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References

- Allwood, C. M., & Montgomery, H. (1981). Knowledge and technique in statistical problem solving. *European Journal of Science Education*, *3*, 431-450.
- Allwood, C. M., & Montgomery, H. (1982). Detection of errors in statistical problem solving. *Scandinavian Journal of Psychology*, 23, 131-140.
- American Association for the Advancement of Science (Project 2061) (1993). *Benchmarks for science literacy*. New York, NY: Oxford University Press.
- American Statistical Association-National Council of Teachers of Mathematics (ASA-NCTM) (1994). *Teaching statistics: Guidelines for elementary through high-school.* (G. Burrill, Editor). Palo Alto, CA: Dale Seymour Publications.
- Anderson, C. W. & Loynes, R. M. (1987). *The teaching of practical statistics*. Chichester & New York: John Wiley.
- Anderson, S, Ball, S., Murphy, R., & Associates. (1975). *Encyclopedia of educational evaluation*. San Francisco: Jossey-Bass.
- Arter, J. & Spandel, V. (1992). Using portfolios of student work in instruction and assessment. *Educational Measurement: Issues and Practice*, 11(1), 36-44.
- Artzt, A. F. & Armour-Thomas, E. (1992). Development of a cognitive-metacognitive framework for protocol analysis of mathematical problem solving in small groups. *Cognition and Instruction*, *9*, 137-175.
- Artzt, A. F. (1994, February). Integrating writing and cooperative learning in the mathematics class. *Mathematics Teacher*, 87, 80-85.
- Australian Education Council. (1991). A national statement on mathematics for Australian schools. Canberra: Curriculum Corporation.
- Australian Education Council (1994a). A statement on studies of society and environment for Australian schools. Carlton, Vic.: Curriculum Corporation.
- Australian Education Council (1994b). *Studies of society and environment a curriculum profile for Australian schools.* Carlton, Vic.: Curriculum Corporation.
- Baker, E. L. (1990). Developing comprehensive assessments of higher order thinking. In G. Kulm (Ed.), *Assessing higher order thinking in mathematics* (pp. 7-20). Washington, DC: American Association for the Advancement of Science.
- Baker, E. L., Aschbacher, P. R., Niemi, D., & Sato, E. (1992). CRESST Performance assessment models: Assessing content area explanations. Los Angeles: CRESST.
- Baker, E. L., Freeman, M., & Clayton, S. (1991). Cognitively sensitive assessment of subject matter. In M. C. Wittrock & E. L. Baker (Eds.), *Testing and cognition*. New York: Prentice-Hall.
- Batanero, C., Godino, J. D. & Navarro-Pelayo, V. (1994). *Razonamiento combinatorio* [Combinatorial reasoning]. Madrid: Síntesis.

- Batanero, C., Navarro-Pelayo, V. & Godino, J. (In press). Effect of the implicit combinatorial model on combinatorial reasoning of secondary school students. *Educational Studies in Mathematics*.
- Begg, A. (1991). Assessment and constructivism. *New Zealand Mathematics Magazine*. 28(2), 14-20.
- Ben-Zvi, D., & Friedlander, A. (1996). Statistical thinking in a technological environment. In C. Batanero (Ed.), *Proceedings for the International Association for Statistical Education roundtable on research on the role of technology in teaching and learning statistics* (pp. 57-67). Spain: University of Granada.
- Bentz, H. J., & Borovcnik, M. G. (1988). *Empirical research on probability concepts*. University of Klagenfurt, Austria.
- Biggs, J. B., & Collis, K. F. (1982). *Evaluating the quality of learning: The SOLO taxonomy*. New York: Academic Press.
- Biggs, J. B., & Collis, K. F. (1991). Multimodal learning and the quality of intelligent behaviour. In H. A. H. Rowe (Ed.), *Intelligence: Reconceptualisation and measurement* (pp. 57-76). Hillsdale, NJ: Lawrence Erlbaum.
- Brandt, R. (1992). On performance assessment: A conversation with Grant Wiggins. *Educational Leadership*, 49(8), 35-37.
- Bransford, J., Hasselbring, T., Barron, B., Kulewicz, S., Littlefield, J., & Goin, L. (1989). Uses of macro-contexts to facilitate mathematical thinking. In R. I. Charles & E. A. Silver (Eds.), *The teaching and assessing of mathematical problem solving* (pp. 125-147). Reston, VA: National Council of Teachers of Mathematics.
- Bransford, J. & Vye, N. (1989). A perspective on cognitive research and its implications in instruction. In L. B. Resnick & L. E. Klopfer (Eds.), *Toward the thinking curriculum: Current cognitive research* (1989 Yearbook of the Association for Supervision and Curriculum Development). Alexandria, VA: ASCD.
- Bright, G. W., & Friel, S. N. (in press). Graphical representations: Helping students interpret data. To appear in S. P. Lajoie (Ed.), *Reflections on statistics: Agendas for learning, teaching, and assessment in K-12*. Hillsdale, NJ: Lawrence Erlbaum.
- Bright, G., & Hoeffner, K. (1993). Measurement, probability, statistics, and graphing. In D. T. Owens (Ed.), *Research Ideas for the Classroom: Middle Grades Mathematics* (pp. 78-98). New York: MacMillan Publishing Co.
- Carnevale, A. P., Gainer, L. J. & Meltzer, A. S. (1990). Workplace basics: The essential skills employers want. San Francisco: Jossey-Bass.
- Carpenter, T., & Lehrer, R. (in preparation). Learning mathematics with understanding. In E. Fennema & T. Romberg (Eds.), *Classrooms that Promote Understanding*.
- Case, R. (1985). *Intellectual development: Birth to adulthood*. New York: Academic Press.
- Castles, I. (1992). Surviving statistics: A user's guide to the basics. Canberra: Australian Bureau of Statistics.
- Charles, R., Lester, F., & O'Daffer, P. (1987). *How to evaluate progress in problem solving*. Reston, VA: National Council of Teachers of Mathematics.
- Clark, M. (1994). The effect of context on the teaching of statistics at first year university level. In L. Brunelli & G. Cicchitelli (Eds.), *IASE*, *Proceedings of the First Scientific Meeting* (pp. 105-113). Perugia, Italy: University of Perugia.
- Clayden, A. D., & Croft, M. R. (1989). *Statistical consultation Who's the expert*? Paper presented at the AI and Statistics Conference, Fort Lauderdale, Florida.

- Cobb, G. W. (1992) Teaching statistics. In L. Steen (Ed.), *Heeding the call for change:* Suggestions for curricular action. Washington, DC: The Mathematical Association of America.
- Cockcroft, W. (chair) (1982). Mathematics counts. London: Her Majesty's Stationery Office.
- Cohen, S., Chechile, R., Smith, G., Tsai, F., & Burns, G. (1994). A method for evaluating the effectiveness of educational software. *Behavior Research Methods, Instruments & Computers*. 26 (2), 236-241.
- Cohen, S., Smith, G. E., Chechile, R. A., Burns, G., & Tsai, F. (1996) Impediments to learning probability and statistics identified from an evaluation of instructional software. *Journal of Educational and Behavioral Statistics*. 21 (1), 35-54.
- Cohen, S., Smith, G., Chechile, R., & Cook, R., (1994) Designing software for conceptualizing statistics. In L. Brunelli & G. Cicchitelli (Eds.), *IASE: Proceedings of the First Scientific Meeting* (pp. 237-245). Perugia, Italy: University of Perugia.
- Collins, A., Brown, J. S., & Newman, S. E. (1989). Cognitive apprenticeship: Teaching the craft of reading, writing, and mathematics. In L. Resnick (Ed.), *Knowing, learning, and instruction: Essays in honor of Robert Glaser* (pp. 453-494). Hillsdale, NJ: Lawrence Erlbaum.
- COMAP, 1990. *Against all Odds: Inside statistics*. A publication of the Consortium for Mathematics and Its applications. New York: W. H. Freeman.
- Cooper, W. & Davies, J. (Eds.) (1990 to present). *Portfolio Assessment Clearinghouse Newsletter*. (Available from San Dieguito Union High School district, 710 Encinitas Blvd., Encinitas, CA 92024, 619-753-6491).
- Curcio, F. R. (1981). The effect of prior knowledge, reading and mathematics achievement, and sex on comprehending mathematical relationships expressed in graphs. (Final report to the National Institute of Education). Brooklyn, NY: St. Francis College. (ERIC Document Reproduction Service No. ED 210 185)
- Curcio, F. R. (1987). Comprehension of mathematical relationships expressed in graphs. *Journal for Research in Mathematics Education*, *18*, 382-393.
- Curcio, F. R. (1989). *Developing graph comprehension: Elementary and middle school activities*. Reston, VA: National Council of Teachers of Mathematics.
- Curcio, F. R. & Artzt, A. F. (in review). Students communicating in small groups: Making sense of data in graphical form. In M. Bartolini-Bussi, A. Sierpinska, & H. Steinbring (Eds.), *Language and communication in the mathematics classroom.*
- Dallal, G. E. (1990). Statistical computing packages: Dare we abandon their teaching to others? *The American Statistician*, *44*(4), 39-42.
- Dauphinee, T. L., Schau, C., & Stevens, J. J. (in press). Survey of Attitudes Toward Statistics: Factor structure and factorial invariance for females and males. *Structural Equation Modeling*.
- Davis, R. B., Maher, C. A., & Noddings, N. (1990). Constructivist views of the teaching and learning of mathematics. *Journal for Research in Mathematics Education*, Monograph 4. Reston, VA: National Council of Teachers of Mathematics.
- Decriminalise drug use: poll.(1992, September 26). *Hobart Mercury*, p. 3.
- Del Vecchio, A. M. (1994). A psychological model of statistics course completion. Unpublished doctoral dissertation, University of New Mexico, Albuquerque.
- Dossey, J. A., Mullis, I. V. S., & Jones, C. O. (1993). *Can students do mathematical problem solving?* Washington, DC: US Department of Education.
- Dubois, J. G. (1984). Une systematique des configurations combinatoires simples [A systematic for simple combinatorial configurations]. *Educational Studies in Mathematics*, 15, 37-57.

- Edwards, K. (1990). The interplay of affect and cognition in attitude formation and change. *Journal of Personality and Social Psychology*, *59*, 202-216.
- Elliott, G. D. & Starkings, S. A. (1994). *Project assessment criteria*. London, England: South Bank University.
- Engel, A., Varga, T. & Walser, W. (1976). *Hasard ou strategie?* [Chance or strategy?]. Paris: O.C.D.L.
- English, F. (1992). Deciding what to teach and test. Newbury Park, CA: Corwin Press.
- Ewing, T. (1994, January 6). Scientists urge guard against comet disaster. The Melbourne Age, 3.
- Fischbein, E. (1975). *The intuitive sources of probabilistic thinking in children*. Dordrecht, The Netherlands: Reidel.
- Fischbein, E. (1987). *Intuition in science and mathematics*. Dordrecht, The Netherlands: Reidel.
- Fischbein, E. & Gazit, A. (1988). The combinatorial solving capacity in children and adolescents. *Zentralblatt für Didaktitk der Mathematik*, 5, 193-198.
- Fischbein, E., Pampu, I. & Minzat, I.(1970). Effects of age and instruction on combinatorial ability in children. *The British Journal of Psychology*, 40 (3), 261-270.
- Fischbein, E., Pampu, I. & Minzat, I. (1975) The child's intuition of probability. Appendix II in Fischbein, E. *The intuitive sources of probabilistic thinking in children*. Dordrecht, The Netherlands: Reidel.
- Fong, G. T., Krantz, D. H., & Nisbett, R. E. (1986). The effects of statistical training on thinking about everyday problems. *Cognitive Psychology*, *18*, 253-292.
- Frid, S. D. (1992). Calculus students' sources of conviction. In *Conference Proceedings Mathematics Education Research Group of Australasia* (pp. 294-304). Australia: MERGA.
- Friel, S. N. & Bright, G. (1995). Assessing students' understanding of graphs: Instruments and instructional module. Chapel Hill, NC: UNC Mathematics and Science Education Network.
- Friel, S. N. & Corwin R. B. (1990). Implementing the Standards: The statistics standards in K-8 mathematics. *Arithmetic Teacher*, *38*(2), 35-39.
- Friel, S. N. & Joyner, J. (1997). *Teach-Stat for teachers: Professional development manual.* Palo Alto, CA: Dale Seymour Publications.
- Friel, S. N., Mokros, J. R., & Russell, S. J. (1992). *Statistics: Middles, means and in-betweens*. Palo Alto, CA: Dale Seymour Publications.
- Friel, S. N., Russell, S., & Mokros, J. R. (1990). *Used Numbers: Statistics: middles, means, and in-betweens*. Palo Alto, CA: Dale Seymour Publications.
- Frith, D. S., & MacIntosh, H. G. (1984). *A teacher's guide to assessment*. Cheltenham, UK: Stanley Thornes Publishers Ltd.
- Gal, I. (1993). Reaching out: Some issues and dilemmas in expanding statistics education. In L. Pereira-Mendoza (Ed.), *Introducing data-analysis in the schools: Who should teach it and how?* (pp. 189-203). Voorburg, The Netherlands: International Statistics Institute.
- Gal, I. (1994). Assessment of interpretive skills. Summary of Working Group at the Conference on Assessment Issues in Statistics Education, Philadelphia, Pennsylvania, September, 1994.
- Gal, I. (1995). Statistical tools and statistical literacy: The case of the average. *Teaching Statistics*, 17(3), 97-99.
- Gal, I. (in press). Assessing statistical knowledge as it relates to students' interpretation of data. In S. Lajoie (Ed.), *Reflections on statistics: Agendas for learning, teaching, and assessment in school contexts*. Hillsdale, NJ: Lawrence Erlbaum.
- Gal, I., & Baron, J. (1996). Understanding repeated simple choices. *Thinking and Reasoning*, 2(1), 1-18.

- Gal, I., & Ginsburg, L. (1994). The role of beliefs and attitudes in learning statistics: Toward an assessment framework. *Journal of Statistics Education* [Online], 2 (2).
- Galbraith, P (1993). Paradigms, problems and assessment: some ideological implications. In M. Niss (Ed.), *Investigations into assessment in mathematics education: an ICMI study* (pp.73–86). Dordrecht, The Netherlands: Kluwer.
- Garfield, J. B. (1991). Evaluating students understanding of statistics: Developing the Statistical Reasoning Assessment. In R. G. Underhill (Ed.), *Proceedings of the Thirteenth annual meeting of the Psychology in Mathematics Education group*. Vol. 2.
- Garfield, J. B. (1993). An authentic assessment of students' statistical knowledge. In N. L. Webb & A. F. Coxford (Eds.), *Assessment in the mathematics classroom* (pp. 187-196). Reston, VA: National Council of Teachers of Mathematics.
- Garfield, J. (1994). Beyond testing and grading: using assessment to improve students's learning. *Journal of Statistics Education*, [Online]2 (1).
- Garfield, J. (1995a). How students learn statistics. *International Statistical Review*. 63 (1), 25-34.
- Garfield, J. (1995b). Key ideas of Randomness and Uncertainty. Keynote speech at SciMath writing conference. Chaska, MN.
- Garfield, J. (1996). Assessing student learning in the context of evaluating a Chance Course. *Communications in Statistics: Theory and Methods*, 25 (11), 2863-2873.
- Garfield, J., & Ahlgren, A. (1988). Difficulties in learning basic concepts in probability and statistics: Implications for research. *Journal for Research in Mathematics Education*, 19, 44-63.
- Garofalo, J. & Lester, F. K. Jr. (1985). Metacognition, cognitive monitoring, and mathematical performance. *Journal for Research in Mathematics Education*, *16*, 163-176.
- Gigerenzer, G., Swijtink, Z., Daston, L., Beatty, J., & Kruger, L. (1989). *The empire of chance:* How probability changed science and everyday life. Cambridge: Cambridge University Press.
- Goodlad, J. (1984). A place called school. New York: McGraw Hill.
- Graham, A. (1987). *Statistical investigations in the secondary school*. Cambridge: Cambridge University Press.
- Graham, A. (1990). Statistical investigations—data handling to a purpose. *Teaching Statistics*, 12, 2, 58-60.
- Gravemeijer, K. (1994). Educational development and developmental research in mathematics education. *Journal for Research in Mathematics Education*, 25, 443-471.
- Green, D. R. (1981). *Probability concepts in school pupils aged 11-16 years*. Unpublished dissertation. Loughborough University, England.
- Green, D. R. (1983). A survey of probability concepts in 3000 students aged 11-16 years. In D. R. Grey, P. Holmes, V. Barnett, & G. M. Constable (Eds.), *Proceedings of the First International Conference on Teaching Statistics* (pp. 766-783). Sheffield, UK: Teaching Statistics Trust.
- Green, K. E. (1993, April). Affective, evaluative, and behavioral components of attitudes toward statistics. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.
- Green, K. E. (1994, April). The affective component of attitude in statistics instruction. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Greer, B., & Semrau, G. (1984). Investigating psychology students' conceptual problems in relation to learning statistics. *Bulletin of the British Psychological Society*, *37*, 123-5.

- Grimaldi, R. (1989). *Discrete and combinatorial mathematics*. *An applied introduction*. Reading, MA: Addison-Wesley.
- Gronlund, N. E. (1993). *How to make achievement tests and assessments* (5th Edition). New York: Allyn and Bacon.
- Guthrie, J. T., Weber, S., & Kimberly, N. (1993). Searching Documents: Cognitive processes and deficits in understanding graphs, tables, and illustrations. *Contemporary Educational Psychology*, 18, 186-221.
- Hacking, I. (1990). The taming of chance. Cambridge, England: Cambridge University Press.
- Hancock, C., Kaput, J. J., & Goldsmith, L. T. (1992). Authentic inquiry with data: Critical barriers to classroom implementation. *Educational Psychologist*, *27*, 337-364.
- Harnisch, D. L., Sato, T., Zheng, P., Yamagi, S., and Connell, M. (1994, April). *Concept mapping approach and its applications in instruction and assessment*. Paper presented at the meeting of the American Educational Research Association, New Orleans, LA.
- Hart, E. W. (1992). Discrete mathematics: An exciting and necessary addition to the secondary school curriculum. In M. J. Kenney and C. R. Hirsch (Eds.), *Discrete mathematics across the curriculum, K-12* (pp. 67-77), Reston, VA: National Council of Teachers of Mathematics.
- Hawkins, A. (1996). Myth-Conceptions. In C. Batanero (Ed.), *Proceedings for the International Association for Statistical Education roundtable on research on the role of technology in teaching and learning statistics* (pp. 11-24). Spain: University of Granada.
- Hawkins, A., Jolliffe, F. & Glickman, L. (1992). *Teaching statistical concepts*. London: Longman.
- Hawkins, A. S. & Kapadia, R. (1984). Children's conceptions of probability: A psychological and pedagogical review. *Educational Studies in Mathematics*. 15, 349-377.
- Heitele, D. (1975). An epistemological view on fundamental stochastic ideas. *Educational Studies in Mathematics*, 6, 187-205.
- Helgeson, S. L. (1993). *Assessment of science teaching and learning outcomes*. Monograph #6, March 1993. National Center for Science Teaching and Learning, Ohio State University.
- Herman, J. L., Aschbacher, P. R., & Winters, L. (1992). *A practical guide to alternative assessment*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Hibbard, M. (1992). Bringing authentic performance assessment to life with cooperative learning. *Cooperative Learning*, *13*, 30-32.
- Hillyer, J. (1979). Statistics at CEE. *Teaching Statistics* 1(2), 56-59.
- Holley, C. D., & Dansereau, D. F. (1984). *Spatial learning strategies: Techniques, applications, and related issues*. Orlando: Academic Press.
- Horton, P. B., McConney, A. A., Gallo, M., Woods, A. L., Senn, G. J., & Hamelin, D. (1993). An investigation of the effectiveness of concept mapping as an instructional tool. *Science Education*, 77, 95-111.
- Inhelder, B. & Piaget, J. (1955). *De la logique de l'enfant à la logique de l'adolescent*. [From the logic of child to the logic of adolescent]. Paris: Presses Universitaires de France.
- Inspiration [Computer software]. (1994). Portland, OR: Inspiration Software, Inc.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (1991). *Active learning: Cooperation in the college classroom*. Edina, MN: Interaction Book.
- Johnson, P. J., Goldsmith, T. E., & Teague, K. W. (1995). Similarity, structure, and knowledge: A representational approach to assessment. In P. D. Nichols, S. F. Chipman, & R. L. Brennan (Eds.), *Cognitively diagnostic assessment* (pp. 221-249). Hillsdale, NJ: Lawrence Erlbaum.

- Jolliffe, F. (1991). New approaches to statistics. In S. McAllister, & M. Speller (Eds.) *Proceedings, Mathematics in a Changing Culture Conference*, (pp. 1-8). Glasgow College, UK.
- Jolliffe, F. (1993). The preliminary stages of data analysis at the school level. In Introducing data analysis in the schools: who should teach it and how? In L. Pereira-Mendoza (Ed.), *Introducing data-analysis in the schools: Who should teach it and how?* (pp. 87-96). Voorburg, The Netherlands: International Statistics Institute.
- Jonassen, D. H., Beissner, K., & Yacci, M. (1993). *Structural knowledge: Techniques for representing, conveying, and acquiring structural knowledge*. Hillsdale, NJ: Lawrence Erlbaum.
- Kader, G. (1992). Implementing the NCTM Standards in probability and statistics in grades 9-12: Project STAT-LINC. Paper presented at the 1992 Winter Meeting of the American Statistical Association, Louisville, KT.
- Kader, G. & Perry, M. (1994). Learning statistics. *Mathematics teaching in the middle school*, 1(2), 130 136.
- Kahneman, D. (1991). Judgment and decision making: A personal view. *Psychological Science*, 2(3), 142-145.
- Kahneman, D. Slovic, P. & Tversky, A. (1982). *Judgement under uncertainty: Heuristics and biases*. Cambridge, England: Cambridge University Press.
- Kahneman, D. & Tversky, A. (1982). Variants of uncertainty. Cognition, 11, 143-157.
- Kapur, J. N. (1970). Combinatorial analysis and school mathematics. *Educational Studies in Mathematics*, *3*, 111-127.
- Kaput, J. J. (1992). Technology and mathematics education. In D. A. Grouws (Ed.), *Handbook for Research on Mathematics Teaching and Learning* (pp. 515-556). New York: Macmillan.
- Kelly, A.V. (1978). *Mixed-ability grouping: Theory and practice*. London, England: Harper & Row.
- Kimmel, M. L. (1992). Learning from industry: Using quality control techniques to monitor and motivate student progress. *The Statistics Teacher Network*, *31*, 1-4.
- Knight, P. (1992). How I use portfolios in mathematics. *Educational Leadership*, 49(8), 71-72.
- Konold, C. (1990). *ChancePlus: A computer based curriculum for probability and statistics*. Annual report to NSF. Scientific Reasoning Research Institute, University of Massachusetts, Amherst.
- Konold, C. (1991a). Informal conceptions of probability. *Cognition and Instruction*, 6 (1), 59-98.
- Konold, C. (1991b). Understanding students' beliefs about probability. In E. von Glaserfeld (Ed.), *Radical constructivism in mathematicseducation* (pp. 139-156). Netherlands: Kluwer.
- Konold, C. (1995). Issues in assessing conceptual understanding in probability and statistics. *Journal of Statistics Education* [Online], *3*(1).
- Konold, C., Pollatsek, A., Well, A., Lohmeier, J., & Lipson, A. (1993). Inconsistencies in students' reasoning about probability. *Journal for Research in Mathematics Education*, 24 (5), 392-414.
- Kroll, D. L., Masingila, J. O., & Mau, S. T. (1992). Grading cooperative problem solving. *Mathematics Teacher*, 85, 619-627.
- Lajoie, S. P. (1995). A framework for authentic assessment in mathematics. In T. A. Romberg (Ed.), *Reform in School mathematics and authentic assessment* (pp. 19-37). New York: SUNY Press.

- Lajoie, S. P. (in preparation). Understanding of statistics. In E. Fennema & T. Romberg (Eds.), *Classrooms that promote understanding*.
- Lajoie, S. P., & Derry, S. J. (Eds.). (1993). *Computers as cognitive tools*. Hillsdale, NJ: Lawrence Erlbaum.
- Lajoie, S. P., Jacobs, V. R., & Lavigne, N. C. (1995). Empowering children in the use of statistics. *Journal of Mathematical Behavior*, 14 (4), 401-425.
- Lajoie, S. P., & Lesgold, A. (1992). Dynamic assessment of proficiency for solving procedural knowledge tasks. *Educational Psychologist*, 27 (3), 365-384.
- Landwehr, J. M., Swift, J., & Watkins, A. E. (1987). *Exploring surveys and information from samples*. Palo Alto, CA: Dale Seymour Pub.
- Landwehr, J. M., & Watkins, A. E. (1987). *Exploring data*. Palo Alto, CA: Dale Seymour publications.
- Lane, S. (1993). The conceptual framework for the development of a mathematics performance assessment instrument. *Educational Measurement: Issues and Practice*, 12(2), 16-23.
- Lappan, G., Fey J., Fitzgerald W., Friel S., & Phillips E. (1996). *Data about us.* (Connected Mathematics Project). Palo Alto, CA: Dale Seymour Publications.
- Lavigne, N. C. (1994). *Authentic assessment: A library of exemplars for enhancing statistics performance*. Unpublished Master's Thesis. McGill University, Montreal, Quebec, Canada.
- Lavigne, N. C., & Lajoie, S. P. (1996). Communicating performance standards to students through technology. *The Mathematics Teacher*, 89 (1), 66-69.
- Leder, G. (1992). Assessment: as we sow we reap. In M.Stephens & J. Izard, J. (Eds.), *Reshaping assessment practices: Assessment in the mathematical sciences under challenge* (pp. 114–124). Hawthorn VIC: Australian Council for Educational Research. (Proceedings from the First National Conference on Assessment in the Mathematical Sciences, Geelong, November 1991).
- Lehrer, R., & Romberg, T. (1996). Exploring children's data modeling. *Cognition and Instruction*, 14 (1), 69-108.
- Lesh, R., Hoover, M., & Kelly, A.E. (1992). Equity, Assessment, and Thinking Mathematically: Principles for the Design of Model-Eliciting Activities. In I. Wirszup & R. Streit (Eds.), *Proceedings of the UCSMP International Conference on Mathematics Education:*Developments in School Mathematics Education Around the World: Volume 3 (pp. 104-129). Reston, VA: National Council of Teachers of Mathematics.
- Lesh, R., & Lamon, S. J. (1992) (Eds.) Assessment of authentic performance in school mathematics. Washington, DC: American Association for the Advancement of Science.
- Linn, R. L., Baker, E. L., & Dunbar, S. B. (1991). Complex, performance-based assessment: Expectations and validation criteria. *Educational Researcher*, 20 (8), 15-21.
- Lovie, P. (1978). Teaching intuitive statistics II: Aiding the estimation of standard deviations. *International Journal of Mathematical Education in Science and Technology*, 9, 213-219.
- Lovie, P., & Lovie, A. D. (1976). Teaching intuitive statistics I: Estimating means and variances. *International Journal of Mathematical Education in Science and Technology*, 7, 29-40.
- Macdonald-Ross, M. (1977). How numbers are shown. AV Communication Review, 25, 359-409.
- Margolin, B. H. (1988). Statistical aspects of using biologic markers. *Statistical Science*, *3*, 351-357.
- Marshall, S. (1995). Schemas in problem solving. Cambridge: Cambridge University Press.
- Mathematical Sciences Education Board (1993). *Measuring up: Prototypes for mathematics assessment*. Washington, DC: National Academy Press.

- Mathematical Sciences Education Board (MSEB) (1993). *Measuring what counts: A policy brief.* Washington, DC: National Academy Press.
- McGregor, M. (1993). Mathematical report writing what value? *Australian Mathematics Teacher*, 49(1), 31.
- McKnight, C. C. (1990). Critical evaluation of quantitative arguments. In G. Kulm (Ed.), *Assessing higher order thinking in mathematics* (pp. 169-185). Washington, DC: American Association for the Advancement of Science.
- McLeod, D. B. (1992). Research on affect in mathematics education: A reconceptualization. In D. A. Grouws (Ed.), *Handbook of Research on Mathematics Teaching and Learning*. (pp. 575-596). NY: Macmillan.
- Meece, J. L., Wigfield, A., & Eccles, J. S. (1990). Predictors of math anxiety and its influence on young adolescents' course enrollment intentions and performance in mathematics. *Journal of Educational Psychology*, 82, 60-70.
- Millar, M. G., & Millar, K. U. (1990). Attitude change as a function of attitude type and argument type. *Journal of Personality and Social Psychology*, *59*, 217-228.
- Miller, E. (1992). Tips on assessment and evaluation for cooperative work. *Cooperative Learning*, *13*, 48-49.
- Ministry of Education. (1992). *The New Zealand curriculum framework*. Wellington: Ministry of Education.
- Ministry of Education. (1993). *Mathematics in the New Zealand curriculum*. Wellington: Ministry of Education.
- Montgomery, H., & Allwood, C. M. (1978a). On the subjective representation of statistical problems. *Scandinavian Journal of Educational Research*, 22, 102-127.
- Montgomery, H., & Allwood, C. M. (1978b). Subjective confidence in the correctness of statistical problem solutions. *Goteborg Psychological Reports*, 8(1).
- Moore, D. S. (1990). Uncertainty. In L. A. Steen (Ed.), *On the shoulders of giants: New approaches to numeracy* (pp. 95-137). Washington, DC: National Academy Press.
- Moore, D.S.(1992). Teaching statistics as a respectable subject. In F. & S. Gordon (Eds.), *Statistics for the twenty-first Century*. (pp. 14-25). Washington, DC: The Mathematical Association of America.
- Moore, D.S. (in press). New pedagogy and new content: The case of statistics. *International Statistical Review*.
- Morris, C. (1989). *Quantitative approaches in business studies*, 2nd edition. London: Pitman Publishers.
- National Council of Teachers of Mathematics. (1989). *Curriculum and evaluation standards for school mathematics*. Reston, VA: Author.
- National Council of Teachers of Mathematics. (1991). *Professional standards for teaching mathematics*. Reston, VA: Author.
- National Council for Teachers of Mathematics. (1995). *Assessment standards for school mathematics*. Reston, VA: Author.
- Naveh-Benjamin, M., Lin, Y., & McKeachie, W. J. (1995). Inferring students' cognitive structures and their development using the "Fill-in-the-Structure" (FITS) technique. In P. D. Nichols, S. F. Chipman, & R. L. Brennan (Eds.), *Cognitively diagnostic assessment* (pp. 279-304). Hillsdale, NJ: Lawrence Erlbaum.

- Nickerson, R. S. (1995). Can technology help teach for understanding? In D. N. Perkins, J. L. Schwartz, M. M. West, M. S. Wiske (Eds.), *Software goes to school: Teaching for understanding with new technologies* (pp. 7-22). NY: Oxford University Press.
- Nisbett, R.E., Krantz, D. H., Jepson, C. & Kunda, Z. (1983). The use of statistical heuristics in everyday inductive reasoning. *Psychological Review*. *90* (4), 339-363.
- Nitko, A. J., & Lane, S. (1991). Solving problems is not enough: Assessing and diagnosing the ways in which students organise statistical concepts. In D. Vere-Jones (Ed.), *Proceedings of the Third International Conference on Teaching Statistics*, *Volume 1: School and General Issues* (pp. 467-474). Voorburg, The Netherlands: International Statistical Institute.
- Northern Examinations and Assessment Board (1994). *Information technology syllabus*. Manchester, England: Author.
- Novak, J. D., & Gowin, D. B. (1984). *Learning how to learn*. New York: Cambridge University Press.
- Novak, J. D., & Musonda, D. (1991). A twelve year longitudinal study of science concept learning. *American Educational Research Journal*, 28, 117-153.
- Nunez, R. (1993). Approaching infinity: A view from cognitive psychology. *Proceedings of the Fifteenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.*, Volume 1, 105-111.
- Ohio Math Project (1992). Introduction to algebra and statistics. Dayton, OH: EPA Associates.
- Pandey, T. (1990). Power items and the alignment of curriculum and assessment. In G. Kulm (Ed.), *Assessing higher order thinking in mathematics* (pp. 39-51). Washington, DC: American Association for the Advancement of Science.
- Paulu, N. (1994). *Improving math and science assessment: Report on the secretary's third conference on mathematics and science education*. Washington, DC: US Department of Education.
- Pereira-Mendoza, L. & Mellor, J. (1991). Students' concepts of bar graphs: Some preliminary findings. In D. Vere-Jones (Ed.), *Proceedings of the Third International Conference on Teaching Statistics. Volume 1: School and general issues* (pp. 150-157). Voorburg, The Netherlands: International Statistical Institute.
- Perkins, D. N., Crismond, D., Simmons, R., & Unger, C. (1995). Inside Understanding. In D. N. Perkins, J. L.Schwartz, M. M. West, M. S. Wiske (Eds.), *Software goes to school: teaching for understanding with new technologies* (pp.70-87). New York: Oxford University Press.
- Pesci, A. (1994). Tree graphs: visual aids in causal compound experiments. In J. P.Ponte & J. F. Matos (Eds.). *Proceedings of the Psychology of Mathematics Education Annual Meeting, Volume 4* (pp. 25-32). Lisbon: University of Lisbon.
- Phillips, B., & Jones, P., (1991). Devloping statistical concepts for engineering students using computer packages. In D. Vere-Jones (Ed.), *Proceedings of the Third International Conference on Teaching Statistics*, *Volume 2: Teaching statistics beyond school level* (pp. 255-260). Voorburg, The Netherlands: International Statistical Institute.
- Piaget, J. (1987). *Possibility and Necessity*. Vol. 2: The role of necessity in cognitive development. (Originally published in French in 1983) Translated from the French by H. Feider.
- Piaget, J. & Inhelder, B. (1951). *La génese de l'idée d' hasard chez l'enfant*. [The origin of the idea of chance in children]. París: Presses Universitaire de France.
- Piaget, J., & Inhelder, B. (1975). *The origin of the idea of chance in children*. London: Routledge & Kegan Paul.

- Pinker, S. (1990). A theory of graph comprehension. In R. Freedle (Ed.), *Artificial intelligence* and the future of testing (pp. 73-126). Hillsdale, NJ: Lawrence Erlbaum.
- Pollatsek, A., Lima, S., & Well, A. D. (1981). Concept or computation: Students' understanding of the mean. *Educational Studies in Mathematics*, 12, 191-204.
- Polya, G. (1945). How to solve it. Garden City, NY: Doubleday.
- Popham, W. J. (1990). Modern measurement: A practitioner's guide. London: Prentice Hall.
- Pretorius, T. B., & Norman, A. M. (1992). Psychometric data on the Statistics Anxiety Scale for a sample of South African students. *Educational and Psychological Measurement*, 52, 933-937.
- Pulaski, M. A. (1980). Understanding Piaget. New York: Harper & Row.
- Rachlin, S. (1992). Hawaii Algebra: A curriculum research and development model. In T. Cooper (Ed.), *From numeracy to algebra: The proceedings of the second mathematics teaching and learning conference*, (pp. 34-49). Brisbane, Australia: QUT Centre for Mathematics and Science Education.
- Resnick, L. B. (1987). *Education and learning to think*. Washington, DC: National Academy Press.
- Resnick, L. B. (1988). Treating mathematics as an ill-structured discipline. In R. Charles & E. Silver (Eds.), *The teaching and assessing of mathematical problem solving: Multiple research perspectives*, (pp. 32-60). Reston, VA: National Council of Teachers of Mathematics.
- Resnick, L. B. & Klopfer, L. E. (1989). Toward the thinking curriculum: An overview. In L. B. Resnick & L. E. Klopfer (Eds.), *Toward the thinking curriculum: Current cognitive research* (1989 Yearbook of the Association for Supervision and Curriculum Development). Alexandria, VA: ASCD.
- Roberts, D. M., & Reese, C. M. (1987). A comparison of two scales measuring attitudes towards statistics. *Educational and Psychological Measurement*, 47, 759-764.
- Roberts, D. M., & Saxe, J. E. (1982). Validity of a statistics attitude survey: A follow-up study. *Educational and Psychological Measurement*, 42, 907-912.
- Romberg, T. (1989). Evaluation: A coat of many colors. In D. Robitaille (Ed.), *Evaluation and assessment in mathematics education* (pp. 3-17). Paris: UNESCO.
- Romberg, T. A. (1993). How one comes to know: models and theories of the learning of mathematics. In M. Niss (Ed.,) *Investigations into assessment in mathematics education: An ICMI study* (pp. 97–111). Dordrecht, The Netherlands: Kluwer.
- Romberg, T. A. Allison, J., Clarke, B., Clarke, D., & Spence, M. (Nov., 1991). *School Mathematics Expectations: A comparison of curricular documents of eight countries with the NCTM Standards of the US* Paper prepared for the New Standards Project.
- Romberg, T. A., Zarinnia, E. A. & Collis, K. F. (1991). A new world view of assessment in mathematics. In G. Kulm (Ed.), *Assessing higher rder thinking in mathematics* (pp. 21-38). Washington: American Association for the Advancements of Sciences.
- Rosebery, A. S., & Rubin, A. (1989). Reasoning under uncertainty: Developing statistical reasoning. *Journal of Mathematical Behavior*, 8, 205-219.
- Rubin, A., Bruce, B., & Tenney, Y. (1991). Learning about sampling: Trouble at the core of statistics. In D. Vere-Jones (Ed.), *Proceedings of the Third International Conference on Teaching Statistics. Volume 1: School and general issues* (pp. 314-319). Voorburg: International Statistical Institute.
- Rubin, A. & Rosebery, A. (1990). Teacher's misunderstandings in statistical reasoning: Evidence from a field test of innovative materials. In A. Hawkins (Ed.) *Training teachers to teach statistics*. Voorburg, The Netherlands: International Statistical Institute.

- Rubin, A., Rosebery, A. S., & Bruce, B. (1988). *ELASTIC and reasoning under uncertainty:* Final report. Cambridge, MA: Bolt Beranek & Newman.
- Ruiz-Primo, M. A., & Shavelso, R. J. (1996). Problems and issues in the use of concept maps in science assessment. *Journal of Research in Science Teaching*, 33, 569-600.
- Russell, S. J., & Corwin, R. (1989a). *Used Numbers: Real data in the classroom*. Palo Alto, CA: Dale Seymour Publications.
- Russell, S. J. & Corwin, R. (1989b). *Statistics: The shape of the data*. Palo Alto, CA: Dale Seymour Publications.
- Salomon, G., Perkins, D. N., & Globerson, T. (1991). Partners in cognition: Extending human intelligence with intelligent technologies. *Educational Researcher*, 20, 10-16.
- SCANS (1992). *Learning a living: a blueprint for high performance*. Secretary's Commission on Achieving Necessary Skills, US Department of Labor. Washington, DC: US Government Printing Office.
- Schau, C., Dauphinee, T., & Del Vecchio, A. (1992, April). The development of the Survey of Attitudes Toward Statistics. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.
- Schau, C., Stevens, J., Dauphinee, T. L., & Del Vecchio, A. (1995). The development and validation of the Survey of Attitudes Toward Statistics. *Educational and Psychological Measurement*, 55, 868-875.
- Scheaffer, R. L. (1988). Statistics in the schools: The past, present and future of the quantitative literacy project. *Proceedings of the American Statistical Association from the Section on Statistical Education* (pp. 71-78). Washington, DC: American Statistical Association.
- Schifter, D. & Fosnot, C. (1992). *Reconstructing mathematics education: Stories of teachers meeting the challenge of reform*. New York: Teachers College Press.
- Schifter, D. & Simon, M. (1992). Assessing teachers' development of a constructivist view of mathematics learning. *Teaching & Teacher Education*, 8(2), 187-197.
- Schoenfeld. A. H. (1985). Mathematical problem solving. Orlando, FL: Academic Press.
- Schoenfeld, A. H. (1987). What's all the fuss about metacognition? In A. H. Schoenfeld (Ed.), *Cognitive science and mathematics education* (pp. 189- 215). Hillsdale, NJ: Lawrence Erlbaum.
- Schoenfeld, A. H. (1992). Learning to think mathematically: Problem solving, metacognition, and sense making in mathematics. In D. A. Grouws (Ed.), *Handbook of Research on Mathematics Teaching and Learning* (pp. 334-370). New York: Macmillan.
- Schwartz, J. L. (1989). Intellectual mirrors; A step in the direction of making schools into knowledge-making places. *Harvard Educational Review*, 59 (1), 51-61.
- Shaughnessy, J. M. (1992). Research on probability and statistics: Reflections and directions. In D.A. Grouws (Ed.) *Handbook of research on mathematics teaching and learning*, (pp. 465-494). New York: Macmillan.
- Shavelson, R. J. & Baxter, G. (1992). What we've learned about assessing hands-on science. *Educational Leadership*, 49(8), 20-25.
- Silver, E. A. (1987). Foundations of cognitive theory and research for mathematics problem solving instruction. In A. H. Schoenfeld (Ed.), *Cognitive science and mathematics education* (pp. 33-60). Hillsdale, NJ: Lawrence Erlbaum.
- Skemp, R. R. (1979). *Intelligence, learning and action*. Chichester, UK: Wiley.
- Skemp, R. R. (1987). The psychology of learning mathematics. Hillsdale, NJ: Lawrence Erlbaum.

- Smith, J. T. & Griffin, M. P. (1991). The use of video feedback in training statistical consultants. In D. Vere-Jones (Ed.), *Proceedings of the Third International Conference on Teaching Statistics*, *Volume 2* (pp. 461-468). Voorburg, The Netherlands: International Statistical Institute.
- Smith, J., diSessa, A., & Roschelle, J. (1993). Misconceptions reconceived: A constructivist analysis of knowledge in transition. *Journal of the Learning Sciences*, 3(2), 115-163.
- Stenmark, J. K. (1989). Assessment alternatives in mathematics: an overview of assessment techniques that promote learning. Berkeley CA: EQUALS and the Californian Mathematics Council Campaign for Mathematics.
- Stenmark, J. K. (1991). *Mathematics assessment: Myths, models good questions and practical suggestions*. Reston VA: National Council of Teachers of Mathematics.
- Stiggins, R. J. (1987). Design and development of performance assessments. *Educational Measurement: Issues and Practice*, 6 (3), 33-42.
- Stodolsky, S. S. (1985). Telling math: Origins of math aversion and anxiety. *Educational Psychologist*. 20 (3), 123-133.
- Stone, A., & Russell, S. J. (1992). *Counting ourselves and our family*. Palo Alto, CA: Dale Seymour Publications.
- Surber, J. R. (1984). Mapping as a testing and diagnostic device. In C. D. Holley & D. F. Dansereau (Eds.), *Spatial learning strategies: Techniques, applications, and related issues* (pp. 213-233). Orlando: Academic Press.
- Swets, J. A., Rubin, A., & Feurzeig, W. (1987) Cognition, computers, and statistics: software tools for curriculum design, Report No. 6447, Cambridge, MA: BBN, Inc.
- That's Life. (1993, July 21). Hobart Mercury, p. 17.
- Tobias, S. (1993). Overcoming math anxiety. New York: Norton.
- Travers, K., Stout, W., Swift, J., & Sextro, J. (1985). *Using statistics*. Menlo-Park, CA: Addison-Wesley.
- Tufte, E. R. (1983). The visual display of quantitative information. Chesire, CT: Graphics Press.
- Tversky, A. & Kahneman, D. (1971). Belief in the law of small numbers. *Psychological Bulletin*, 2, 105-110.
- Tversky, A. & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, *185*, 1124-1131.
- Vallone, R. & Tversky, A. (1985). The hot hand in basketball: On the misperception of random sequences. *Psychological Review*, *90*, 293-315.
- Vermont Department of Education (1991). Looking beyond "the answer": The report of Vermont's mathematics portfolio assessment program. Montpelier, Vermont.
- von Glasersfeld, E. (1987). Learning as a constructive activity. In C. Janvier (Ed.), *Problems of representation in the teaching and learning of mathematics* (pp. 3-17). Hillsdale, NJ: Lawrence Erlbaum.
- von Glasersfeld, E. (1989). Constructivism in education. In T. Husén, T. N. Postlewaite (Eds.), *The international encyclopaedia of education: Research and studies*. Supplementary Volume (pp. 162–163). New York: Pergamon Press.
- Wainer, H. (1980). A test of graphicacy in children. Educational Researcher. 21(1), 14-23.
- Walklin, L. (1991). *Instructional Techniques & Practice*. Chelthenham, UK: Stanley Thornes Publishers Ltd.
- Wallman, K.K. (1993). Enhancing statistical literacy: Enriching our society. *Journal of the American Statistical Association*, 88, 1-8.

- Waters, L. K., Martelli, A., Zakrajsek, T., & Popovich, P. M. (1988). Attitudes toward statistics: An evaluation of multiple measures. *Educational and Psychological Measurement*, 48, 513-516.
- Watson, J. M. (1992). Fishy statistics. Teaching Statistics, 14 (3), 17-21.
- Watson, J. M. (1993). Introducing the language of probability through the media. In M. Stephens, A. Wayward, D. Clarke, & J. Izard (Eds.), *Communicating mathematics Perspectives from current research and classroom practice in Australia* (pp. 119-139). Melbourne: Australian Council for Educational Research.
- Watson, J. M., Collis, K. F., Callingham, R. A., & Moritz, J. B. (In press). A model for assessing higher order thinking in Statistics. *Educational Research and Evaluation*.
- Webb, N. L. (1992). Assessment of students' knowledge of mathematics: Steps toward a theory. In D. A. Grouws (Ed.), *Handbook of research on mathematics teaching and learning* (pp. 661-683). New York: Macmillan.
- Webb, N. L. (1993). Assessment for the mathematics classroom. In N. L. Webb & A. F. Coxford (Eds.), *Assessment in the Mathematics Classroom*, 1993 Yearbook (pp. 1-6). Reston, VA: National Council of Teachers of Mathematics.
- Webb, R., O'Meara, M, & Brown, B. (1993, January 28). Coles Myer accelerates retail purge. *Australian Financial Review*, p. 1.
- Weight guidelines too lenient: study. (1995, February 10). Hobart Mercury, p. 17.
- Wild, C. J. (1994). Embracing the "wider view" of statistics. *The American Statistician*, 48, 163-171.
- Wild, C. J. (1995). Continuous improvement of teaching: A case study in a large statistics course. *International Statistical Review*, *63*, 49-68.
- Wild, C. J., Triggs, C.M., & Pfannkuch, M. (1994). Assessment on a budget: Using traditional methods imaginitively. Technical Report STAT9411 (Revised 1995), Department of Statistics, University of Auckland.
- Wiliam, D. (1994). Assessing authentic tasks: alternatives to mark schemes. *Nordic Studies in Mathematics Education* 2(1), 48–68.
- Wise, S. L. (1985). The development and validation of a scale measuring attitudes towards statistics. *Educational and Psychological Measurement*, 45, 401-405.
- Woehlke, P. L. (1991, April). An examination of the factor structure of Wise's Attitudes Toward Statistics scale. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Zessoules, R. & Gardner, H. (1991). Authentic assessment: Beyond the buzzword and into the classroom. In V. Perrone (Ed.), *Expanding student assessment*. Alexandria, VA: Association for Supervision and Curriculum Development.