with Charles Robertson), an interactive program which makes use of algebra tiles to concretely represent inverse operations, addition and subtraction of polynomials, and multiplication and division of binomials, 1991
* **Mantyka, S**. Algebra Quizzer, Mac-platform, hypercard-based (with Charles Robertson), drill program in special products, laws of exponents, addition and subtraction of polynomials, and division of algebraic fractions, 1991

Books, DVDs, and Video Interviews

CBC Video Interview, http://www.cbc.ca/news/canada/newfoundland-labrador/why-n-l-s-math-curriculum-is-failing-students-1.1142980, September 6, 2012, 10:28 minutes.

Globe and Mail Video Interview, <http://www.theglobeandmail.com/news/national/time-to-lead/transorming-the-ivory-tower-the-case-for-a-new-postsecondary-education-system/article4588986/> (this video is live in the section, “Meet the Innovators”), Oct. 5, 2012. **Dr. Mantyka** is featured as one of seven North American Innovators in Education. The producer, Caroline Alphonso, explains **Dr. Mantyka**’s inclusion as follows: “We were looking for university professors deeply engaged with university education who had taken the initiative to address shortfalls. Your name came up in an area crucial to Canada's economic productivity - math education. Many students arrive in university unprepared for university level math and are at risk of dropping the subject. Your remedial math program not only keeps them in university, it is now being looked at by other universities as a way to deal with shortfalls in math education in secondary school.” (E-mail correspondence, Mar. 12, 2014). 2:48 minutes.

* Citation from Wilder Laurier University -http://www.wlu.ca/docsnpubs\_detail.php?grp\_id=43&doc\_id=54343

Canadian Language and Literacy Research Network, DVD Component of the Numeracy Kit (2009). The kit is an evidence-based numeracy resource kit aimed primarily at pre-service and in-service teachers and childcare workers. The DVD will include video footage of numeracy activities taking place in actual classrooms, which will be supplemented by interviews with researchers and expert practitioners who are numeracy specialists. **Dr. Mantyka** is one of four researchers filmed for the DVD. This footage is also available at https://foundationsfornumeracy.cllrnet.ca/index.php/School\_Years\_Video\_List.

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* Julita Vassileva, Cameco NSERC Prairie Chair, Women in Science and Engineering, “Science Outreach for Girls: Some Strategies”, presented at the “Let’s Talk Science” Western Regional Conference, Saskatoon, SK, Feb. 15, 2008.
* Iliana Tsetkova, “Preparing Students for Team Competitions in Mathematics – Possibility to Work with All Students”, Proceedings of the Discussing Group 9: Promoting Creativity for All Students in Mathematics Education, the 11th International Congress on Mathematical Education, Monterrey, Mexico, July 6-13, 2008, page 1.
* Carsten Ulrich *et al*. (Shanghai Jiao Tong University, Shanghai, 20030, China), “Why Web 2.0 is Good for Learning and for Research: Principles and Prototypes”, WWW2008/Refereed Track: Social Networks & Web 2.0 – Applications and Infrastructures for Web 2.0, Apr. 21-25, 2008, Beijing, China, [24], p. 706.
* Jonathan P. Seldin, Dept. of Mathematics and Computer Science, University of Lethbridge, AB. “More Thoughts on Teaching Elementary Mathematics”, *Proceedings of the Annual Meeting of the Canadian Society for History and Philosophy of Mathematics*, Vol. 20, Concordia University, Montreal, July 27-29, 2007, p. 260.
* See “CBC Radio Canada, *The Current* – Heather Barrett, ‘Math Boot Camp’, Jan. 21, 2007”, p. 31 (of this Curriculum Vitae) for more citations.
* John Mighton, University of Toronto and The Fields Institute, author of *The Myth of Ability*, playwright, and the founder of JUMP (Junior Undiscovered Math Prodigies). *“I recommend* ***Sherry Mantyka’s*** *book The Math Plague. It is based on* *Sherry’s academic research and her experiences helping university students* *who struggle with math. The book offers a wealth of insights and examples* *that are not in any books I have seen. I believe teachers and parents would* *benefit greatly from reading Sherry’s book.” (*From the back cover of *The Math Plague.)*

Journal Articles Peer-Reviewed

Original article submitted for peer review to Scitechnol online publisher, <https://www.scitechnol.com>, Los Angeles, CA, Aug. 2, 2017: **Mantyka, S.** “Training the Brain to do Arithmetic: The Gateway to Becoming a Lifelong Learner of Mathematics”.

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* Ryszard Pawel Kostecki, Ph.D. Dissertation, Perimeter Institute, University of Waterloo, Feb./Mar., 2014. [Reference: Email correspondence with Dr. S.N. Burris, Distinguished Professor Emeritus, Dept. of Pure Mathematics, University of Waterloo, ON, Mar. 2014.]

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* “Updating Subjective Probability”, P. Diaconis and S. Zabell, *Journal for the American Statistical Association*, Vol. 77, No. 380 (Dec. 1982), p. 822.

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* Review by Agnes M. Rash, Department of Mathematics and Computer Science, Saint Joseph`s University, Philadelphia, PA, 2007 - http://www.scholarship.sju.edu/mcs\_fac/183/

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**Mantyka, S**, H. Gaskill, D. May. Economic strategies in outport fishing communities in Newfoundland, *Approximation, Optimization and Computing: Theory and Applications*, A.G. Law & C. Wang (eds.), Elsevier Science Publishers B.V. (North Holland), IMACS, April 1990, pp. 403-406.

**Mantyka, S**. Toward an optimization procedure for applying minimum change principles in probability kinematics, *Foundations of Probability Theory, Statistical Inference and Statistical Theories of Science*, Vol. 3, Proceedings of an International Colloquium, 1973, D. Reidel Publishing Co., Dordrecht, Holland, pp. 137-166 (with W.L. Harper).

* “The connection was first examined in Sherry May’s Ph.D. thesis, “On the Application of a Minimum Change Principle to Probability Kinematics”*, The Logic of Decision* (2nd edition), Richard C. Jeffrey, Professor of Philosophy, Princeton University, University of Chicago Press: 1983, p. 182.
* “Updating Subjective Probability”, P. Diaconis and S. Zabell, *Journal for the American Statistical Association*, Vol. 77, No. 380 (Dec. 1982), p. 822.
* “Bayesian Conditionalisation and the Principle of Minimum Information”, P.M. Williams, *British Journal for the Philosophy of Science*, Vol. 31, No. 2 (June 1980), p. 140.
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* “Updating Subjective Probability”, P. Diaconis and S. Zabell, Technical Report No. 136, Dept. of Statistics, Stanford University, 1978, p. 5.

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**Mantyka, S**., M. Rabinowitz and D. Mantyka “Teaching Resource-Based Learning”. *Proceedings of a Symposium on Mathematical Understanding*, University of Saskatchewan, Saskatoon, June 1, 2001.

* Dennis Ivany, Mathematics Consultant (Professional Development), Dept. of Education, Government of Newfoundland and Labrador, “The Role of Mental Mathematics in Senior High”, Session Topic, Summer Mathematics Institute for Senior High Teachers, 2004.
* Paul Gosse, Distance Education Teacher, Centre for Distance Learning and Innovation, Dept. of Education, NL. *Newsletter,* NLTA Math-Science Special Interest Council, Nov. 2002.

**Mantyka, S**. A mathematical model of strike behaviour in collective bargaining, *Proceedings of Atlantic Mathematics Days* 1981, Memorial University, Nov. 6-7, 1981, pp. 133-151.

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**Mantyka, S**, P. Powers. Case Study: “Program: Mathematics Learning Centre, MUN”, Social Policy Development and Program Evaluation Manual, Government of Newfoundland and Labrador, Strategic Social Plan, 2002.

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M. Denny, **Mantyka, S**. D. May. An analysis of the economic impacts of the proposed amendments to the Unemployment Insurance Act, Bill C-21, Department of Employment and Labour Relations, Government of Newfoundland and Labrador, Sept. 1989

**Mantyka, S**. Issues in income security reform: Newfoundland and Labrador Report of the Task Force on Income Security (Confidential), July 1988.

D. Aggett**,** J. Bobbitt, C. Campell, D. Finlayson, H. Gaskill**, Mantyka, S**. A study of factors influencing availability of cod in Conception Bay, Newfoundland, in 1985, *Canadian Technical Report of Fisheries and Aquatic Sciences*, No. 1562, July 1987, 123 pp.

**Mantyka, S**. Three Economic Models, Appendix IV, *Building on our Strengths*, Report of the Royal Commission on Employment and Unemployment, Sept. 1986, 15 pp.

**Mantyka, S**. An Economic Model of Household Production, Technical Consultation Report, Royal Commission on Employment and Unemployment, Sept. 1986, 10 pp.

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**Mantyka, S**, T. Ricketts. “Justification for the Structure of the Automaticity Exercises”. A Technical Consultation Report submitted to the German Research Centre for Artificial Intelligence, April, 2010.

**Mantyka, S**, T. Ricketts, “Diagnostic Rules for the Remedial Learner in Math-Bridge”. A Technical Consultation Report submitted to the German Research Centre for Artificial Intelligence, April, 2010.

**Mantyka, S**. Brief prepared for Dr. Eddy Campbell, Acting President, Memorial University, regarding the Minister of Education’s News Release on March 19 regarding curriculum revision, 2008.

**Mantyka, S**. Submission to Atlantic Evaluation and Research Consultants in response to a “Call for Submissions, K-12 Mathematics Curriculum Review, Department of Education, Government of Newfoundland and Labrador, October 12, 2007.

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**Mantyka, S**. “Bridging the Gap: An Individualized Mathematics Intervention Program for Post-Secondary Bound Individuals”, Response to Recommendation #2 in the Final Report of the Senate Ad-Hoc Committee on First-Year Math Courses, January 1997.

**Mantyka, S**. Sampling issues regarding the survey of plant workers, Memorandum solicited for the Industrial Inquiry Commission Appointed to Investigate Industrial Relations Matters at Curling Fish Plant, by Dr. Linda Inkpen, Chair., submitted, May 28, 1993.

**Mantyka, S**. A report on the numeracy upgrading program offered by the Math Learning Centre for the unemployment insurance recipients, final report submitted to the Economic Recovery Commission, March 1993.

**Mantyka, S** and E. Hall. “Prerequisite Skills and Success in First-Year Mathematics Courses”, prepared for the Task Force on Mathematics and Science Education, 1988-1989.

**Mantyka, S**. Implications for the processing industry, in *Potential for an Auction System to Dispose of Middle Distance Fleet Harvest*, final report submitted to the Department of Fisheries, September 1987, 5 pp. (for NORDCO, Ltd.).

**Mantyka, S** and Dr. Ann Gregory. Estimation of the economic impact, in *Study of the Impact of a Household Based Support Program Upon Women in Newfoundland and Labrador*, final report submitted to the Women’s Policy Division, Department of Career Development and Advanced Studies, October 1987, 14 pp.

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**Mantyka, S**. Identification of technological factors influencing fishing performance, and determination of rankings for gillnetters and draggers, Annexes 1 and 3 of *Inshore Fishing Vessel Capacity Study*, final report to the Department of Fisheries and Oceans, 1986, 50 pp. (for NORDCO, Ltd.).

**Mantyka, S**, H. Gaskill, C. Clarke. *A Sensitivity Analysis of Two Models of Household Behaviour*, Background Technical Report, Royal Commission on Employment/Unemployment in Newfoundland, 1986, 30 pp.

**Mantyka, S**, A. Rowe, Cathy Bennett. Technical discussions of Proneed, Chapter 4 of *Development Report on Housing Indicators for New Brunswick*, New Brunswick Housing Needs Study, 1986, 41 pp.

**Mantyka, S**. Markov process approximations in an iceberg track simulator, contained in a NORDCO report to Petro-Canada (proprietary), March 1986.

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**Mantyka, S.** “Learning Math: A Modern Social Context”. To be submitted to Scitechnol online publisher. Please see the Abstract in Note 1 following my Curriculum Vitae.

Published Articles in Non-Academic Print Media

**Mantyka, S**. “Careers in Math”, with Kelly Penton, *The Recruiter Magazine*, Vol. 1, Issue 8, Dec. 6, 2007. St. John’s, NL: Transcontinental, p. 15.

**Mantyka, S**. “Math Isn’t Easy Without First Learning the Basics”, Telegram Forum, *The Telegram*, St. John’s, Sept. 17, 2000. Contributed Scholarly Addresses, Site Visits and Workshop Participation

Academic Conferences Peer-Reviewed

2014 `The Arithmetic Knowledge of Students Entering Memorial University who are taking Math 102F`, Colloquium speaker, Dept of Mathematics and Statistics, Memorial University, Fall Semester.

2014 “A Case for Automatic Recall”, Workshop, The 21st Annual International Learning Conference, NYC, NY, July 14-17.

2013 Site Visit to Mathtoons Inc, University of British Columbia (Okanogan), Kelowna, BC, to discuss collaborations, April 7-15.

2011 Canadian Math Education Study Group, Working Group B, CMESG Annual Meeting, St. John’s, NL, June 10-14.

2008 “Learning Strategies for Mathematics Under-Achievers”, with K. Penton, Knowledge In Motion ’08, Harris Centre of Regional Policy and Development, St. John’s, NL, October 16-18.

2008 Workshop Leader: “Teaching and Learning Strategies for Math Under-Achievers”, Evan Hardy Collegiate, Saskatoon, SK, January 25. More than 50 Saskatoon School Board Teachers (K-12) and Board Officials attended this 2-hour workshop.

2008 “The Math Plague: How to Survive School Mathematics”, Public Lecture, Capilano University, North Vancouver, BC, January 21.

2008 “The Math Plague: Learning Strategies for Math Under-Achievers”, 7th Annual Hawaii International Conference on Statistics, Mathematics and Related Fields, Honolulu, Hawaii, January 17-19.

2007 “The Math Plague: Learning Strategies for Mathematics Under-Achievers”, 16th National Conference on Learning Disabilities, St. John's, NL, September 27-29.

2007 **Mantyka, S**. “The Math Plague: Teaching and Learning Strategies for Mathematics Under-Achievers”, International Conference on Mathematics and Statistics, Athens, Greece, June 11-12.

2007 **Mantyka, S**. “The Math Plague”, IRMACS/D-DRIVE Coast to Coast Seminar Series 2007, January 30.

* Jonathan P. Seldin, Dept. of Mathematics and Computer Science, University of Lethbridge, AB. “More Thoughts on Teaching Elementary Mathematics”, *Proceedings of the Annual Meeting of the Canadian Society for History and Philosophy of Mathematics,* Vol. 20, Concordia University, Montreal, July 27-29, 2007, p. 260.

2006 **Mantyka, S**. “The Math Plague”, Public Lecture, Memorial University, St. John's, NL, November 28.

2006 **Mantyka, S**. “The Math Plague”, Atlantic Community Math Network Conference, Acadia University, Wolfville, NS, November 25.

2006 **Mantyka, S**. “The Math Plague”, Cognitive Science Lecture Series, Memorial University, St. John's, NL, September 28 and 29.

2004 **Mantyka, S**. “The Math Plague”, 1st Annual Agate-M Conference, Mount Allison University, Sackville, NB, December 4.

2004 **Mantyka, S**. “Developmental Mathematics”, Mathematics Departmental Colloquium, June 10.

2002 **Mantyka, S**. “Resource-Based Learning: Rationale, Principles, Processes and Outcomes”, Society for Exact Philosophy, Washington University, St. Louis, MI, May 25-28.

2002 **Mantyka, S**. “Evidence for Better Decision-Making: Newfoundland and Labrador’s Strategic Social Plan”, with the Newfoundland Statistics Agency, Canadian Evaluation Society, Halifax, NS, May 5-8.

2002 **Mantyka, S**. “Comparison of Injection Pain Among the Three Mandibular Block Techniques”, with S. Jacobs, D.A. Haas, J.G. Meechan; International Association for Dental Research Annual Meeting, San Diego, California, March.

2001 **Mantyka, S**. Collaborative Professional Involvement (with C. Morgan, M. Rowe, L. Etchegary, E. Buckingham, R. Lynch and G. Hopkins), The Society for Teaching and Learning in Higher Education, Memorial University of Newfoundland. St. John’s, NL, June 13-16.

2001 **Mantyka, S**. “Operation Foresight: What, Why and How”, with Leo Etchegary, Newfoundland and Labrador Mathematical Association (NLMA) Eighth Annual General Meeting, Memorial University, Apr. 27-28.

2001 **Mantyka, S**. “Teaching at the Mathematics Learning Centre: The K-12 Perspective”, with E. Buckingham and R. Lynch, NLMA Eighth Annual General Meeting, Memorial University, April 27-28.

2000 **Mantyka, S**. “Automaticity in the Learning of Mathematics”, Colloquium Talk, Department of Mathematics, University of Saskatchewan, Saskatoon, October 20.

1998 **Mantyka, S**. “Bridging the Gap: An Individualized Mathematics Intervention Program for Post-Secondary Bound Individuals”, Society for Exact Philosophy Annual Meeting, University of Georgia, Athens, GA, May 14-17.

1997 **Mantyka, S**. “The Role of Automaticity in Learning”, with Katherine Larson, Department of Mathematics and Statistics Colloquium talk, Memorial University, St. John’s, NL, Feb. 10.

1995 **Mantyka, S**. “Learning the Laws of Exponents, Software Demonstration”, with Katherine Larson, National Council for Teachers of Mathematics, Canadian Regional Meeting, St. John’s, NL, October 11-14.

1994 **Mantyka, S**. Site Visit to the University of Illinois (Chicago), Department of Mathematics, College Preparatory Mathematics Program, Feb. 3-5.

1993 **Mantyka, S**. Workshop Leader, Computer-Assisted Instruction for the Math Skills Program, Mathematics Learning Centre, Memorial University, St. John's, NL, June 17-19.

1993 **Mantyka, S**. “The Algebra Factory”, with E. Hall, New England Mathematical Association of Two-Year Colleges, Annual Meeting, Middlesex Community College, Middletown, Connecticut, March 13-15.

1992 **Mantyka, S**. “Decision Support System for the Hemlock Looper in Newfoundland”, Canadian Institute of Forestry Annual Meeting, Vancouver, September (presented by J. Hudak for Hudak *et al.*).

1990 **Mantyka, S**. “The Algebra Factory”, High School Teacher In-service, Saskatoon Board of Education, Saskatoon, Saskatchewan, October 26.

1990 **Mantyka, S**. “The Algebra Factory”, Society for Exact Philosophy, Florida State University, May 30-June 2.

1990 **Mantyka, S**. “Memorial’s New Foundation Program – A Remedial Approach”, NTA Math Council Conference and AGM (with E. Hall). St. John’s, NF, May 2-4.

1990 **Mantyka, S**. “Prerequisite Skills and Success in Post-Secondary Mathematics”, Teleconference sponsored by MUN’s Division of Continuing Studies, St. John’s (with E. Hall), March 13.

1990 **Mantyka, S**. “Prerequisite Skills and Success in Post-Secondary Mathematics”, Avalon Region NTA Mathematics Council Meetings (with E. Hall), St. John’s, NF, March.

1989 **Mantyka, S**. “Prerequisite Skills and Success in First-Year Mathematics Courses”, Department of Mathematics and Statistics Colloquium, MUN (with E. Hall), December 1.

1989 **Mantyka, S**. “Labour Supply and Economic Well-Being Simulations Under Alternate UI Scenarios for Rural Householders”, presented at the Canadian Association for Rural Studies, Quebec City (with D. May and H. Gaskill), June 7.

1985 **Mantyka, S**. “Computer Applications in Quantitative Biostratigraphy”, Colloquium Speaker, Department of Earth Sciences, MUN, March 2.

1981 **Mantyka, S**. “Massey-Ferguson 1980-1981: A Case Study in International Marketing”, Atlantic Schools of Business Conference, University of New Brunswick, St. John, October 22-24.

1981 **Mantyka, S**. “A Mathematical Model of Strike Behaviour in Collective Bargaining”, Atlantic Mathematics Days 1981, sponsored by the Atlantic Provinces Council on the Sciences, Memorial University, November 6-7.

1977 **Mantyka, S**. “Simulation of a Liquidity Constrained General Equilibrium System”, Colloquium, Department of Economics, Acadia University, October.

1973 **Mantyka, S**. “Toward an Optimization Procedure for Applying Minimum Change Principles in Probability Kinematics”, International Colloquium on Foundations of Probability Theory, Statistical Inference and Statistical Theories of Science, University of Western Ontario, May.

1969 **Mantyka, S**. “V/STOL Aircraft in the Armed Helicopter Role – An Effectiveness Analysis”, presented to the Advisory Group for Aerospace Research and Development (AGARD) at a Multinational NATO Conference, Belgium, December (with Major J. Toye).

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**Mantyka, S.** “Supplementary Modules for Math 103F: EM5AC/8AC”, MayT Consulting Corporation, St. John’s, NL, 2015.110pgs

**Mantyka, S**. “Workbook Sequence, Math 102F(FP)”, Levels 1-3, MayT Consulting Corporation, St. John’s, NL, 2013. 52 pgs.

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*I – Factoring*, with S. Penton and G. Walsh. St. John’s, NL: MayT Consulting Corporation, 2008.

*II – Addition and Subtraction of Polynomials*, with S. Penton. St. John’s, NL: MayT Consulting Corporation, 2008.

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Part I (2nd edition, 2009), with M. Rowe.

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[St. John’s, NL: MayT Consulting Corporation.]

**Mantyka, S**. A Complete Set of Pre-Tests for Zimmer’s *Fundamental Mathematics, Essential Mathematics and Pre-Calculus, Part I*, editor and co-author with staff at the Mathematics Learning Centre. St. John’s, NL: MayT Consulting Corporation, 2008 (6th Edition).

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**Mantyka, S**. [Editor]. *Teaching Policy and Procedures Manual*, with A. Hinton, S. Delahunty and T. Ricketts. St. John’s, NL: MayT Consulting Corporation, 2008 (2nd Edition).

**Mantyka, S**. [Editor]. *Math 1090 Course Manual (Distance Education)*, by S. Penton and T. Ricketts. St. John’s, NL: MUN Publication [1st edition, 2008].

**Mantyka, S**. *Math 102F/103F/104F Course Manual for Distance Education* (12th edition, 2008), with T. Ricketts, S. Penton, E. Hall, S. Delahunty, A. Hinton. St. John’s, NL: MUN Publication. (1st edition, 1993).

**Mantyka, S**. A Complete Set of Revised Diagnostic Survey Instruments and Course Outlines for Zimmer’s *Fundamental Mathematics, Essential Mathematics and Pre-Calculus, Part I*, with all full-time MLC teaching staff. St. John’s, NL: MayT Consulting Corporation, 2006.

**Mantyka, S**. *Personal and Professional Development by Distance Education, Mathematics Skills Program Manual* (1st edition), with E. Hall, A. Hinton, S. Delahunty. St. John’s, NL: MUN publication, Continuing Studies, 1997.

**Mantyka, S**. *Handbook of Computer-Oriented Case Studies of Statistical Applications in Business*, Memorial University Publication, 1980. This handbook was used in Statistics 2501 for four years.

**KNOWLEDGE TRANSLATIONS**

**Site Visits to the Mathematics Learning Centre**

As a mathematician, my joint research with congnitive, development, and intervention psychologists made the program I developed and offered at the MLC the only one of its kind in the world. As a result, a major element of the dissemination of my research became (1) site visits to the MLC (on campus) and (2) follow-up consultation sessions at client locations off campus.

2013 Deborah Wotherspoon, K-12 teacher, DEHCHO First Nations, NT, July 6-11.

2012 Steve Gismondi, Sabbatical Leave, University of Guelph, Fall Semester.

2012 Sharon Harvey, Walter Murray Collegiate, Saskatoon, SK, July 5-9.

2011 Britt-Marie Stocke, Senior Lecturer, University of Ume, Sweden, July 5-13.

2011 Gary Hunter, Learning Facilitator, Thrive Community Youth Network (Charitable Organization). Weekly Sessions, March.

2010 Eric Andre and Michael Dietrich, German Bureau for Artificial Intelligence (DFKI),

Nov. 22-26.

2010 Academic Program Review Committee: Dr. Wade Locke, Economics, MUN, (Chair); Dr. David Poole, winner of the 2009 Canadian Mathematical Society’s Excellence in Teaching Award, Mathematics, Trent University, ON; Dr. Steve Gismondi, Mathematics and Statistics, University of Guelph, ON; Dr. Edgar Goodaire, Mathematics, MUN, September 29-October 2.

2009 Numeracy/Math Education Special Session of the Canadian Mathematical Society Summer Meetings, St. John’s, NL, June 8.

2008 Mr. Garry Davis and Mr. Kevin Sawatzky, Evan Hardy Collegiate, Saskatoon, SK.

May 12-16.

2007 Mr. Jack Koenka, Ryerson University, October 14-17.

2005 Dr. Karen Webber, School of Nursing, regarding compulsory skills upgrading for N2004 – Pharmacology and Nutrition Therapies.

2004 The Honourable John Ottenheimer, Minister of Education, Department of Education, Government of Newfoundland and Labrador.

2004 Dr. Dan Kimura, Professor Emeritus, Department of Computer Science, Washington, University, St. Louis, MI, August 3-7.

2004 Mr.Albert Dalton, Math Consultant, Eastern Region School Board.

2003 Mr. Glenn Loveless, Director, Program Development Division for Primary, Elementary and Secondary Education, Department of Education, Government of Newfoundland and Labrador, Feb. 5.

Dec. 2002 Mr. Tom Hedderson, MHA for Whitbourne, NL.

Feb. 2002 Student Transition Task Group, Central Region Steering Committee of the Strategic Social Plan.

2001 Academic Program Review Committee: Dr. Cathryn Button, Psychology, MUN, (Chair); Dr. Kathryn Hare, Mathematics, University of Waterloo; Dr. George Bluman, Head, Mathematics, UBC; Dr. Veeresh Gadag, Medicine, MUN (as part of the APR of the Dept. of Mathematics and Statistics).

2001 Mr. Brian Tobin, **Vice-President, Academic and Student Services, College of the North Atlantic.**

2000 Mr. Harold Press, Deputy Minister of Education, Government of Newfoundland and Labrador.

2000 Academic Program Review Committee: Dr. Cathy Penney, Psychology, MUN, (Chair); Dr. Eric Mueller, Mathematics, Brock University, ON; Mr. Paul Gosse, Education (Math), MUN.

May 14, 1994 Mr. Warren Cole, Assistant Superintendent of Curriculum, Trinity-Placentia-Bonavista Integrated School Board, Clarenville, to discuss the possibility of a joint HRD proposal for a College Preparatory Mathematics Program.

1990-1991 Dr. A. Cox, Vice-President (Academic), Memorial University

1990-1991 Dr. R. Crocker, Chair, Task Force on Mathematics and Science Education, Government of Newfoundland and Labrador; Faculty of Education, Memorial University

1990-1991 Fr. D. McGrath, Fisherman`s Union, St. John’s, Newfoundland

1990-1991 Fr. S.J. Schuck, Gonzaga High School, St. John`s, Newfoundland

1990-1991 Sr. Rosalita Furey, former computer consultant, RC School Board, St. John`s, Newfoundland

1990-1991 Mr. Tom Hughes, Eastern Community College, St. John’s, Newfoundland

1990-1991 Mr. Ray Curran, Employment and Immigration Canada (EIC), St. John’s, Newfoundland

1990-1991 Mr. Carl Norris, Department of Mathematics and Statistics, Memorial University

1990-1991 Fanshawe Test Centre Coordinator, Marine Institute, St. John’s, Newfoundland

1990-1991 Academic Management Committee, Cabot Institute, St. John’s, Newfoundland

1990-1991 An open house and reception was held at the MLC, 6 Clark Place, by the Department of Mathematics and Statistics to give senior members of the university administration, departmental members, and other members of the community an opportunity to visit. A similar occasion held during the EIC workshop extended Mathematics Learning Centre visitors to General, and Continuing Studies together with representatives of the Marine and Cabot Institute. Guest on these two occasions included:

* Mr. Malachy Mandville, Director of Higher Education, Department of Education
* Mr. Ray Curran, Program Officer, Canadian Jobs Strategy, Employment and Immigration Canada
* Mr. Gerry Hanrahan, Youth Strategy Manager, Employment and Immigration Canada
* Ms. Daphne Bavis, Program Officer, Canadian Jobs Strategy, Employment and Immigration Canada
* Dr. Art May, President, Memorial University
* Ms. Cheryl Brown, Coordinator, Continuing Education, Cabot Institute
* Norman Bull, Deputy Head, Academic and Student Services, Marine Institute
* Clar Hooper, Chairman, Math Committee, Marine Institute
* Deborah Rehner, Instructor, Marine Institute
* Mr. Ernest Cole, Acting Associate Director, Continuing Studies
* Dr. Michael Collins, Director, General Studies
* Ms. Ruby Kocurko, Assistant Director (Faculty Advising), General Studies
* Dr. Bruce Shawyer, Head, Department of Mathematics and Statistics
* Dr. Graham Skanes, Dean, School of General and Continuing Studies and Extension
* Ms. Doreen Whalen, Director of Continuing Studies

Media Reviews of Research, Consultations, and Reports

* CBC Radio, The Morning Show (St. John’s) and Central Morning (Grand Falls/Windsor) “Teaching the teachers math.” July 27, 2017: Season 2017|Episode 300299331|09:32. “Poor school math performance is in the public eye again with the release of this week’s task force on education report. We ask **Sherry Mantyka**, a math professor at Memorial, how to fix it.” Telephone Interview of **Dr. S. Mantyka** by Leigh Ann Power, Host of Central Morning (Grand Falls/Windsor). Taped on July 26, 2017.

* “Professors debate the best way to teach math”, *University Affairs*, June 11, 2014.
* CBC Radio One – *Crosstalk*, interview by John Furlong, Dec. 11, 2013.
* “No surprise province’s students lack math skills: prof, CBC News, Dec. 8, 2013. <http://www.cbc.ca/news/canada/newfoundland-labrador/no-surprise-province-s-students)-lack-math-skills-prof-1.2455790>

facebook-19 share-19

External Links: Memorial University Math Learning Centre (<http://www.mun.ca/mlc/home/>)

1. omments (only 2 express a divergent opinion)

* “Frustrated professors convince elementary schools to step back from ‘new math’ and go ‘back to basics’”, Special to *National Post*, Sept. 13, 2013.
* CBC, *Here and Now,* September 4th, 2012. <http://www.cbc.ca/player/News/Canada/NL/Here+and+Now/ID/2276101057/?page=15&sort=MostRecent>
* [Western Initiative for Strengthening Education in Math (WISE Math](http://wisemath.org/)), *Math in the Media, Newfoundland*. <http://wisemath.org/math-in-the-media/newfoundland/>
* CBC News, Canada – “Why N.L.’s math curriculum is failing students”, September 6th, 2012. <http://www.cbc.ca/news/canada/newfoundland-labrador/why-n-l-s-math-curriculum-is-failing-students-1.1142980>
* [Western Initiative for Strengthening Education in Math (WISE Math](http://wisemath.org/)), *Math in the Media, Newfoundland*. <http://wisemath.org/math-in-the-media/newfoundland/>
* “Big drop in math skills of entering students”, *University Affairs*, Sept. 13, 2010 ([http://www.universityaffairs.ca/big-drop-in- math-skills-of-entering-students.aspx](http://www.universityaffairs.ca/big-drop-in-%09math-skills-of-entering-students.aspx))
* Sam Andrey, Executive Director, Ontario Undergraduate Student Alliance. Contacted **Dr. Mantyka** in preparation for a meeting with Ontario’s Minister of Education.
* “Mathematics Learning Centre Instructors Invited to the German Research Centre for Artificial Intelligence, *Atlantic Association for Research in the Mathematical Sciences (AARMS) Newsletter*, Summer 2010
* “Math researchers collaborate with centre for artificial intelligence”, *Gazette*, Vol. 42, No. 14, May 20, 2010. MUN Publication: St. John’s, NL
* CBC-TV – Here and Now, Interview by Deanne Fleet, June 5, 2009
* CHMR (MUN Radio), Andre da Costa, Producer, *Wednesday’s End*, Interview about “Math in Sports”, April 8, 2009
* “Resource Links – Connecting Classrooms, Libraries and Canadian Learning Resources”, Vol. 13, No. 4, April, 2008, p. 31
* "Memorial's Mantyka created what is probably the country's most comprehensive remedial math program" - *Maclean's* Magazine University Rankings 2008 Issue – “Ready or Not” by Sandy Farran, Nov. 24, 2008, pp. 48-49
* *The Telegram* - Local News: Premier's comments don't add up: profs, Aug. 13, 2008
* *Gazette* Article - Saskatoon creating program based on Math Learning Centre, May 1, 2008
* “New Directions for the Mathematics Learning Centre at Memorial”, *Atlantic Association for Research in the Mathematical Sciences (AARMS) Newsletter*, Winter 2008, p. 3
* CBC Radio One - *On the Go*: May 15, 2008, Mar. 19, 2008, Nov. 7, 2007, Jan. 29, 2007, Jan. 22, 2007, Nov. 23 & 24, 2006, Jan. 16, 2006
* CBC TV - *Here and Now*: Deanne Fleet, Mar. 19, 2008; Jonathan Crowe, Apr. 5/6, 2007; Deanne Fleet, Nov. 21, 2006
* CKOM 650 a.m. Radio interview, *John Gormley Live - Hour 3* (Saskatoon, SK), January 24, 2008 (32 min. interview)
* Excerpt taken from Memorial University President’s Report 2007, p. 11. Also quoted in Memorial University’s Research Report Highlights 2007, p. 37: ***Interest in math researcher’s work quickly multiplies -*** Local and national media attention added up to a lot of interest in a Memorial math researcher’s new book, launched in February, 2007. Dr. Sherry Mantyka, director of the Mathematics Learning Centre, wrote *The Math Plague: How to Survive School Mathematics*, for parents, teachers and students of all ages concerned about math skills. It’s based on **Dr. Mantyka**’s research into why bright learners have trouble with math. The Memorial professor has been helping students struggling in mathematics for over 17 years, trying to find ways to improve their understanding and retention. In January, she turned her attention to an unlikely student – CBC Radio-One producer Heather Barrett, who took **Dr. Mantyka** up on the offer of an “extreme mathover.” “**Dr. Mantyka**’s methods completely changed my attitude towards math and changed the way I think about learning and doing math,” Ms. Barrett said, “It’s still really helpful to me when I am trying to help my children with their math homework.”
* *The Telegram* - Editorials: “How to turn kids off math”, Nov. 20, 2007; “Do the math”, Apr. 11, 2007
* “Editor’s Pick”, *Canadian Living Magazine*, May 2007, p. 197
* *Times and Transcript*, Moncton, NB: Apr. 24, 2007, Apr. 10, 2007, Mar. 27, 2007, Mar. 13, 2007
* Roger's TV - *Out of the Fog*, Apr. 9, 2007
* CBC Radio One - *The Morning Show: The Newsroom,* Apr. 7, 2007
* CBC News, Newfoundland and Labrador, “Math curriculum changes don't add up: experts”, Apr. 5, 2007
* “A failing grade for math program changes”, Geoff Meeker, <http://meekermedia.blogspot.com/2007/04/failing-grade-for-math-program-changes.html>
* Review of “The Math Plague”, Society for Quality Education, March 2007 Issue, pg. 6-7
* *The Globe and Mail* - Margaret Wente's Column, Feb. 6, 2007
* Iliana Tsetkova, “Preparing Students for Team Competitions in Mathematics – Possibility to Work with All Students”, Proceedings of the Discussing Group 9: Promoting Creativity for All Students in Mathematics Education, the 11th International Congress on Mathematical Education, Monterrey, Mexico, July 6-13, 2008, page 1.
* “The baffling new math”, Moira MacDonald, News Columnist, The Toronto Sun, Feb. 5, 2007
* CBC Radio Canada, *The Current* – Heather Barrett, “Math Boot Camp”, Jan. 31, 2007. Also reported at <http://kitchentablemath.blogspot.ca/2007/02/cbcs-current.html>
* Emails to me from the producer, Heather Barrett:

**Feb. 1, 9:18 am:** “The math story on *The Current* yesterday generated a LOT of response. I thought I would pass it on to you for your interest:”

**Feb 1, 9:20 am:**  “Yet more math reaction:”

**Feb. 2:** “There is a second day of reaction to the story on *The Current*. They rarely get two days of email in a row on the same story . . .”.

The email responses fill a 1-inch binder and are available for perusal, if the reader wishes.

* “Book aims to help readers battle the Math Plague”, *The Western Star*, January, 2007
* CBC Radio - *Weekend Arts Magazine,* Dec. 16, 2006
* Review of *The Math Plague*, Greg Byrne, NL-Outsidethebox [confederation], <http://nloutsidethebox.blogspot.com/2006/12/math-plague-how-to-survive-school.html>
* “Math Challenged”, *The Independent*, December, 2006
* CBC Radio Noon - *Crosstalk*, Nov. 30, 2006
* “Curing the Math Plague”, *The Telegram*, Nov. 28, 2006, p. A5
* “Education in the USA”, Martin Homik’s Blog, Nov. 23, 2006, <http://www.homik.de/blog> (restricted access). **Dr. Mantyka** has a printed copy for viewing.
* *Today.mun.ca* article, “Diagnosing the math plague”, September 27, 2006
* *Gazette* Article by Leslie Vryenhoek, “Mastering math ... again and again”, Vol 39, No 2, Aug. 31, 2006
* CBC Radio Morning Show (St. John’s), follow-up interview in the studio with Jeff Gilhooly regarding Grade IX Math CRTs, November 23, 2005
* CBC Radio Morning Show (Corner Brook), telephone interview regarding Grade IX Math CRTs, November 23, 2005
* CBC Radio Morning Show (Grand Falls/Windsor), telephone interview regarding Grade IX Math CRTs, November 23, 2005
* CBC Radio Morning Show (St. John’s), interview by Cecil Haire, regarding Grade IX Math CRTs, November 22, 2005
* “Learning by the Numbers: Math Learning Centre Applies New Techniques to Help Students Learn Math”, *Muse* article, January 8, 2004
* CBC TV/Radio – Invited Panelist (with Harold Press, Deputy Minister of Education; Dr. Myrle Vokey, Executive Director, Newfoundland and Labrador School Board Association; Denise Pike, President, Federation of School Councils; Winston Carter, President, Newfoundland and Labrador Teachers’ Association), *Learning Curves Initiative: Education Forum*, Nov. 4, 2002
* Guest of CBC Radio Noon’s *Crosstalk*, to answer questions from the public about the “math problem”, June 2002
* Interview by CBC Television regarding the cancellation of the public exam in Math 3205 for senior high school graduation, May 2002
* CBC Television filmed a session about math tutoring at the Math Learning Centre featuring one of our teaching assistants, May 2002
* Interview by CBC Television regarding the Province’s new math curriculum, February 2002.
* An evening session of “Operation Foresight” at O’Donel High School was filmed by CBC Television and aired on CBC’s *Here and Now*, February 2002
* “Bridging the Gap”, *Gazette: Research,* Mar. 8, 2001
* “Want Better Math Skills? Keep It Simple”, *The Telegram*, Nov. 11, 2000
* “Hundreds still failing the MSI”, the *MUSE*, Sept. 15, 2000
* “Prerequisite Skills and Success in Post-Secondary Mathematics”, Interview with Peter Miller, CBC Morning Show, May 1991
* “The Impact of Unemployment Insurance Changes in Newfoundland and Labrador” Interview for CBC’s *Fisherman’s Broadcast*, Oct. 5, 1990
* Community Services Council TV series on the Royal Commission on Employment and Unemployment, “A New Income Security Program” (with Penelope Rowe, Dr. Doug House, Wayne Humphries, Wendy Williams), Feb. 1987

**Event Facilitation**

2009 **Dr. Mantyka**. developed and implemented, with D. Porter and all full-time staff at the Mathematics Learning Centre, a virtual site visit to the Mathematics Learning Centre.

2008 **Dr. Mantyka** secures funding for and organizes: a Public Lecture at MU; and (b) a Round Table Discussion with K-16 educators at Quidi Vidi Brewery. These two events occurred during the week long site visit of two high school math teachers from the Saskatoon school system to observe **Dr. Mantyka’s** Foundation Math Program. **Dr. Mantkya** secured funding from AARMS for this site visit.

2004 **Dr. Mantyka** founded the Newfoundland and Labrador Teacher Network, the 1st node of the Atlantic Community Mathematics Network, an initiative of AGATE-M (Atlantic GATEway to Mathematics).

2002-2003 **Dr. Mantyka** developed a joint venture with the Writing Centre of Memorial University to train and employ a pilot group of undergraduate students as both math and writing tutors, and then study the experiences of these tutors to identify possible links between the two learning experiences. We received student funding for this initiative from Memorial University’s Career Enhancement Program.

2000-2016 **Dr. Mantyka** (with D. Porter) developed a website for **Dr. Mantyka’s** Foundation Math Program, formerly: [*www.mun.ca/mlc*.](http://www.mun.ca)

2000 **Dr. Mantyka** (with D. Porter) developed a PowerPoint presentation about **Dr. Mantyka’s** Foundation Math Program to be used in orientation lectures delivered to incoming students at Memorial University.

1984 **Dr. Mantyka** advocated the creation of a Math Help Centre to provide students with free tutorial assistance outside their professors’ office hours.

1980 **Dr. Mantyka** introduced the use of computers in Stats 2501.

1979 **Dr. Mantyka** refurbished the structure of labs for Stats 2500 and 2501 to improve participation.

Conferences and Meetings Organized

2010 **Mantyka, S**. “Meet Memorial 2010: Where People and Ideas Become . . .” May 26-August 18.

2008-2009 **Mantyka, S**. Session Organizer, Special Session on Mathematics Education, Canadian Mathematics Society Summer Meetings, St. John’s, NL, June 8.

2009 **Mantyka, S**. Media interviews for speakers from the 2009 Canadian Mathematical Society’s Special Session on Mathematics Education that I organized:

* June 5, CBC Radio, *On the Go,* Garry Davis
* June 5, CBC TV, *Here and Now*, Sherry Mantyka and Garry Davis
* June 6, CBC Radio, *Weekend Arts Magazine*, John Mighton
* June 8, CBC Radio, *Morning Show* (Grand Falls/Windsor)*,* John Mighton
* June 8, Roger’s Television, *Out of the Fog,* John Mighton
* October 7, CBC Radio, *Radio Noon Cross-Talk*, John Mighton

2008 “Island on the Prairies: The Important Role of Teachers in Curriculum Change”, Public Lecture, Garry Davis and Kevin Sawatzky, Saskatoon School Board, May 13. Sponsored by the *Atlantic Association for Research in the Mathematical Sciences* and the Mathematics Learning Centre.

2008 **Mantyka, S**. “Breaking the Ice”-bergs, Public Round Table Discussion, Quidi Vidi Brewery Hospitality Room, St. John’s, May 15.

2007-2009 **Mantyka, S**. Provincial Representative for the 2009 Canadian Mathematics Education Forum, Canadian Mathematical Society, Simon Fraser University, Vancouver, BC, Apr. 30-May 2, 2009.

2001 **Mantyka, S**. Open House, Mathematics Learning Centre, Feb. 19 and 21.

1995 **Mantyka, S**. Session Chair, National Council for Teachers of Mathematics, Canadian Regional Conference, St. John’s, NL, October 11-14.

1995 **Mantyka, S**. Session Chair, Society for Exact Philosophy Annual Meeting, Calgary, AB, May 25-28

1993-1995 **Mantyka, S**. Chair, Partnerships Sessions Subcommittee, National Council for Teachers of Mathematics, Canadian Regional Conference, St. John’s, NL, October 11-14.

1993-1995 **Mantyka, S**. Member, Program Planning Committee, National Council for Teachers of Mathematics, Canadian Regional Conference, St. John’s, NL.

1987 **Mantyka, S**. Primary Conference Organizer, Society for Exact Philosophy Annual Meeting, Memorial University, St. John's, NL, August 27-29.

1986 **Mantyka, S**. Secretary-Treasurer, Local Organizing Committee, CMS Summer Meeting, Memorial University, St. John’s, NL, June 11-13, 1986.

1981 **Mantyka, S**. Entertainment Committee, Canadian Association for Cooperative Educators Conference, Faculty of Business Administration.

1980-81 **Mantyka, S**. Organizing Committee, Conference on Nonlinear Analysis and Applications

Community Speaker and Event Facilitator: Dr. Mantyka’s Foundation Math Program as it Applies to Grades K-8

2014 **Mantyka, S**. “The Appropriate Role of Technology in Mathematics Education”, OneStory video interview, <https://www.onestory.com/campaigns/women-in-technology>, 6:22 mins, recorded Mar. 15.

2009 **Mantyka, S**. MLC is the Highest Per Capita Points Winner for the 2nd Year in Row! – Christmas in July – 12 Days of Giving Food Drive – *today.mun.ca*, July 16, 2009.

2008 **Mantyka, S**. MLC is a Winner! – Campus Contributors – 12 Days of Giving Drive – *today.mun.ca*, July 7, 2008.

2007 **Mantyka, S**. Sobey's Community Room 3-hr Public Information Sessions, St. John's, NL, November 7, 13, 15, 19-21, 28-29.

2007 **Mantyka, S**. Book signing. The Math Plague, Canadian Library Association Conference, St. John's, NL, May 25.

2007 **Mantyka, S**. Book signing. The Math Plague, Chapters, Kenmount Road, St. John's, NL, 2 - 4 p.m., April 21.

2007 **Mantyka, S**. Book Launch. The Math Plague, Open House at the Mathematics Learning Centre, Coughlan College, Memorial University, St. John's, NL, February 12.

Jan-May 2003 **Mantyka, S**. Developed two mathematics courses for the Avalon District School’s annual Junior High School Mini Enrichment Program: “Math in Motion” and “Mathematics, Movies and Music”: Trained three undergraduate students and one primary/elementary teacher in the delivery.

Summer 2002 **Mantyka, S**. Piloted an intervention program at the MLC as an alternative to “summer school” for junior high school students who failed math.

Jan.-May, 1996 **Mantyka, S**. Delivered weekly mathematics enrichment sessions to twenty Grade 7 students at St. Pius X Jr. High School.

Jan.-May, 1995 **Mantyka, S**. Junior high math enrichment sessions – one per week at St. Pius X Junior High School, St. John’s, NL.

May 1994 **Mantyka, S**. Junior high math camps, Personal and Professional Development, Continuing Education, Memorial University, St. John’s, NL.

1992 **Mantyka, S**. Judge, Science Fair, St. Pius X Jr. High School, St. John’s, NL, Apr. 7.

1992 **Mantyka, S**. “Bathematics” (to two groups), I.J. Sampson Jr. High School, Science and Technology Day, Mar. 5.

1990 **Mantyka, S**. Departmental representative at Parent’s Night, Memorial University, St. John’s, NL, Sept. 5.

1989 **Mantyka, S**. “Bathematics”, WISE Choices Conference, St. John’s, NL, May 19-20.

1989 **Mantyka, S**. Served as a “role model” for the Women in Science and Engineering Conference, “WISE CHOICES”, St. John’s, NL, May 19-20

1989 **Mantyka, S**. Organized and conducted departmental tours for: Women in Science and Engineering Conference, May 19-20; University Open House, Education Week, February; National Science Fair, May; High School Math Competition, May.

1989 **Mantyka, S**. “Bathematics”, April is Mathematics Month, R.C. School Board for St. John’s, Apr. 20, 27.

1986 **Mantyka, S**. Panel Member: Workshop on Enrichment Programs for Gifted Children, sponsored by the R.C. School Board, Feb. 17.

Feb.-June 1986 **Mantyka, S**. Mentor for Sean Carew (in cooperation with the R.C. School Board), a Grade 7 student in a program for gifted children.

TEACHING AND SUPERVISION

**GRADUATE STUDENT SUPERVISION**

Marshal Rodrigues, Committee Member, M.Sc. Psychology, Thesis Title: “Does Practice make Perfect? The Potential Benefits of Math Fact Training”, October 2016-present.

**GRADUATE STUDENT TEACHING**

B8103: Statistics for Economics and Business. I designed and taught this course for the Faculty of Business Administration when I was cross – appointed to that Faculty.

**UNDERGRADUATE TEACHING**

“The teaching responsibilities of the professor cannot be considered in isolation from the responsibility to seek new knowledge. An effective teacher has to be able to stimulate the intellectual inquisitiveness of the students under his or her charge. To do this requires bringing to their attention, where appropriate, the latest research findings and debates within the discipline. Thus, teaching effectiveness is necessarily linked to, and cannot be divorced from, scholarly activity. A truly effective teacher not only transmits knowledge but helps students develop skills to critically examine and evaluate ideas and arguments, and to generate ideas of their own. Therefore, for the purposes of this document, teaching includes not only classroom teaching but also those other activities of a communicative or scholarly nature which support the transfer of knowledge.” (Taken from “Evidence to be Employed”, *Career Guidelines Respecting Criteria and Standards for Promotion, Tenure and Merit in the Faculty of Science*, Draft Copy, pp. 5-7, circulated to All Faculty of the Department of Mathematics and Statistics by Edgar Goodaire, Head, February 11, 1993)

Undergraduate Teaching since My Promotion to Associate Professor

1. For Students Taking Math Foundation Courses

As an Academic Staff Member in the Department of Mathematics and Statistics, **Dr. Mantyka** founded and established the Mathematics Learning Centre (MLC) at Memorial University, 1988 – present. Key events are documented here.

Note 1: **Dr. Mantyka** did all of what follows as an Academic Staff Member (ASM) in the Department of Mathematics and Statistics. She has not held an Administrative Appointment at Memorial University at any time.

Note 2: In the Final Report of the 2010 Academic Program Review of the Mathematics Learning Centre, **Dr. Mantyka`s** scholarship in founding and developing the Foundation Math Programs was referred to as Memorial University’s “hidden gem” [pg. 1].

Note 3: In Oxford University’s Professor Peter Bryant’s letter of support for **Dr. Mantyka**’s nomination for the Adrien Pouliot Award (for sustained contributions to mathematics education), he says, “The Mathematics Learning Centre is a definite feather in Memorial University’s cap, and will increasingly be seen as an original and inventive way of promoting the success of mathematically-based courses at universities across the world”.

*A Chronology of the Founding and Development of the Mathematics Learning Centre.*

1988 **Dr. Mantyka** offers to design and deliver an individualized self-study math skills program (with tutorial assistance) for all sections of Math 101F (fall and winter semesters, formerly a lecture course) as her standard two-course teaching load. This is in response to her involvement collecting and analyzing data for the Task Force on Math and Science Education in that same year.

1988 **Dr. Mantyka** persuades the Head of the Department of Mathematics and Statistics to administer a Mathematics Skills Inventory to all incoming first-year students at MUN (St. John’s and Sir Wilfred Grenfell campuses), the Cabot and Marine Institutes, and the Western and Central Community Colleges, to collect and analyze basic math skills data and its relationship with pass rates in post-secondary math courses.

1988-1991 **Dr. Mantyka** continues to collect and analyze data to assess the importance of mathematical preparedness to future success in mathematics and mathematics-related courses (with Dr. Catherine Dalzell).

1989, 1990 **Dr. Mantyka** develops (with E. Hall), a series of laboratory activities using manipulatives and computers to augment the Math 101F program.

1990 **Dr. Mantyka** receives the Dean of Science’s permission to occupy a university-owned three bedroom bungalow at 6 Clark Place as a Mathematics Learning Centre, and she secures $24,913 from the Provincial Department of Youth Strategy to equip it.

1991 **Dr. Mantyka** applies for and receives $90,000 from Employment and Immigration Canada – Youth Strategy to train instructors from the five provincial Colleges to offer the MLC program that she has developed.

1992 **Dr. Mantyka** applies for and receives $25,065 from Employment and Immigration Canada – Youth Strategy Delivery Assistance and $25,065 from the Department of Employment and Labour Relations, Government of Newfoundland and Labrador, to coordinate a spring Mathematics Skills Inventory (MSI) writing and MLC summer skills programs for high school students at the five provincial colleges.

1993 **Dr. Mantyka** applies for and receives $25,150 from Employment and Immigration Canada to deliver the Math Skills Inventory to high school students throughout the province in their graduating year.

1993 Senate approves the replacement of Math 101F with three courses, Math 102F, Math103F and Math 104F based on data analysis of student skill levels by **Dr. Mantyka**.

1993 **Dr. Mantyka** (with E. Hall) develops a Distance Education offering of Math 102F/103F/104F and writes the Course Manual for this course.

1993 **Dr. Mantyka** is seconded to the Division of Continuing Education in a non-administrative position to create course offerings like Math 102F/103F/104F for non-MUN students.

1993 **Dr. Mantyka** develops a Math Skills Upgrading Program for Personal and Professional Development (Division of Continuing Education).

1993 **Dr. Mantyka** develops (with E. Hall) a Distance Education offering of Math 102F/103F/104F, and writes a Course Manual for this course.

May 1993 **Dr. Mantyka** (with E. Hall) designs and conducts a Pilot Project to deliver the Math Skills Upgrading Program to 25 recipients of unemployment insurance or social assistance, with funding from the Economic Recovery Commission.

1994 **Dr. Mantyka** develops (with E. Hall) three new programs to be offered by the Mathematics Learning Centre through Personal and Professional Development (Division of Continuing Education): Junior High School Math Camps; Math Preparation for GMAT; Summer School for Marine Institute students who failed their first-year math course.

1995 **Dr. Mantyka** designs a Personal and Professional Development Program for Individualized Math Assistance for high-school students and university students.

1996 **Dr. Mantyka** pioneers the concept of Distance Education for Personal and Professional Development (Division of Continuing Education) with the development of a Distance Education Program in Math Skills Upgrading.

1996 **Dr. Mantyka** designs a Math Skills Assessment Service for Personal and Professional Development.

1996-1997 A report of the Senate Adhoc Committee on First-Year Mathematics recommends that (1) “a detailed study be carried out to determine the effectiveness of the current Mathematics Foundation programme in preparing students for Mathematics 1080 and Mathematics 1081”, and (2) “the Head of the Department of Mathematics and Statistics and **Dr. Sherry (Mantyka) May** meet with the Deputy Registrar with the aim of identifying possible ways of assigning credit to students who have completed a Foundation Mathematics sequence”. In response, **Dr. Mantyka** prepares the documents, “Bridging the Gap” and “A Proposal for Partial Credit Courses to Replace Math 102F/103F/104F”.

1997 **Dr. Mantyka`s** Foundation Math Program is moved to the Office of the Dean of Science when Continuing Education is reorganized as the Division of Lifelong Learning.

1997 **Dr. Mantyka** is seconded to the Office of the Dean of Science in a non-administrative position to “attend to” the operations of the Math Learning Centre.

1997 **Dr. Mantyka** collaborates with Maryann Fleming, L.I.S.T.E.N. Advocacy, to design a program to help parents of school-age children overcome their anxiety in areas requiring math and/or using technology, to be offered through Personal and Professional Development (Division of Continuing Education), or to be funded by the Department of Social Services for families on social assistance.

1998-2000 The Department of Mathematics and Statistics institutes compulsory placement for all students taking Math 1090, Math 1050 and Math 1051. Enrolments in **Dr. Mantyka`s** Foundation Math Program quadruple in this period. Four more full-time instructional assistants are hired, as well as five part-time instructional assistants, three of whom are recent graduates from the Faculty of Education.

Fall 1999 With quadrupled course registrations and a proportional increase in teaching staff, **Dr. Mantyka** convinces Dean Lucas of the need for full-time secretarial support for Math 102F/103F/104F.

1999 Denise Porter, a permanent MUN employee in Financial and Administrative Services Science Building General Office, is temporarily seconded to the Office of the Dean of Science to work with **Dr. Mantyka** at 6 Clark Place.

2000 With quadrupled course registrations, **Dr. Mantyka** convinces Dean Lucas of the need for the semester-by-semester appointments of IAs for Math 102F/103F/104F to be converted into full-time annual appointments.

2000 **Dr. Mantyka**’s secondment to the Office of the Dean of Science is terminated. She returns to the Department of Mathematics and Statistics as an Academic Staff Member.

2000 The (new) Dean of Science, Dr. Robert Lucas, has an external review of **Dr. Mantyka`s** Foundation Math Program conducted.

2000 **Dr. Mantyka`s** Foundation Math Program moves to its location in Coughlan College because of unacceptably high levels of carbon dioxide at 6 Clark Place.

2000-2001 **Dr. Mantyka** develops Operation Foresight, a joint pilot project with O’Donel High School, with ACOA funding, to bring a team of instructors from **Dr. Mantyka’s** Foundation Math Program into the high school to work with Grade 12 students who have been identified as being “at risk” with respect to basic math skills.

2001-2002 **Dr. Mantyka** develops and implements at the request of Michael Collins, Associate Vice-President Academic, a pilot of mathematics modules for an “Academic Bridging Program” that is offered at Memorial University in December 2001

December 2001 Ms. Porter’s assignment to the Office of the Dean of Science is made permanent.

2001 **Dr. Mantyka`s** Foundation Math Programs is reviewed again as part of an Academic Program Review (APR) of the Department of Mathematics and Statistics.

2002 **Dr. Mantyka** and staff in the Foundation Math Program develop and implement (in 2003) a pilot and phase-in plan to incorporate a self-study version of Math 1090 into the teaching responsibilities of the Foundation Math Program. This was the result of one of the recommendations of the APR of the Department of Mathematics and Statistics in 2001. This was the first credit course taught by **Dr. Mantyka** in the Foundation Math Program.

2004 **Dr. Mantyka** and staff in the Foundation Math Program develop and implement (in 2005) a pilot to blend an accelerated Math 103F with an accelerated Math 1050 in one semester. Math 1050 is the second credit course offered in **Dr. Mantyka`s** Foundation Math Program.

2005 The first annual contractual appointments of full-time IAs teaching Math 102F/103F/104F of 5 years duration are converted to permanent appointments.

2005 The Dean of Science, Robert Lucas, assists **Dr. Mantyka** in writing a proposal for the establishment of the Mathematics Learning Centre as the “Math Learning Research Institute”. This proposal is submitted to Dr. Eddy Campbell, Vice-President Academic.

2006 **Dr. Mantyka** is successful in requesting a reclassification of permanent IAs teaching Math 102F/103F/104F to a new CUPE job classification created by Human Resources for them: Mathematics Learning Instructor.

2006 Math 1051 replaces Math 1050 in the pilot accelerated Math 103F course. Math 1051 is the third credit course offered in **Dr. Mantyka`s** Foundation Math Programs.

2006 Following the success of the accelerated Math 103F course, **Dr. Mantyka** and staff at the Foundation Math Program develop and offer a similar accelerated Math 104F/Math 1090 course.

2006 Senate approves a change in the status of the accelerated Math 103F/Math 1051 course from pilot to permanent. Students pay only one tuition fee for this double course offering.

2006 The accelerated Math 104F/Math 1090 pilot course is offered a second time. Since there is a very small enrolment in the pilot course and limited success with this combination, no proposal to make this pilot course permanent is submitted.

2006 Because of high failure rates in the quantitative component of a second-year course in Pharmacology, the School of Nursing institutes the compulsory taking of the Math Placement Test (MPT) for students admitted to their program.  As a result, any student who scores less than 50 is required to complete Math 102F (using the *Fundamental Mathematics* textbook) before s/he enters the second year of the nursing program.

2007 Two new full-time instructional assistants are hired to support the development and implementation of the Teaching Assistant (TA)/Junior Instructor (JI) Certification Program. This initiative was in response to the observation that the math skill levels of recent cohorts of TAs were deteriorating.

2008 **Dr. Mantyka** develops and implements a distance education version of her Math Foundation Program for Math 1090.

2008 Because the 2006 School of Nursing MPT/Math 102F initiative is 100% successful, the School of Nursing recommends that, for administrative purposes, a separate Math 102F course, Math 102N, be created specifically for nursing students.

2009 Senate approves a new non-credit course to be offered in **Dr. Mantyka`s** Foundation Math Program for the School of Nursing (BN Collaborative Program), Math 102N. This course is offered for the first time in Fall 2009, both on campus and through Distance Education.

2009 **Dr. Mantyka** applies for promotion to full professor. The Departmental Promotion and Tenure Committee is split, the Head recommends her, and the newly-appointed Dean of Science, Mark Abrahams, does not support the Head’s recommendation.

2010 The newly appointed Dean of Science cancels all future Distance Education course offerings of Math 102F/103F/104F/102N.

2010 The Final Report of the Math Initiatives Committee (chaired by Dr. Doreen Neville, Office of the Vice-President Academic) recommends that another Academic Program Review of the Mathematics Learning Centre be conducted. [Please see Note 2 at the beginning of this section.]

2010 The Final Report of the Academic Program Review of **Dr. Mantyka`s** Foundation Math Program is completed. It recommends that “the Centre be assigned an administrative structure with clearly defined goals and objectives and an appropriate mission statement” (Recommendation 4), and that “the position of administrative director of the Math Learning Centre” be created (Recommendation 5). However, the Dean of Science, Dr. Abrahams, challenges the APR Review Committee’s designation of the mandate of the MLC, and the Final Report and Action Plan documents are “tabled” in the Provost’s Office. Subsequently, in August 2012, the Provost orders a review of post-secondary remedial math services to be conducted by the Associate Vice-President Academic, Dr. Doreen Neville. This review is still pending (Aug. 2017).

July 2012 All annual contractual appointments of full-time IAs teaching Math 102F/103F/104F have been converted to permanent appointments, resulting in eight, full-time staff under **Dr. Mantyka**’s supervision. **Dr. Mantyka** still occupies no formal administrative position.

2014 **Dr. Mantyka** continues to do further research into the design and creation of appropriate ‘deliberate practice’ materials for university-aged students of mathematics, in collaboration with other innovators in education in a variety of sectors (see Major Education Collaborations – Innovation and Advocacy on page 4).

2015 **Dr. Mantyka** introduces compulsory labs in basic arithmetic in the Math Foundation Program in response to increasing failure rates in the Foundation Math Courses at the MLC.

2016 Dr. Mark Abrahams terminates the Math Foundation Program and closes the MLC.

1. For Students Working at the Mathematics Learning Centre as Teaching Assistants, Teaching Assistant Trainees, Junior Instructors and Mentored Student Instructors

**Dr. Mantyka**’s motivation for developing a training and mentoring program within the MLC was to prepare undergraduate math or education students to perform the functions of the full-time Instructional Assistants in managing the learning of students taking Math 102/3/4F. (In other sections of this Curriculum Vitae, these trained undergraduates are referred to as “student instructors”.) The purpose was three-fold:

1. It provided a continuous supply of instructors for the greatly increased number of Math 102/3/4F students (with compulsory placement in MLC courses beginning in 1998), without necessitating the creation of many permanent purely teaching positions at a teaching and research institution. The institutional importance of this was conveyed to me by the Head of the Department of Mathematics and Statistics at the time of the Department’s introduction of compulsory placement in MLC non-credit courses.
2. The training of the “student instructors” is based on **Dr. Mantyka**’s research on the underlying cognitive, developmental, and intervention psychological issues in the learning of mathematics, thereby increasing these students’ awareness of the problems and how to address them in their own learning and the learning of others as future teachers in the province.
3. The financial remuneration for “student instructors” (and teaching assistants and junior instructors) provides a subsidy to their university education at Memorial University.

The training and mentoring program is now fully developed, complete with training manuals and certificates of completion of the various levels for student assistants. To date, there have been **920 semester appointments of undergraduate and graduate students to various positions in the training and mentoring program** of **Dr. Mantyka’s** **Foundation Math Program**. Several of these student assistants have gone on to complete teaching degrees and now hold teaching positions in the K-12 system. When Dr. Bob Lucas was Dean of Science, he lauded this feature of **Dr. Mantyka’s** training program, describing it as a ‘fifth column’ activity in addressing the serious problems with math education in the K-12 system.

1. ***Undergraduate Student Supervision by Dr. Mantyka***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Budget**  **Year** | **MUCEP FUNDED**  **POSITIONS** | | **DEPARTMENTAL BUDGET FUNDED POSITIONS** | | |
| **Teaching Assistant Trainees** | **Teaching Assistants** | **Junior Instructors** | **Senior Instructors** | **Graduate Students** |
| 2016-2017 | 14 | 32 | 0 | 0 | 0 |
| 2015-2016 | 14 | 32 | 0 | 0 | 0 |
| 2014-2015 | 4 | 12 | 0 | 0 | 0 |
| 2013-2014 | 13 | 31 | 0 | 0 | 0 |
| 2012-2013 | 13 | 29 | 0 | 0 | 0 |
| 2011-2012 | 13 | 28 | 1 | 0 | 0 |
| 2010-2011 | 12 | 34 | 4 | 1 | 0 |
| 2009-2010 | 18 | 38 | 2 | 2 | 0 |
| 2008-2009 | 21 | 35 | 1 | 4 | 0 |
| 2007-2008 | 21 | 30 | 3 | 9 | 0 |
| 2006-2007 | 28 | 36 | 6 | 4 | 0 |
| 2005-2006 | 28 | 41 | 3 | 6 | 2 |
| 2004-2005 | 33 | 40 | 10 | 4 | 3 |
| 2003-2004 | 37 | 43 | 7 | 7 | 3 |
| 2002-2003 | 0 | 69 | 6 | 17 | 2 |
| 2001-2002 | 0 | 34 | 16 | 7 | 0 |
| 2000-2001 | 0 | 46 | 3 | 0 | 0 |
| 1999-2000 | 0 | 38 | 0 | 0 | 0 |
| 1998-1999 | 0 | 8 | 0 | 0 | 0 |
| **TOTALS** | **269** | **656** | **62** | **61** | **10** |

2002 **Dr. Mantyka** trained undergraduate Mathematics and Education students to design and conduct enrichment workshops for junior high school students (Avalon School Board).

2001-2002 **Dr. Mantyka** supervised Kimberley Joy, jointly with Michael Rabinowitz, in her Honours Psychology thesis, “The Role of Working Memory in Multiplying Fractions”.

1998 Spring Semester: Patricia Fleming, MUCEP, TA

\*Cathy Reid, MUCEP, SI (mentored)

\*Tanya Mercer, MUCEP, SI (mentored)

Kathryn Butler, SCP, RA, Mathdrill Project

\*Cathy Reid and Tanya Mercer were the first two undergraduate mathematics/education students that **Dr. Mantyka** trained and mentored as a pilot project to evaluate the feasibility of the large-scale, multi-stage training/mentoring program for student instructors (SI) that she began developing in the Fall of 1999. The success of this pilot project led to **Dr. Mantyka’s** creation of the Teaching Assistant Program offered in the Mathematics Foundation Program from 1998 onwards. This program was so successful that **Dr. Mantyka** received **$587, 306.00** in grant funding to support it and as a result trained over 900 students between 1998 and 2016 when Dean Abrahams closed the Math Learning Centre.

**Training and Supervision by Dr. Mantyka:**

1998 Winter Semester: Kathryn Butler, MUCEP, RA, Mathdrill Project

Elysia Eckert-Maret, MUCEP, RA, Mathdrill Project

\*Cathy Reid, MUCEP, SI (mentored)

\*Tanya Mercer, MUCEP, SI (mentored)

Lesley Boland, MUCEP, TA

Nancy Parsons, MUCEP, TA

Nadya El-Gohary, MUCEP, TA

1997-1998 **Dr. Mantyka** trained two undergraduate Mathematics and Education students (with MUCEP funding) in the delivery of math enrichment activities for children (ages 10-14) and supervised their delivery of this program at St. Pius X Jr. High School.

**Training and Supervision by Dr. Mantyka:**

1997 Fall Semester: Valerie Miller, MUCEP, TA

Krista Roberts, MUCEP, TA

Shawn Lewis, MUCEP, TA

\*Cathy Reid, MUCEP, TA

\*Tanya Mercer, MUCEP, TA

Kathryn Butler, MUCEP, RA, Mathdrill Project

Elysia Eckert-Maret, MUCEP, RA, Mathdrill Project

**Training and Supervision by Dr. Mantyka:**

1997 Winter Semester: Katherine Larson, MUCEP, RA, Mathdrill Project

Valerie Miller, MUCEP, TA

Krista Roberts, MUCEP, TA

Nadya El-Gohary, TA

**Training and Supervision by Dr. Mantyka:**

1997 Spring Semester: \*Cathy Reid, MUCEP, TA

\*Tanya Mercer, MUCEP, TA

Jean Walsh, MUCEP, TA

Kathryn Butler, PACEE, RA, Mathdrill Project

**Training and Supervision by Dr. Mantyka:**

1996 Fall Semester: Katherine Larson, MUCEP, RA, Mathdrill Project

Valerie Miller, MUCEP, TA

Krista Roberts, MUCEP, TA

Nadia El-Gohary, TA

**Training and Supervision by Dr. Mantyka:**

1996 Winter Semester: Valerie Miller, TA

Katherine Larson, MUCEP, RA, Mathdrill Project

Christine Kennedy, MUCEP, TA

**Training and Supervision by Dr. Mantyka:**

1996 Spring Semester: Maria Delahunty, MUCEP, RA, Math and Movement Project

Catherine Power, MUCEP, RA, Mathdrill Project

Kerri Janes, Secretarial Science Student at Cabot College, (work-term placement), April 29-May 24

**Training and Supervision by Dr. Mantyka:**

1995 Fall Semester: Katherine Larson, MUCEP, RA, Mathdrill Project

Richard Hinton, TA

Paula Delahunty, TA

**Training and Supervision by Dr. Mantyka:**

1995 Winter Semester: Katherine Larson, MUCEP, RA, Mathdrill Project

Richard Hinton, TA

Maria Delahunty, TA

**Training and Supervision by Dr. Mantyka:**

1995 Spring Semester: Katherine Larson, RA, Mathdrill Project (Funded with M. Rabinowitz's NSERC research grant)

Vicki Reardon, Executive Secretary student at Cabot College (work-term placement), May 8-28

Kim Antle, Secretarial Science student at Keyin Technical College (work-term placement), January 29-March 25

**Training and Supervision by Dr. Mantyka:**

1994 Fall Semester: Katherine Larson, MUCEP, RA, Mathdrill Project

Richard Hinton, TA

**Training and Supervision by Dr. Mantyka:**

1994 Winter Semester: Katherine Larson, MUCEP, RA, Mathdrill Project

**Training and Supervision by Dr. Mantyka:**

1994 Spring Semester: Katherine Larson, NSERC Summer Undergraduate Research Award, Mathdrill Project

**Training and Supervision by Dr. Mantyka:**

1993 Fall Semester: Katherine Larson, MUCEP, RA, Mathdrill Project

1991-1992 Charles Robertson, RA, Development of Mathematical Software for Math 102F, funded by the Economic Recovery Commission, software design and supervision of the development by **Dr. Mantyka.**

**Training and Supervision by Dr. Mantyka:**

1989 Spring Semester: Denise Fowlow, RA, Challenge '89 SEED Program Grant #3-32342

1986 Spring Semester: Cathy Bennett, RA, NORDCO. **Dr. Mantyka** negotiated an arrangement with Newfoundland Ocean Research Development Corporation to provide student research assistants to work at their site under **Dr. Mantyka’s** supervision.

1985-1986 **Dr. Mantyka** is theFaculty Advisor for the COMAP Modelling Competition.

**Training and Supervision by Dr. Mantyka:**

1979 Spring Semester: Audrey Snow, RA

**COURSES TAUGHT BEFORE PROMOTION TO ASSOCIATE PROFESSOR**

Before I accepted the responsibility of creating the Foundation Math Program, I was cross-appointed to the Faculty of Business Administration. As such, my course load was divided between the Department of Mathematics and Statistics and the Faculty of Business Administration. The courses I taught during this period are listed below:

* M1010, M1080, M1090 Pre-Calculus
* M1011, M1000 Calculus
* M2082 Integral Calculus
* S2500 Stats I for Business and Economics (also Course Coordinator)
* S2501 Stats II for Business and Economics (also Course Coordinator)
* M3010 Real Analysis I
* B3400 Quantitative Analysis I
* CS3751 Operations Research
* M3900 Optimization
* B5400 Production Management
* B8103 MBA Statistics

I have course evaluation information about my teaching during this period that I will provide upon request.

SERVICE

Offices Held in Academic Societies (Appointed or Elected)

2004-2010 Executive, Atlantic Association for Research in the Mathematical Sciences

2004-2010 Board of Directors, Atlantic Association for Research in the Mathematical Sciences

2004-2008 Vice-Chair, Atlantic Gateway to Mathematics (AGate-M)

2004 Founded the Newfoundland and Labrador Teacher Network, a partnership to change the culture of mathematics in the region. Chair: Jonathan Mauger, Holy Heart High School, St. John’s, NL

1996-1998 Past-President, Society for Exact Philosophy

1994-1996 President, Society for Exact Philosophy

1992-1994 Vice-President, Society for Exact Philosophy

1989 Member of the Pro-Tem Executive of the Newfoundland and Labrador Council of Post-Secondary Teachers of Mathematics

1984-1992 Treasurer, Society for Exact Philosophy.

[The Society for Exact Philosophy is an international society of philosophers, logicians, statisticians, mathematicians, cognitive scientists, and computer scientists whose purpose is to provide sustained discussion among researchers who believe that rigorous methods have a place in philosophical investigations. The Society meets annually, alternating between Canada and the United States.]

**Advice Solicited From Dr. Mantyka Regarding Her Research & Teaching Scholarship.**

A collection of this corresponce is available in 3 binders if requested)

Government Agencies

* Canadian Commission for UNESCO (Contact: Margaret Kende, Feb. 6, 2007)

Charitable and Not-For-Profit Organizations

* St. Joseph Immigrant Women’s Centre, Hamilton, ON (Contact: Ines Rios, Executive Director, Feb. 8, 2007)
* Halifax Association for Community Living, Halifax, NS (Contact person: Peggy Weaver, Family Support Facilitator, Jan. 31, 2007 to Feb. 1, 2007.

Schools and School Districts

* Meadow Lake Tribal Council, Meadow Lake, Saskatchewan, SK (Contact: Leslie McMaster, Jan. 18 to Sept. 28, 2010)
* Carleton Project School, Presque Isle, ME (Contact: Alan Morris)
* School District of Indian Hill, Cincinnati, OH (Contact: Elizabeth Johnson – Jan. 31, 2007 to Mar. 14, 2007 – gave *The Math Plague* to School District Superintendent, Dr. Jane Knudson)
* Toronto District School Board, Toronto, ON (Contact: Ruth Torchinsky-Stilman, Mar. 25 to Apr. 22, 2007)
* Bishop Field Primary/Elementary School, St. John’s, NL (Contact: Natalie Oman/Judith Puddester, Dec. 8, 2006 to Jan. 19, 2007)
* Donald C. Jamieson Academy, Burin, NL (Contact: Lisa Inkpen, Nov. 18, 2005 to Oct. 30, 2006)
* Immaculate Heart of Mary School, Corner Brook, NL (Contact: John Davis, January 10-13, 2007)
* New Brunswick, Department of Education (Contact: Rodney Clark, May 7, 2007)

Universities and Colleges

* Washington University, St. Louis, MO (Contact: Dr. Dan Kimura, Professor Emeritus, Department of Computer Science, 2004)
* Red Deer College, Red Deer, AB (Contact: Con Ferris, Math Dept., Dec. 17, 2008)
* Fraser International College, Vancouver, BC (Contact: Dr. Gary Sabin, Feb. 18, 2009)
* National University of Ireland, Maynooth, Ireland (Contact: Ciarn MacanBhaird, Math Support Centre and Math Lecturer, Mar. 20, 2009)
* Brock University, St. Catharine’s, ON (Contact: Santo D’Agostino, Apr. 6, 2009)
* Coquitlam Continuing Education, Coquitlam, BC (Contact: Doug Rolling, Feb. 2, 2007)
* University of Windsor, Windsor, ON (Contact: Justin Lariviere, Director, Mathematics and Statistics Learning Centre, Mar. 31 to Apr. 2, 2009)
* Heiltsuk College, Bella Bella, BC (Contact: Jonathan Woods, May 3, 2007)
* University of Toronto, Toronto, ON (Contact: Delphine Marie-Egyptienne, BEd teacher candidate, Sept. 2013)

Advocacy Groups

* Sam Andrey, Executive Director, Ontario Undergraduate Student Alliance, Toronto, ON, Dec 2011
* Newfoundland and Labrador Teacher’s Association, St. John’s, NL (Contact: Beverley Park, Senior Administrative Officer, Feb. 27, 2007)
* Federation of School Councils, NL (Contact: Ruby Hoskins, May 30, 2007)
* Learning Disabilities Association of Newfoundland and Labrador, St. John’s, NL (Contact: Lynn Green, Sept. 2007)

Media

* CBC Marketplace (Contact: Stephanie Kampf, June 3, 2008)
* *MacLean's Magazine*, University Issues (Contact: Sandra Farran, Nov. 2008)
* CBC Radio, St. John’s, *On The Go*, St. John’s, NL (Contact: Ted Blades, 2007 – present)
* CBC TV, St. John’s, *Here and Now*, St. John’s, NL (Contacts: Deanne Fleet, Heather Barrett, Jonathan Crowe, 2007 – present)
* CBC Radio, *The Current*, St. John’s, NL (Contact: Heather Barrett, Network Producer, Feb. 1-2, 2007)
* *The Telegram*, Community Editorial Board (Contact: Sarah Colbourne Penney, May 31, 2007)
* *The Globe and Mail* (Contact: Margaret Wente, Feb. 5, 2007)

Other

* SpellRead, Halifax, NS (Contact: Sarah Arnold, Feb. 1, 2007)

Mathematical/Statistical Consulting

* Review of “Quantitative Evaluation of Three Reformulated Self-Thinning Rules”, Dr. Peter Newton, Canadian Forestry Service, Agriculture Canada, March 1987
* Mathematical/Statistical Consultant: “A Multiple-Server Queuing Problem”, Don Hutchens, Newfoundland Telephone, Mar.-Dec. 1986
* Mathematical Consultant: “An Automated Solution to the Scheduling of Reference Librarians”, George Beckett, MUN Library, Jan.-Mar. 1986
* Statistical Consultant: “Perceptions of Leadership Style and Interpersonal Behaviour of Municipal Recreation Managers in Newfoundland and Labrador”, Guy Bradbury, Department of Parks and Recreation, City of St. John’s, Sept. 1985-Oct. 1986
* Statistical Consultant: “Analyzing Illite Crystallinity Values in Rocks from the Deer Lake Area of Newfoundland”, Dr. Richard Hyde, Department of Earth Sciences, MUN, Sept.-Oct. 1985
* Mathematical Consultant: “Apportionment of Fixed Cost of Cultural Events to Cultural Centres of Newfoundland”, Richard Stoker, Department of Culture Affairs, Government of Newfoundland and Labrador, Sept.-Oct. 1985
* Mathematical/Statistical Consultant to Alethic, Inc., Halifax, NS: Microcomputer Software Applications of Quantitative Biostratigraphy to Offshore Well Data, Nov. 1984-Mar. 1985
* Statistical Consultant to the Women’s Health Education Project, 1983-1984
* Member, Statistical Consulting Laboratory, Memorial University, 1978-1981

Senate and Academic Program Reviews (APR) of Dr. Mantyka’s Foundation Math Program

2010 Dr. Wade Locke (Chair), Dept of Economics, MUN; Dr. Edgar Goodaire, Dept of Mathematics and Statistics, MUN; Dr. Steve Gismondi, Department of Mathematics and Statistics, University of Guelph, ON; Dr. David Poole, Mathematics, Winner of the 2009 Canadian Mathematical Society’s Excellence in Teaching Award, Trent University, ON.

2001 Dr. Cathryn Button, Psychology, MUN, (Chair); Dr. Kathryn Hare, Mathematics, University of Waterloo; Dr. George Bluman, Head, Mathematics, UBC; Dr. Veeresh Gadag, Medicine, MUN (as part of the APR of the Dept. of Mathematics and Statistics).

2000 Dr. Cathy Penney, Psychology, MUN, (Chair); Dr. Eric Mueller, Mathematics, Brock University, ON; Mr. Paul Gosse, Education (Math), MUN.

1996 Senate Adhoc Committee on First-Year Mathematics

Conferences and Meetings Attended With Potential Interdisciplinary Collaborators

2010 **Mantyka, S**. Harris Centre Regional Workshop, Nain, Labrador, April 20-22, 2010.

2009 **Mantyka, S**. Regional Engagement Session, Petroleum Human Resources Council of Canada, Marine Institute, St. John’s, NL, April 30.

2007 **Mantyka, S**. Harris Centre Regional Workshop, Irish Loop, NL, November 7-8.

2006 **Mantyka, S**. World Congress of Science and Factual Producers, Manchester, UK, November 11-14.

2004 **Mantyka, S**. SMART 2004 TI T3 Regional Conference, St. John’s, NL, October 22-23.

2002 **Mantyka, S**. Attended a football coach’s clinic in Saskatoon, Saskatchewan, to further investigate the connections between teaching “automatic” skills in mathematics and coaching “automatic” skills in football through the use of “”triggers” for memory retrieval, April 12-13.

2000 **Mantyka, S**. 8th World Congress of Science Producers, Sydney, Australia, December 1-4.

1999 **Mantyka, S**. 7th World Congress of Science Producers, Greenwich, UK, November 5-8.

1998 **Mantyka, S**. 6th World Congress of Science Producers, Boston, MA, USA, November 21-24.

1998 **Mantyka, S**. Society for Exact Philosophy Annual Meeting, University of Georgia, Athens, GA, USA, May 14-17.

1997 **Mantyka, S**. Society for Exact Philosophy Annual Meeting, McGill University, Montreal, QC, May 15-18.

1994 **Mantyka, S**. Society for Exact Philosophy Annual Meeting, University of Texas, Austin, TX, May 12-15.

1992 **Mantyka, S**. Society for Exact Philosophy Annual Meeting, University of South Western Louisiana, Lafayette, LA, May 14-17.

1990 **Mantyka, S**. Newfoundland and Labrador Council for Post-Secondary Teachers in Mathematics, Spring Meeting, Cabot Institute, St. John's, NL, May 4.

1988 **Mantyka, S**. Society for Exact Philosophy Annual Meeting, University of Rochester, Rochester, NY, June 1-3.

1986 **Mantyka, S**. Society for Exact Philosophy Meetings, University of Hawaii, HI, February 20-22.

1985 **Mantyka, S**. Conference of Probability and Causation, University of California, Irvine, CA, July 15-19.

1985 **Mantyka, S**. Conference on Ontology and Language, University of Guelph, Guelph, ON, May 2-4.

1984 **Mantyka, S**. Society for Exact Philosophy Meetings, University of Georgia, Athens, GA, May 5-7.

1981 **Mantyka, S**. Learned Society Meetings, Dalhousie University, Halifax, NS, May.

1974 **Mantyka, S**. Learned Society Meetings, University of Saskatchewan, Saskatoon, SK, June.

1972 **Mantyka, S**. Learned Society Meetings, Montreal, QC, May.

**Committee Membership**

INTERNATIONAL

Mantyka, S. Associate Editor, The International Journal of Science Mathematics and Technology Learning, Vol. 20, Issue 4. Champagne, IL: Common Ground Publisher, 2015.

Referee: “Teaching Physics Through Creative Drama”

**Mantyka, S**. Associate Editor, *The International Journal of Science, Mathematics and Technology Learning,* Vol. 20, Issue 2. Champaign, IL: Common Ground Publisher, 2014.

Referee: “Developing Pedagogical Content Knowledge for Pre-Service Science Teachers though Video Analysis and Group Discussion on Facebook”.

Referee: “Latvian Mathematics Teachers’ Beliefs on Mathematics Teaching”.

Referee: “Advancing Science, Engaging STEM Learners”.

NATIONAL

Mantyka, S. Assessor of an application submitted to the Insight Grants funding opportunity, Social Science and Humanities Research Council of Canada, February 2015. (Because of confidentiality issues I do not disclose here the names of the person and of the university.)

Mantyka, S. Assessor of an application submitted to the Insight Grants funding opportunity, Social Science and Humanities Research Council of Canada, January 2015. (Because of confidentiality issues I do not disclose here the names of the person and of the university.)

**Mantyka, S**. External assessment for the conferring of Tenure and Promotion to the rank of Associate Professor, 2010. (Because of confidentiality issues I do not disclose here the names of the person and of the university)

PROVINCIAL

**Mantyka, S**. Review of the commission of inquiry on unemployment insurance (also known as the Forget Report), *Newfoundland Quarterly*, Fall 1987, Vol. LXXXIII, No. 2, pp. 38-39.

**UNIVERSITY**

2007 **Mantyka, S**. Departmental representative at New Faculty, Parent, and Student Orientations at MUN, August/September

2002-2003 **Mantyka, S**. Writing Committee, New Mathematics Courses for the Faculty of Education, Department of Mathematics and Statistics and the Faculty of Education

1999-2003 **Mantyka, S**. Organizing Committee, "Times for the Making", lecture series sponsored by the Memorial University of Newfoundland Campus Ministries

1997-1998 **Mantyka, S**. Writing Committee, New Mathematics Courses for the Faculty of Education, Department of Mathematics and Statistics and Faculty of Education

1992 **Mantyka, S**. Senate Committee on Undergraduate Studies Sub-Committee on the Revised Deadline for Dropping Courses

1989-1990 **Mantyka, S**. Academic Planning Committee, Faculty of Science

1988-1991 **Mantyka, S**. Senate

1987 **Mantyka, S**. Department Contact Person, National University Week, October 24-November 1

1979-1982 **Mantyka, S**. President's Advisory Committee on Insurance

**FACULTY OF SCIENCE**

1998-2016 **Mantyka, S.** Ad-Hoc Director of the Mathematics Learning Centre (Interviewing and Hiring Instructional

Assistants and Teaching Assistants, Assigning teaching and administrative responsibilities to staff, Applying for funding for the TAs, Securing funding for classroom and office furniture, equipment, and teaching and office supplies.

**FACULTY OF BUSINESS ADMINISTRATION**

1981-1982 **Mantyka, S**. Research Committee, Faculty of Business Administration

1981-1982 **Mantyka, S**. Editor, Working Paper Series, Faculty of Business Administration

1981-1982 **Mantyka, S**. Scholarship Committee, Faculty of Business Administration

1979-1980 **Mantyka, S**. Student-Faculty Relations Committee, Faculty of Business Administration

1979-1980 **Mantyka, S**. Ad-Hoc Committee on Quantitative Methods, Faculty of Business Administration

**EDWARDS SCHOOL OF BUSINESS, University of Saskatchewan, Saskatoon, SK**

1976-1977 M.B.A. Appeals Committee, Chairman.

1976-1977 M.B.A. Student Society, Vice-President.

1976-1977 M.B.A. Faculty Committee, member.

**DEPARTMENT OF MATHEMATICS AND STATISTICS**

2016-2017 **Mantyka, S.** Member. Committee to deal with: (a) suggestions to improve low pass rates in Math 1090 for Academic Math students; and (b) Math course options for the former MLC students after the MLC was closed. Covenor: Dr. Danny Dyer.

1997-1998 **Mantyka, S**. Advisory/Writing Committee, Response to Senate Adhoc Committee on First-Year Mathematics

1997-1998 **Mantyka, S**. Mathematics 1050 Curriculum Committee

1997-1998 **Mantyka, S**. Mathematics 1050 Writing Committee

1997-1998 **Mantyka, S**. Writing Committee, Numeracy Course for the Faculty of Arts

1997-1998 **Mantyka, S**. Mathematics 1090 Curriculum Committee, Department of Mathematics and Statistics

1989-1996 **Mantyka, S**. Constructed numerous displays for the Department of Mathematics and Statistics for University Open Houses, High School Competitions, Math in the Mall, etc.

1988-1989 **Mantyka, S**. Hiring Committee

Fall 1988 **Mantyka, S**. Assisted Dr. B. Shawyer in the preparation of the departmental submission to the Task Force on Mathematics and Science Education.

1987-1988 **Mantyka, S**. Ad-Hoc Committee on Learning Mathematics

1986-1987 **Mantyka, S**. Policy Committee

1981-1982 **Mantyka, S**. Graduate Studies Committee

**Note 1**

**Learning Math: A Modern Social Context**

**Dr. Sherry Mantyka**

**Abstract**

In very recent years, several books have been published in the popular press suggesting a major shift in the formal educational sector (see the list of references attached). However, none of the authors are mathematicians. As a mathematician and an educator in the post-secondary sector, I will examine qualitatively how much of the recent empirical data that I have collected on student under-achievement in arithmetic and mathematics could be accounted for by the sociological shift argued for in this literature. Secondly, I will consider what adaptations to the student learning experience in post-secondary introductory classrooms could be made to provide a counter-balance to this sociological shift.

I will take the following quote from *The Ingenuity Gap* by Thomas Homer-Dixon, Director of the Peace and Conflict Studies Program at the University of Toronto, as pivotal to the intentionality of and the arguments I present in my survey article:

“But this is more than just a matter of fact: it’s fundamentally an emotional, moral, and even spiritual matter, and it’s in these terms that we can most clearly see the danger of our technocratic arrogance. Our modern approach to solving our problems tends to be rational and analytic – and thus starkly impoverished. I believe that reason by itself is not – cannot be – our ultimate salvation, and that we must instead call on our uniquely human capacity to integrate emotion and reason: to mobilize our moral sensibilities, create within ourselves a sense of the ineffable, and achieve a measured awareness of our place in the universe”. [1, p. 399]

**Bibliography**

1. The Ingenuity Gap, Thomas Homer–Dixon. Vintage Canada (Random House): 2001
2. Bounce: Mozart, Federer, Picasso Beckham and the Science of Their Success, Matthew Syed. Harper Collins Publishers: 2011
3. ``Schooling, Labor Force Quality and the Growth of Nations``, Eric Hanushek (Hoover Institute, Stanford University, and the National Bureau for Educational Research) and Dennis Kimko (Institute for Deferce Analysis, Alexandria, VA), *The American Economic Review*, 1995.
4. The Hunger for More, Laurence Shames. First Vintage Books Edition: March 1991
5. Scarcity, Sendhil Mullainathan & Eldar Shafir. Times Books, Henry Holt & Co., LLC: 2013
6. Outliers, Malcolm Gladwell. Little, Brown & Co., Hachette Book Group, NewYork, NY: 2008
7. In Defence of Elitism, William A. Henry III, Bantam Doubleday Dell Publishing Group, Inc: 1994 (Sept)
8. The University of google: education in the (post) information age, Tara Brabazon. Ashgate Publishing Company, Burlington, VT: 2008
9. Èats Shoots & Leaves: The Zero Tolerance Approach to Punctuation!. Lynn Truss. Penguin Group (USA) Inc.: 2003
10. The Ego Boom: Why the World Really Deos Revolve Around you, Steve Maich and Lianne George, Key Porter Books: 2009