

CURRICULUM VITAE
Jamie I. D. Campbell
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University of Saskatchewan
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CITIZENSHIP: Canadian

ACADEMIC DEGREES:

Ph.D., University of Waterloo, 1985, Department of Psychology, Cognitive Science.

M.A., University of Waterloo, 1982, Department of Psychology, Cognitive Science.

B.A., Queen's University, Kingston, 1979, Department of Psychology, Experimental Psychology.

ACADEMIC APPOINTMENTS:

Full Professor, 1994-to the present, Department of Psychology, University of Saskatchewan.

Associate Professor, 1990-1994, Department of Psychology, U. of Sask. (tenured 1992).

Assistant Professor, Department of Psychology, University of Western Ontario, London, ON,
1986-1990 (tenured 1989).

NSERC Postdoctoral Fellow, Carnegie-Mellon University, Pittsburgh, 1985-1986.

NATIONAL COMMITTEES:

President, Canadian Society for Brain, Behaviour, and Cognitive Science (CSBBCS),
2005-2006.

Organizer, CSBBCS national conference, University of Saskatchewan, June 2006.

Executive Member, CSBBCS, 2002-2004

Member, CSBBCS Student Awards Committee, 2000-2001.

Member, GSC 12 (Brain, Behaviour, and Cognitive Science) Research Grant Selection
Committee, Natural Sciences and Engineering Research Council of Canada
(NSERC), 1997-1999.

Chair, GSC 12 Equipment Subcommittee, NSERC, 1999.

Member, NSERC Life Sciences/Psychology Scholarship and Fellowship Selection
Committee, 1992-94

Chair, Section 27 on Perception, Learning, & Cognition, Canadian Psychological
Association, 1991-92.

EDITORIAL BOARDS:

Consulting Editor, *Journal of Experimental Psychology: Learning, Memory and Cognition*, 2004-ongoing

Member, *Canadian Journal of Experimental Psychology*, Editorial Board, 1994-2005, 2009-

Member, *Mathematical Cognition*, Editorial Board, 1994-2000

TEACHING AWARD:

University of Saskatchewan Students' Union Teaching Excellence Award, 2006 (10 awarded annually)

RESEARCH**OVERVIEW:**

Graduate and undergraduate theses supervised (completed or in progress): 26

Research grants awarded: ~\$1,000,000 (current NSERC \$58,000/year until 2014)

Books: two edited volumes on numerical cognition research

Papers and chapters published or in press: 75

Conference proceedings or presentations: 52

Invited lectures: 7 national, 20 international

BOOKS:

Campbell, J. I. D. (2005). *Handbook of Mathematical Cognition*. (J. I. Campbell, Ed.). New York: Psychology Press, 528 pp.

Campbell, J. I. D. (1992). *The Nature and Origins of Mathematical Skills*. (J. I. Campbell, Ed.). North-Holland: Elsevier Science Publishers, 569 pp.

REFEREED JOURNAL ARTICLES (REVERSE CHRONOLOGY; STUDENTS NAMES IN BOLD):

Metcalf, A. W. S., & Campbell, J. I. D. (in press). Arithmetic problem size and operand recognition time: Strategic complexity or switch costs? *Psychological Research*.

Campbell, J. I. D., & **Alberts, N. A.** (in press). Inverse reference in adults' elementary arithmetic. *Canadian Journal of Experimental Psychology*.

Campbell, J. I. D., & Arbuthnott, K. A. (in press). Effects of mixing and cuing simple addition and multiplication. *European Journal of Cognitive Psychology*.

Campbell, J. I. D., & Reynvoet, B. (2009). Context-dependent semantic priming of number naming. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 35, 1552-1556.

- Campbell, J. I. D., & Agnew, H. (2009). Retrieval savings with non-identical elements: The case of simple addition and subtraction. *Psychonomics Bulletin and Review*, 16, 934-944.
- Campbell, J. I. D., & Alberts, N. A. (2009). Operation-specific effects of numerical surface form on elementary calculation. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 35, 999-1011.
- Campbell, J. I. D., & Metcalfe, A. W. S. (2009). Numerical abstractness and elementary arithmetic. *Behavioral and Brain Sciences*, 32, 330-331. (comment on Cohen Kadosh & Walsh).
- Campbell, J. I. D. (2009). Selective effects of number processing context on number naming. *European Journal of Cognitive Psychology*, 21, 686-702.
- Campbell, J. I. D., & Phenix, T. L. (2009). Target strength and retrieval-induced forgetting in semantic recall. *Memory & Cognition*, 37, 65-72.
- Campbell, J. I. D. (2008). Subtraction by addition. *Memory & Cognition*, 36, 1094-1102.
- Campbell, J. I. D., & Metcalfe, A. W. S. (2008). Arabic digit naming speed: Task context and redundancy gain. *Cognition*, 107, 218-237.
- Campbell, J. I. D., & Robert, N. D. (2008). Bidirectional associations in multiplication memory: Conditions of negative and positive transfer. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 34, 546-555.
- Metcalfe, A. W. S., & Campbell, J. I. D. (2008). Spoken numbers vs. Arabic numerals: Differential effects on adults' multiplication and addition. *Canadian Journal of Experimental Psychology*, 62, 56-61.
- Robert, N. D., & Campbell, J. I. D. (2008). Simple addition and multiplication: No comparison. *European Journal of Cognitive Psychology*, 20, 123-138.
- Campbell, J. I. D., & Metcalfe, A. W. S. (2007). Numeral format and arithmetic rules. *European Journal of Cognitive Psychology*, 19, 335-355.
- Metcalfe, A. W. S., & J. I. D. Campbell (2007). The role of cue familiarity in adults' strategy choices for simple addition. *European Journal of Cognitive Psychology*, 19, 356-373.
- Campbell, J. I. D., Fuchs-Lacelle, S., & Phenix, T. L. (2006). Identical elements model of arithmetic memory: Extension to addition and subtraction, *Memory & Cognition*, 34, 633-647.
- Campbell, J. I. D., & Penner-Wilger, M. (2006). Numeral format and response time distributions for simple addition: The mu of memory and the tau of transformation, *Memory & Cognition*, 34, 217-226.
- Turconi, E., Campbell, J. I. D., & Seron, X. (2006). Numerical order and quantity processing in number comparison. *Cognition*, 98, 273-285.
- Campbell, J. I. D. (2005). Asymmetrical language switching costs in Chinese-English bilinguals. *Bilingualism: Language and Cognition*, 8, 85-91.
- Thompson, V. A., & Campbell, J. I. D. (2005). A power struggle: Between vs. within-subjects designs for reasoning research. *Psychologia*, 47, 277-296.

- Campbell, J. I. D., & **Epp, L. J.** (2004). An encoding-complex approach to numerical cognition in Chinese-English bilinguals. *Canadian Journal of Experimental Psychology*, *58*, 229-244.
- Campbell, J. I. D., **Parker, H. R.**, & **Doetzel, N. L.** (2004). Interactive effects of numerical surface form and operand parity in cognitive arithmetic. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *30*, 51-64.
- Phenix, T. L.**, & Campbell, J. I. D. (2004). Effects of multiplication practice on product verification: Integrated structures model or retrieval induced forgetting? *Memory & Cognition*, *32*, 324-335.
- Arbuthnott, K. A., & Campbell, J. I. D. (2003). The locus of self-inhibition in sequential retrieval. *European Journal of Cognitive Psychology*, *15*, 177-194.
- Thompson, V.A., **Streimer, C.L.**, **Reikoff, R.**, **Gunter, R.W.**, & Campbell, J. I. D. (2003). Syllogistic reasoning time: Disconfirmation disconfirmed. *Psychological Bulletin and Review*, *10*, 184-189.
- Campbell, J. I. D., & **Austin, A.** (2002). Effects of response time deadlines on adults' strategy choices for simple addition, *Memory & Cognition*, *30*, 988-994.
- Campbell, J. I. D. & **Gunter, R** (2002). Calculation, culture, and the repeated operand effect. *Cognition*, *86*, 71-96.
- Campbell, J. I. D., **Fugelsang, J.**, & **Hernberg, V.** (2002). Effects of target distinctiveness and lexicality on repetition blindness. *Journal of Experimental Psychology: Human Perception and Performance*, *28*, 948-962.
- Campbell, J. I. D., & Thompson, V. A. (2002). More power to you: Simple power calculations for treatment effects with one degree of freedom. *Behavior Research Methods, Instrumentation, and Computers*, *34*, 332-337.
- Campbell, J. I. D., & **Fugelsang, J.** (2001). Strategy choice for arithmetic verification: Effects of numerical surface form. *Cognition*, *80*, B1-A30.
- Campbell, J. I. D., & **Xue, Q.** (2001). Cognitive arithmetic across cultures. *Journal of Experimental Psychology: General*, *130*, 299-315.
- Phenix, T.**, & Campbell, J. I. D. (2001). Fan effects reveal position-specific numerical concepts. *Canadian Journal of Experimental Psychology*, *55*, 271-276.
- Arbuthnott, K. D., & Campbell, J. I. D. (2000). Cognitive inhibition in selection and sequential retrieval. *Memory & Cognition*, *28*, 331-340.
- Campbell, J. I. D., & **Timm, J.** (2000). Adults' strategy choices for simple addition: Effects of retrieval interference. *Psychonomics Bulletin and Review*, *7*, 692-699.
- Campbell, J. I. D. (1999). The surface form x problem-size interaction in cognitive arithmetic: evidence against an encoding locus. *Cognition* *70*, 25-33.
- Campbell, J. I. D., **Kanz, C. L.**, **Xue, Q.** (1999). Number processing in Chinese-English Bilinguals. *Mathematical Cognition*, *5*, 1-39.
- Campbell, J. I. D. (1999). Division by multiplication. *Memory & Cognition*, *27*, 791-802.
- Campbell, J. I. D. (1998). Notational and linguistic influences in cognitive arithmetic: Comment on Noël, Fias, & Brysbaert (1997). *Cognition*, *67*, 353-564.

- Campbell, J. I. D. (1997). On the relation between skilled performance of simple division and multiplication. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 23, 1140-1159.
- Campbell, J. I. D. (1997). Reading-based interference in cognitive arithmetic. *Canadian Journal of Experimental Psychology*, 51, 74-81.
- Arbuthnott, K. D.**, & Campbell, J. I. D. (1996). Effects of operand order and problem repetition on error priming in cognitive arithmetic. *Canadian Journal of Experimental Psychology*, 50, 182-195.
- Campbell, J. I. D., & **Arbuthnott, K. D.** (1996). Inhibitory processes in sequential retrieval: evidence from variable-lag repetition priming. *Brain and Cognition*, 30, 59-80.
- Campbell, J. I. D., & **Tarling, D.** (1996). Retrieval processes in arithmetic production and verification. *Memory & Cognition*, 24, 156-172.
- Campbell, J. I. D. (1995). Mechanisms of simple addition and multiplication: A modified network-interference theory and simulation. *Mathematical Cognition*, 1, 121-164.
- Meagher, P. D.**, & Campbell, J. I. D. (1995). Effects of prime type and delay on multiplication priming: evidence for a dual-process model. *Quarterly Journal of Experimental Psychology*, 48a, 801-821.
- Campbell, J. I. D. (1994). Architectures for numerical cognition. *Cognition*, 53, 1-44.
- Campbell, J. I. D. (1994). Numerical cognition: evidence for hyperspecific, interactive operations. *Cahiers de Psychologie Cognitive*, 13, 297-320.
- Campbell, J.I.D. (1994). Locality, modularity, and numerical cognition. "Neuropsychological inference with an interactive brain", *Behavioral and Brain Sciences*, 17, 63-64.
- Graham, D.G., & Campbell, J. I. D. (1992). Network interference and number-fact retrieval: evidence from children's alphaplication. *Canadian Journal of Psychology*, 46, 65-91.
- Campbell, J. I. D. (1991). Conditions of error priming in number-fact retrieval. *Memory & Cognition*, 19, 197-209.
- Clark, J.M., & Campbell, J. I. D. (1991). Integrated versus modular theories of number skills and acalculia. *Brain and Cognition*, 17, 204-239.
- Campbell, J. I. D., & Charness, N. (1990). Age-related declines in working-memory skills: Evidence from a complex calculation task. *Developmental Psychology* 26, 879-888.
- Campbell, J. I. D., (1990). Retrieval inhibition and interference in cognitive arithmetic. *Canadian Journal of Psychology*, 44, 445-464.
- Campbell, J. I. D., & Clark, J.M. (1989). Time course of error-priming in number-fact retrieval: evidence for inhibitory and excitatory mechanisms. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 15, 920-929.
- Campbell, J. I. D., & Clark, J.M. (1988). An encoding-complex view of cognitive number processing: Comment on McCloskey, Sokol, and Goodman (1986). *Journal of Experimental Psychology: General*, 117, 204-214.

- Charness, N., & Campbell, J. I. D. (1988). Acquiring skill at mental calculation in adulthood: a task decomposition. *Journal of Experimental Psychology: General*, *117*, 115-129.
- Campbell, J. I. D. (1987). Network interference and mental multiplication. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *13*, 109-123.
- Campbell, J. I. D. (1987). Production, verification, and priming of multiplication facts. *Memory & Cognition*, *15*, 349-364.
- Campbell, J. I. D. (1987). The role of associative interference in learning and retrieving arithmetic facts. In J. Sloboda and D. Rogers (Eds.) *Cognitive Processes in Mathematics*, (pp. 107-122). Oxford, England: Oxford University Press.
- Campbell, J. I. D., & Graham, D.J. (1985). Mental multiplication skill: structure, process, and acquisition. *Canadian Journal of Psychology*, *39*, 338-366.
- Lederman, S.J., & Campbell, J.I. D. (1983). Tangible line graphs: an evaluation and some systematic strategies for exploration. *Journal of Visual Impairment and Blindness*, *77*, 108-112.
- Lederman, S. J., & Campbell, J. I. D. (1982). Tangible graphs for the blind. *Human Factors*, *24*, 85-100.
- Mewhort, D. J. K, Campbell, A. J., Marchetti, F. M., & Campbell, J. I. D. (1981). Identification, localization, and "iconic memory": an evaluation of the bar-probe task. *Memory & Cognition*, *9*, 50-67.

MANUSCRIPTS UNDER REVIEW:

- Metcalfe, A. W. S., & Campbell, J. I. D.** (under review). Adults' strategies for simple addition and multiplication: Verbal self-reports and the operand recognition paradigm.

CHAPTERS:

- Campbell, J.I.D. (2005). Introduction to *Handbook of Mathematical Cognition* (J. I. Campbell, Ed.). Psychology Press: New York.
- Campbell, J.I.D., & Epp, L. J. (2005). Architectures for arithmetic. In J. I. Campbell (Ed.), *Handbook of mathematical cognition*. Psychology Press: New York.
- Campbell, J.I.D. (2001). An encoding-complex approach to numerical skills. *Proceedings of the symposium on mathematical understanding*, F. Glanfield and C. Fonstad (Eds.), University of Saskatchewan, pp. 21-41.
- Campbell, J.I.D., & Oliphant, M. (1992). Representation and retrieval of arithmetic facts: A network-interference theory and simulation. In J.I.D. Campbell (Ed.), *The nature and origins of mathematical skills* (pp. 331-364). Amsterdam: Elsevier.
- Campbell, J.I.D. (1992). Introduction to *The nature and origins of mathematical skills* (J. Campbell, Ed.). North-Holland: Elsevier Science Publishers.

- Campbell, J.I.D., & Clark, J.M. (1992). Cognitive number processing: An encoding-complex perspective. In J.I.D. Campbell (Ed.), *The nature and origins of mathematical skills* (pp. 457-492). Amsterdam: Elsevier.
- Campbell, J.I.D. (1992). In defense of the encoding-complex approach: Reply to McCloskey, Macaruso, and Whetstone. In J.I.D. Campbell (Ed.), *The nature and origins of mathematical skills* (pp. 539-556). Amsterdam: Elsevier.
- Campbell, J.I.D. (1989). Cognitive modelling: a sampler. *Contemporary Psychology*, 34, 469-470.
- Siegler, R.S., & Campbell, J.I.D. (1990). Diagnosing individual differences in strategy choice procedures. In N. Fredriksen (Ed.), *Diagnostic monitoring of skill and knowledge acquisition* (pp. 113-139). Hillsdale: Erlbaum.
- Siegler, R.S., & Campbell, J.I.D. (1989). Individual differences in children's strategy choices. In P.L. Ackerman, R.J. Sternberg, and R. Glaser (Eds.) *Learning and Individual Differences*, (pp. 219-254). San Francisco, CA: Freeman.

INVITED LECTURES:

- Campbell, J. I. D. (2009). *How abstract is arithmetic?* Institute of Cognitive Neuroscience, University College London, UK, March.
- Campbell, J. I. D. (2009). *Pathways to number: From alexia to the laboratory.* Departments of Psychology, University de Marseille, Marseille, France (February), University de Toulouse, France (February), DeMontefort University, Leicester, UK (March).
- Campbell, J. I. D. (2009). *Doing a number on your brain: Can context reconfigure cognitive architecture?* Public lecture, University of Plymouth, February, Plymouth, UK, February.
- Campbell, J. I. D. (2008). *Retrieval induced "dyscalculia".* School of Psychology, University of Plymouth, Plymouth, UK, October.
- Campbell, J. I. D. (2008). *Subtraction by addition.* Department of Educational Psychology, Catholic University of Leuven, October, Leuven, Belgium, October.
- Campbell, J. I. D. (2008). *Strategy choice adaptivity underlies arithmetic flexibility.* Invited discussant, Symposium on Arithmetic Flexibility, International Congress of Psychology, Berlin, July.
- Campbell, J. I. D. & Metcalfe, A. W. S. (2007). *Naming Arabic Digits: Task Context and Redundant Gain.* European Society for Cognitive Psychology, September, Marseille, France.
- Campbell, J. I. D., & Metcalfe, A.W.S. (2007). *Number Encoding and Anticipated Arithmetic Operation.* Dept. of Psychology, Carleton University, Ottawa, February.
- Campbell, J. I. D. (2005). *Cognitive architecture and arithmetic rules.* Distinguished Lectures in Cognitive Science Series, Carleton University, Ottawa, January.

- Campbell, J. I. D. (2004). *More fun with statistical power*. Department of Psychology, University of Plymouth, England, March.
- Campbell, J. I. D. (2003). *Oddities of numerical cognition*. University of Leuven, Belgium, December.
- Campbell, J. I. D. (2003). *Oddities of Numerical Cognition*. Louvain la Nueve University, Belgium, November.
- Campbell, J. I. D. (2003). *A statistical power calculator for one degree of freedom*. Louvain la Nueve University, November.
- Campbell, J. I. D. (2003). *Oddities of numerical cognition*. Louvain la Nueve University, Belgium, November..
- Campbell, J. I. D. (2003). *Oddities of Numerical Cognition*. Cognitive Science Series, Carleton University, Ottawa, October.
- Campbell, J. I. D. (2002). *Cognitive architectures for numerical skills*. Banff Annual Seminar in Cognitive Science, Banff, May.
- Campbell, J. I. D. (2002). *Architectures for numerical cognition*. Distinguished Lectures in Cognitive Science Series, Carleton University, Ottawa, January.
- Campbell, (2001). *Cognitive architecture and numerical skills*. Canadian Mathematics Society, Saskatoon, June.
- Campbell, J.I.D. (1999). *Mechanisms of cognitive strategy choice*. Department of Psychology, University of Plymouth, England.
- Campbell, J.I.D. (1998). Invited discussant. Mathematical Cognition Conference, National Institute of Child Health and Human Development, Bethesda, MD.
- Campbell, J.I.D. (1997). *Number processing in Chinese-English bilinguals*. Invited colloquium, Department of Psychology, Catholic University of Louvain, Louvain la Neuve, Belgium..
- Campbell, J.I.D. (1997). *Number processing in Chinese-English bilinguals*. Invited colloquium, Department of Psychology, University of Aix-En-Provence..
- Campbell, J.I.D. (1996). *Interference and inhibition in semantic memory: The case of cognitive arithmetic*. Invited symposium paper. International Congress of Psychology, August, Montreal.
- Campbell, J.I.D. (1994). *Cognitive processes of simple arithmetic*. Interdisciplinary Workshop on Concepts of Number and Simple Arithmetic, International School for Advanced Studies, Trieste, Italy.
- Campbell, J.I.D. (1993). *The architecture of numerical cognition*. Invited address, 101st Annual Convention of the American Psychological Association, Toronto.
- Campbell, J.I.D., & Clark, J.M. (1992). *Components of Cognitive Number Skills: Modular or Integrated Mechanisms?* TENNET Neurosciences Conference, University of Quebec at Montreal, May, Montreal, PQ.
- Campbell, J.I.D. (1992). *Conceptual and Empirical Foundations for an Associative Theory of Numerical Skills*. University of Winnipeg, March.

RESEARCH GRANTS:

- Campbell, J. I. D., *Processes of Mathematical Cognition*, Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grant, 2010-2014, \$289,000.
- Campbell, J. I. D., *Processes of Mathematical Cognition*, NSERC Discovery Grant, 2005-2009, \$210,000.
- Campbell, J. I. D., *Cognitive Number Processing*, NSERC Research Grant, 2000-2004, \$200,000.
- Campbell, J. I. D., *Structures and Dynamics of Cognitive Number Skills*, NSERC, 1994-99, \$210,000.
- Campbell, J. I. D., *Computational Analysis of Cognitive Number Skills*, NSERC Equipment Grant, 1993, \$7,227.
- Campbell, J. I. D., *Cognitive Processes in Mathematics*. University of Saskatchewan internal NSERC Grant, 1990, \$4,865.
- Campbell, J. I. D., *Structures and Dynamics of Cognitive Number Skills*, NSERC Operating Grant, 1990-93, \$101,460.
- Campbell, J. I. D., *Computational Analysis of Cognitive Number Skills*, NSERC Equipment Grant, 1993, \$7,227
- Campbell, J. I. D., *Computational Analysis of Cognitive Number Skills*, NSERC Equipment Grant, 1990 \$8,746.
- Campbell, J. I. D., *Cognitive Number Skills*, U.W.O. Internal NSERC Grant, 1988, \$5,600.
- McGlone, J, Humphrey, D., & Campbell, J. I. D., *Multiplication Skills and Early Dementia*. University Hospital Foundation of London, 1988- 89, \$1,200.
- Campbell, J. I. D., *Cognitive Arithmetic*, NSERC Research Grant, 1987-1990, \$56,000.

THESES SUPERVISED:

In progress:

- Dan Christopher, B. A. Honours *Context dependent priming of number names*, 2009.
- Greg Krätzig, Ph.D. *Age-related differences in cognitive strategy choices for arithmetic*, 2009.
- Arron Metcalfe, Ph.D. *Modality and mental arithmetic*, 2009.
- Sean Sucher, B. A. Honours, *Retrieval efficiency in cognitive arithmetic*, 2009.

Completed:

- Heather Agnew, B. A. Honours, *Mediated Transfer in Simple Addition and Subtraction: A Test of the Revised Identical Elements Model*, Thesis accepted April, 2008.
- Nicole Alberts, B. A. Honours, *The Effect of Numerical Surface Form in Elementary Subtraction*, Thesis accepted April, 2008.

- J. Hrenyk, Honours B. A. *Mathematical Surface Form Effect: Evidence for Demand Characteristics?* Accepted 2006.
- N. Robert, Honours B. A. *Investigating Retrieval Induced Forgetting and Consistency in Multiplication.* Accepted 2006.
- T. Phenix, Ph.D. *Inhibitory Processes in Cognitive Arithmetic.* Accepted 2004.
- R. West, Honours, B.A. *Magnitude priming: Examining the semantic number line.* Accepted 2003.
- G. Buettner, Honours, B.A. *Reading-based Interference and the Effects of Surface Notation on Cognitive Arithmetic.* Thesis Accepted 2002.
- T. Phenix, M.A. *Number-Fact Memory.* Thesis Accepted 2002.
- S. Austin, Honours B.A. *The Validity of Adults' Self-Reported Strategy Choice for Simple Addition: Effects of Response Time Deadline.* Thesis accepted 2001.
- N. Doetzel, Honours B.A. *The effects of Numerical Format on Arithmetic Strategy Choice.* Thesis accepted 2001.
- V. Hernberg, Honours B.A. *Nonwords are Not Missed: Implications for Repetition Blindness.* Thesis accepted 2000.
- H. Wayman, Honours B.A. *Identical Elements Model of Cognitive Arithmetic: Extension to Simple Addition and Subtraction.* Thesis accepted 2000.
- S. Fuchs, Honours B.A. *Strategy Priming in Adults' Cognitive Arithmetic.* Thesis accepted 1999.
- J. Timm, Honours B.A. *Adults' Strategy Choices for Simple Addition: Effects of Retrieval Interference.* Thesis accepted 1999.
- K. Litke, Honours B.A. *Retrieval Dynamics in Simple Calculation.* Thesis accepted. 1996.
- K. Arbuthnott, Ph.D. *Error Minimization in Sequential Retrieval.* Thesis accepted. 1995.
- C. Kanz, Honours B.A. *Investigating the Limits of Modularity in Numerical Cognition.* Thesis accepted. 1995.
- H. Parker, Honours B.A. *A Paradox in Retrieval Priming.* Thesis accepted. 1993.
- S. Shinkewski, Honours B.A. *Awareness and Lexical Decision: Dissociation Without the Dissociation Paradigm.* Thesis accepted. 1993.
- D. Tarling, Honours B.A. *Does Arithmetic Verification Prime Arithmetic Production Errors?* Thesis accepted. 1993.
- A. Majer, Honours B.A., *Interference Effects of Mixing Multiplication and Addition Facts.* Thesis accepted. 1992.
- P. Meagher, M.A. *Automatic and Controlled Processes in Multiplication Priming.* Thesis accepted. 1992.

CONFERENCE PROCEEDINGS OR PRESENTATIONS (STUDENTS HIGHLIGHTED):

- Campbell, J. I. D., & Reynvoet, B. (2009). *Context dependent semantic priming of number naming.* Psychonomic Society, November, Boston, USA.
- Krätzig, G. P.** & Campbell, J. I. D. (2008). *Age-differences in strategy choice for computational estimation with and without feedback.* Psychonomic Society, November, Chicago, USA.

- A. W. S. Metcalfe**, & J. I. D. Campbell, 2008. *Operand recognition and self-reported solution strategies in basic arithmetic*. American Psychological Association, August, Boston.
- J. I. D. Campbell, 2008. *Addition by subtraction*. Canadian Society for Brain, Behaviour and Cognitive Science, June, London, Ont.
- N. Alberts**, J. I. D., Campbell, 2008. *Effects of numerical surface form in elementary subtraction*. 27th Banff Annual Seminar in Cognitive Science, May, Banff.
- G. P. Krätzig**, J. I. D. Campbell, 2008. *Strategy adaptivity in normal aging?* 27th Banff Annual Seminar in Cognitive Science, May, Banff.
- A. W. S. Metcalfe**, J. I. D. Campbell, 2008. *Operand recognition time and strategy choice for basic arithmetic*. 27th Banff Annual Seminar in Cognitive Science, May, Banff.
- G. P. Krätzig**, J. I. D. Campbell, 2008. *Performance feedback and strategy adaptivity in normal aging*. Canadian Society for Brain, Behaviour and Cognitive Science, June, London, Ont..
- A. W. S. Metcalfe**, J. I. D. Campbell, 2008. *The operand recognition paradigm and strategy choice for simple multiplication and addition*. Canadian Society for Brain, Behaviour and Cognitive Science, June, London, Ont.
- J. I. D. Campbell, **N. D. Robert**, 2007. *Reverse association in simple multiplication is task dependent*. Psychonomic Society, November, Long Beach.
- J. I. D. Campbell, & **A. W. S. Metcalfe**, 2007. *Naming Arabic Digits: Task Context and Redundant Gain*. European Society for Cognitive Psychology, September, Marseille, France.
- J. I. D. Campbell, **A. W. S. Metcalfe**, 2007. *Arabic Digit Naming Speed: Effects of Number Processing Context*. Canadian Society for Brain, Behaviour, and Cognitive Science, June, Victoria, BC.
- G. P. Krätzig**, J. I. D. Campbell, 2007. *Adaptive Strategy Choice in Computational Estimation: A Role for Feedback?* Canadian Society for Brain, Behaviour and Cognitive Science, June, Victoria, BC.
- A. W. S. Metcalfe**, J. I. D. Campbell, 2007. *Hearing the Difference: Auditory and Arabic Format and Performance on Basic Multiplication and Addition Problems*. Canadian Society for Brain, Behaviour and Cognitive Science, June, Victoria.
- A. W. S. Metcalfe**, J. I. D. Campbell, 2007. *Effects of Sequential vs. Simultaneous Presentation of Operands on Simple Arithmetic Performance*. Banff Annual Seminar in Cognitive Science, May, Banff.
- N. D. Robert**, J. I. D. Campbell, J. I. D., 2007. *Practice makes imperfect: Evidence for bidirectional inhibition in multiplication and factoring*. Banff Annual Seminar in Cognitive Science, Banff, Alberta.
- A. W. S. Metcalfe**, J. I. D. Campbell, 2006. *Dissociation of Verbal-Associative and Visual-Semantic Arithmetic*. Psychonomic Society, November, Houston.
- J. I. D. Campbell, & **N. Robert**, 2006. *Negative Transfer and Reverse Association for Multiplication*. Psychonomic Society, November, Houston.
- J. I. D. Campbell, & **N. Robert**, 2006. *Getting the Facts Backwards: No Reverse Association for Multiplication?* Canadian Society for Brain, Behaviour, and Cognitive Science, June, Saskatoon.

- A.W. S. Metcalfe**, & J. I. D. Campbell, 2006. *Addend Familiarity and Strategy Choice: Have we Math Somewhere Before?* Canadian Society for Brain, Behaviour, and Cognitive Science, June, Saskatoon.
- T. Phenix, J. I. D., & Campbell, 2006. *Retrieval-Induced Forgetting in Arithmetic is a Consequence of Retrieval-Specific Inhibition.* Canadian Society for Brain, Behaviour, and Cognitive Science, June, Saskatoon.
- J. I. D. Campbell, & **A.W. S. Metcalfe** (2005). *Numeral Format and Arithmetic Rules*, Psychonomics Society, November, Toronto.
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- Campbell, J.I.D., Thompson, V. A. (2003). *Power calculator for one degree of freedom*, Psychonomics Society, November, Kansas City.
- Campbell, J.I.D., Thompson, V. A. (2003). *Power calculator for one degree of freedom*, Canadian Society for Brain, Behaviour, and Cognitive Science, June, Hamilton.
- Phenix, T.**, & Campbell, J.I.D. (2003). *Effects of multiplication practice on the lure effect: Integrated structures model or retrieval induced forgetting?* Banff Annual Seminar in Cognitive Science, May, Banff.
- Phenix, T.**, & Campbell, J.I.D. (2003). *Lured from the integrated structures model by retrieval induced forgetting.* Canadian Society for Brain, Behaviour, and Cognitive Science, June, Hamilton.
- Campbell, J.I.D., & **Gunter, R.** (2002). *Calculation strategies and the repeated-operand effect: Cross cultural ties.* Canadian Society for Brain, Behaviour, and Cognitive Science, June, Vancouver.
- Phenix, T.**, & Campbell, J.I.D. (2002). *Fishing for lure effects: Is the integrated structures model for real?* Canadian Society for Brain, Behaviour, and Cognitive Science, June, Vancouver.
- Phenix, T.**, & Campbell, J.I.D. (2002). *The representation of simple multiplication knowledge: Evidence for the integrated structures model.* Banff Annual Seminar in Cognitive Science, May, Banff.
- Thompson, V.A., & Campbell, J.I.D. (2002). *A power struggle: between versus within-subjects designs in deductive reasoning research.* Canadian Society for Brain, Behaviour, and Cognitive Science, June, Vancouver.
- Campbell, J. I. D., **Fugelsang, J.**, & **Doetzel, N.** (2001). *Effects of number surface form on strategy choice for arithmetic.* Paper presented at the meetings of the Psychonomics Society, November, Orlando.
- Campbell, J. I. D. (2001). *Cognitive architecture and numerical skills.* Symposium on Mathematical Understanding, College of Education, U. of Saskatchewan, June.
- Thompson, V.A., **Gunter, R.W.**, **Streimer, C.L.**, & Campbell, J. I. D. (2001). *Syllogistic reasoning time: Disconfirming disconfirmation.* Poster presented at the meetings of the Psychonomics Society, November, Orlando.

- Campbell, J. I. D., **Fugelsang, J., & Doetzel, N.** (2001). *Modularity and the encoding specificity of calculation skills*. Canadian Society for Brain, Behaviour, and Cognitive Science, June, Quebec City.
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- Campbell, J. I. D., & **Hernberg, V.** (2000). *Repetition blindness for words but not non-words*. Canadian Society for Brain, Behaviour, and Cognitive Science, July, Cambridge, UK.
- Campbell, J. I. D. (2000). *Cognitive arithmetic and parity*. International Congress of Psychology, July, Stockholm.
- Phenix, T., & Campbell, J.I.D.** (2000). *Fan effects reveal position-specific numerical concepts*. Psychonomics Society Conference, November, New Orleans.
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- Xue, Q., & Campbell, J.I.D.** (1998). *Simple arithmetic by skilled adults: The myth of simple retrieval*. Psychonomics Society Conference, November, Dallas.
- Arbuthnott, K. D., & Campbell, J.I.D. (1998). *Cognitive inhibition in negative priming and negative error priming: A test of the working memory inhibition model*. Canadian Society for Brain, Behaviour, and Cognitive Science, June, Ottawa.
- Campbell, J.I.D., & **Viloria, B.** (1998). *Strategy reports and simple mental arithmetic*, Canadian Society for Brain, Behaviour, and Cognitive Science, June, Ottawa.
- Xue, Q., & Campbell, J.I.D.** (1998). *Examining cognitive arithmetic across different cultures*, Canadian Society for Brain, Behaviour, and Cognitive Science, June, Ottawa.
- Arbuthnott, K. D., & Campbell, J.I.D. (1997). *Does self-inhibition follow activation or production?* Psychonomics Society Conference, November, Philadelphia.
- Campbell, J. I. D., & **Ludtke, A.** (1997). *Division by multiplication*. Psychonomics Society Conference, November, Philadelphia.
- Campbell, J.I.D. (1996). *Cognitive division and multiplication: One memory network?* Psychonomics Society Conference, November, Chicago.
- Campbell, J.I.D. (1995). *Hyperspecific components of numerical skills: Evidence from Chinese-English bilinguals*. Psychonomic Society, November, Los Angeles, CA.
- Arbuthnott, K., & Campbell, J.I.D.** (1995). *Prevention of perseveration errors in sequential memory retrieval*. Canadian Society for Brain, Behaviour, and Cognitive Science, June, Halifax, NS.

- Campbell, J.I.D., & **Kanz, C.** (1995). *Numerical cognition in Chinese-English bilinguals*. Canadian Society for Brain, Behaviour, and Cognitive Science, June, Halifax, NS.
- Meagher, P., Thibodeau, M., & Campbell, J.I.D.** (1995). *Practice and the problem-size effect: Is 7×8 always more difficult than 2×3 ?* Canadian Society for Brain, Behaviour, and Cognitive Science, June, Halifax, NS.
- Campbell, J.I.D. (1994). *A modified dissociation paradigm for perception without awareness*. Psychonomic Society, November, St. Louis, MO.
- Campbell, J.I.D., & **Shinkewski, S.** (1994). *A few words about awareness*. Canadian Society for Brain, Behaviour, and Cognitive Sciences, June, Vancouver, BC.
- Arbuthnott, K. D., & Campbell, J.I.D.** (1994). *Error priming: Inhibitory and implicit processes in number-fact retrieval*. Canadian Society for Brain, Behaviour, and Cognitive Sciences, June, Vancouver, BC.
- Campbell, J.I.D., & **Tarling, D.** (1994). *Implicit memory and numerical cognition*. Canadian Society for Brain, Behaviour, and Cognitive Sciences, June, Vancouver, BC.
- Meagher, P. D., & Campbell, J.I.D.** (1993). *Automatic and controlled processes in multiplication priming*. Canadian Society for Brain, Behaviour, and Cognitive Sciences, July, Toronto, ON.
- Campbell, J.I.D., & **Arbuthnott, K.D.** (1993). *Inhibitory processes in associative memory*. Canadian Society for the Brain, Behaviour, and Cognitive Sciences, Toronto.
- Campbell, J.I.D. (1992). *Memory for Number Facts: A Model and Computer Simulation*. International Congress of Psychology, July, Brussels.
- Campbell, J.I.D. (1992). *A Network-Interference Simulation of Memory for Number Facts*. Canadian Society for the Brain, Behaviour, Cognitive Sciences, June, Quebec City, PQ.
- Campbell, J.I.D., & Meagher, P. (1991). *A Computer Simulation of Priming Effects in Simple Multiplication*. Psychonomic Society, November, San Francisco, CA.
- Campbell, J.I.D. (1991). *Number-Fact Retrieval: A Model and Computer Simulation*. Canadian Psychological Association, June, Calgary, AB.
- Campbell, J.I.D. (1990). *Error Priming in Cognitive Arithmetic: Effects of Number Format*. Psychonomic Society, November, New Orleans, LA.
- Campbell, J.I.D. (1990). *Specific versus Abstract Codes in Cognitive Number Processing*. Canadian Psychological Association, May, Ottawa, ON.
- Clark, J.M., & Campbell, J.I.D. (1990). *Inhibitory Mechanisms in Semantic Retrieval*. Canadian Psychological Association, May, Ottawa, ON.
- Campbell, J.I.D. & Clark, J.M. (1988). *Cognitive number processing and the encoding-complex hypothesis*. Canadian Psychology, 29, 118.
- Campbell, J.I.D. (1986). *A comparison of multiplication production and verification*. Canadian Psychological Association, Toronto.
- Campbell, J.I.D. (1985). *Associative interference in mental computation*. Annual Keele Cognition Seminar, University of Keele, Newcastle-upon-Tyne, UK..

- Campbell, J.I.D. (1984). *Go forth and multiply: The origins and dynamics of interference in mental computation*. Canadian Psychological Association, Ottawa.
- Campbell, J.I.D. & Charness, N. (1982). *Acquisition of skill: mental squaring*. Canadian Psychological Association, Montreal.
- Mewhort, D.J.K., Campbell, J.I.D. & Campbell, A.J. (1979). *Identification, localization and iconic memory*. Psychonomic Society, Phoenix.

RESEARCH APPLICATIONS:

The statistical power formulas described by Thompson and Campbell and (2005) have been developed into a general-purpose power calculator (power, sample size, and effect size) applicable to any ANOVA design and effect. I designed and programmed the *MorePower* calculator, which is available as freeware on my U. of Saskatchewan website. *MorePower* has been downloaded more than 1000 times.

<http://homepage.usask.ca/~jic956/work/MorePower.html>

UNDERGRADUATE UNIVERSITY COURSES TAUGHT 1990-PRESENT:

- PSY 233.3 - Statistics I
- PSY 234.3 - Statistics II
- PSY 353.3 - Advanced Cognitive Science: Attention and Perception
- PSY 355.3 - Advanced Cognitive Science: Memory, Thinking, and Problem Solving
- PSY 356.3 - Research in Cognitive Science: Independent Research Projects
- PSY 456.3 - Advanced Seminar in Cognitive Science
- PSY 472.6 - Honours Thesis Coordinator

GRADUATE UNIVERSITY COURSES TAUGHT 1990-PRESENT:

- PSY 890.3 - Advanced Seminar in Research Methods
- PSY 839.3 - Advanced Seminar in Perception and Cognitive Processes (Adaptive Theories of Cognition; Cognition and Consciousness; Computational Issues in Cognition; Cognitive Skills and Their Acquisition; Numerical Cognition).
- PSY 837.3 - Advanced Seminar in Human Memory

DEPARTMENTAL, COLLEGE, AND UNIVERSITY COMMITTEES:

Department of Psychology

Graduate Program Coordinator (Cognition and Neurosciences) 1992-97; 1999-2003, 2007-08

Chair, Psychology Research Ethics Committee, 2007-2008

Member, Research Ethics Committee, 2006-07
Member, Graduate Committee, 2006-2008
Member, Undergraduate Committee, 2004-2007
Systematic Program Review Coordinator, 2002-03
Faculty Association Representative, 1991-2006
Space Coordinator, 1998-2001
Member, Executive Committee, 1991-1997, 1999-2003
Member, Search Subcommittees, 1997-98, 1998-99; 2001-2003
Renovations Coordinator, 1997-98
Colloquium Series Coordinator, 1995-98
Member, Salary Review, 1991-92, 1996-97, 2001-02, 2004

College of Arts and Science

Member, College Computer Committee, 1998-2002
Member, Research, Scholarly, and Artistic Work, 1992-1993

College of Graduate Studies and Research

Member, Social Sciences A Academic Committee 1991-96

University Committees

Member, Behavioural Research Ethics Board, 2007-
Member, University Council Committee on Statistics, 1990-91
Ad Hoc, Graduate Student Funding, Member, 1991-93