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Problem Solving: An Annotated Bibliography

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PROBLEM SOLVING: AN ANNOTATED BIBLIOGRAPHY

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In 1997, California Western School of Law began a concerted effort to implement its mission "to *graduate* creative problem solvers committed to the improvement of our legal system and society."[1] As part of that effort, I began to compile a bibliography of materials on problem solving to assist both the faculty in its research, and the library in collection development.

The bibliography covers English-language monographs and books (both academic in nature and from the popular press) on problem solving in general from a variety of disciplines such as psychology, education, and the management sciences. It also includes monographs, books, and journal articles about problem solving in legal education and legal practice. It does not include journal articles from disciplines outside of law, nor materials on particular types of problem solving within law, such as negotiation, mediation, and ADR. The date of coverage is through early 1998.

I have briefly annotated each entry. When possible, I have included a quote from the work which I feel gives a sense of its emphasis and flavor.

The bibliography is a work in progress. **It will be updated regularly through the California Western School of Law Library's web page found at http://www.cwsl.edu/library.**

I. PROBLEM SOLVING: GENERAL MONOGRAPHS

ACKOFF, Russell L. The Art of Problem Solving: Accompanied by Ackoff's Fables. New York, NY: Wiley, 1978.

Aimed at the lay reader, Ackoff's real-life examples all lead to a moral about problem solving: "Problem solving is what I have been trying to do all my adult life . . . [a]nd now, in my 'late period', I find myself preoccupied with the art of problem solving, keeping both philosophy and science ever at my side." (p. ix)

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* The author is a Professor and Director of the Library at California Western School of Law. I wish to thank Amy Dicks, of the CWSL library staff, for her assistance in preparing this bibliography.

1. California Western School of Law, *The California Western Mission*, CAL. W. SCH. L. CATALOGUE 2 (1997) (emphasis added).

ADAMS, James L. The Care and Feeding of Ideas: A Guide to Encouraging Creativity. Reading, MA: Addison-Wesley Pub. Co., 1986.

Meant as a self-teaching tool, this book principally deals with change, with an emphasis on problem solving. It includes mini-exercises to reinforce specific techniques the author feels are of great value in managing creativity and change.

ADAMS, James L. Conceptual Blockbusting: A Guide to Better Ideas. 3rd ed. Reading, MA: Addison-Wesley Pub. Co., 1986.

Conceptual Blockbusting focuses on conceptualization, not verbal and analytical skills, while emphasizing creativity.

AMSLER, Mark, ed. Creativity and the Imagination: Case Studies from the Classical Age to the Twentieth Century. Newark, NJ: University of Delaware Press, 1987. (Studies in science and culture, v. 3)

Amsler presents three real-life case studies involving problem solving: one in physics, one in philosophy, and one in painting.

BARKER, Alan. Creativity for Managers. London, Eng.: The Industrial Society, 1995.

Aimed at managers, this work is a "quick read" which focuses on the need for creativity as an essential management skill. "Creativity is less about solving problems than about finding them." (p. 41)

BARROWS, Howard S. How to Design a Problem-Based Curriculum for the Preclinical Years. New York, NY: Springer, 1985. (Springer series on medical education, vol. 8)

While the focus of this work is on medical education, the introduction includes a general discussion of the objectives of problem-based learning.

BEAN, John C. Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom. San Francisco, CA: Jossey-Bass, 1996.

Part 2 of this work is devoted to designing problem-based writing assignments that promote critical thinking.

BEREITER, Carl & Marlene SCARDAMALIA. Surpassing Ourselves: An Inquiry into the Nature and Implications of Expertise. Chicago, IL: Open Court, 1993.

Expertise is a process of progressive problem solving during which a person continually rethinks and redefines his/her work. The authors discuss how one grows from being a novice in an area to being an expert.

BERGER, Dale E., Kathy PEZDEK and William P. BANKS, eds. Applications of Cognitive Psychology: Problem Solving, Education, and Computing. Hillsdale, NJ: Lawrence Erlbaum Assoc., 1987.

Part 2 of this work concentrates on the teaching of thinking and problem solving. Of particular interest is Chapter 8, *Teaching Productive Problem Solving and Attitudes,* by Kenneth Pfeiffer, Gregory Feinberg, and Steven Gelber, which emphasizes the importance of how problem solving is taught as compared to what is being taught.

BIGGS, John B., ed. Teaching for Learning: the View from Cognitive Psychology. Hawthorne, Aus.: Australian Council for Educational Research, 1991.

Teaching for Learning provides a methodology for applying the results from various research studies on the learning process to the teaching of problem solving, with a particular emphasis on students' perspectives on the learning process.

BORCK, Leslie E. and Stephen B. FAWCETT. Learning, Counseling and Problem-Solving Skills. New York, NY: Haworth Press, 1982.

This work contains a series of problem solving exercises meant to teach this skill to counselors and their assistants. It includes an instruction manual.

BOUD, David and Grahame I. FELETTI, eds. The Challenge of Problem-Based Learning. 2nd ed. London, Eng.: Kogan Page, 1997.

The authors of the included essays explore the strength and weaknesses of problem-based learning, with particular emphasis on how it might be applied to professional education. While most of the authors are sympathetic to problem-based learning, they do address the subject critically and examine many views on the techniques used. Chapter 23, *Applying Problem-Based Learning To Practical Legal Training,* by Keith Winsor, discusses the use of problem-based learning in practical legal training at the College of Law, New South Wales.

BRANSFORD, John D. and Harry S. STEIN. The IDEAL Problem Solver: A Guide for Improving Thinking, Learning and Creativity. 2nd ed. New York, NY: W.H. Freeman & Co., 1993.

Bransford and Stein present a model for improving problem solving skills. The work includes problems and exercises (with answers) to help the readers improve their problem solving skills.

BRANSFORD, John D., Robert D. SHERWOOD and Tom STURDEVANT. "Teaching Thinking and Problem Solving." Teaching Thinking Skills: Theory and Practice. Eds. Joan Boykoff Baron and Robert J. Sternberg. New York, NY: W.H. Freeman & Co., 1987. 162-181.

The authors describe the ideal problem solver and then discuss the problem of teaching thinking and problem solving. They also explain how to evaluate programs which teach such skills.

BRIDGES, Edwin M. and Philip HALLINGER. Problem-based Learning for Administrators. Eugene, OR: ERIC Clearinghouse On Educational Management, University of Oregon, 1992.

"Problem-based learning" is an educational approach in which students working in small groups take responsibility for solving problems. The authors show how this approach was used in a training program for prospective school principals.

BRIGHTMAN, Harvey J. Problem Solving: A Logical and Creative Approach. Atlanta, GA: Business Publishing Division, College of Business Administration, Georgia State University, 1980.

Problem Solving is intended as an aid for "training practicing managers to develop systematic and creative approaches to solving the problems they face." (p. vii)

BROWN, Stephen I. and Marion I. WALTER. The Art of Problem Posing. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Assoc., 1990.

Defining the correct problem to be solved is of paramount importance in any problem solving model. This work focuses on problem posing in mathematics, but the strategies employed are applicable to diverse problem situations. The authors assume the reader has completed high school mathematics.

CARPENTER, Susan L. and W.J.D. KENNEDY. Managing Public Disputes: A Practical Guide to Handling Conflict and Reaching Agreements. San Francisco, CA: Jossey-Bass, 1988.

Managing Public Disputes is intended to enable decision makers involved in public disputes to solve problems without mediation.

COUGER, J. Daniel. Creative Problem Solving and Opportunity Finding. Hinsdale, IL: Boyd & Fraser, 1995. (Decision making and operations management series)

This textbook discusses creative problem solving methodology in business and management.

COVEY, Stephen R. The Seven Habits of Highly Effective People: Restoring the Character Ethic. New York, NY: Simon & Schuster, 1990.

Covey's highly popular book concentrates on improving personal effectiveness, with an emphasis on ethical, people-oriented conduct. Problem solving is seen as an opportunity to arrive at mutually beneficial, mutually satisfying solutions (win/win principle).

DAVIS, Gary A. Psychology of Problem Solving: Theory and Practice. New York, NY: Basic Books, 1973.

This review of basic research done on problem solving through 1972 is slanted toward the psychologist.

DOLAN, Daniel T. and James WILLIAMSON. Teaching Problem-Solving Strategies. Menlo Park, CA: Addison-Wesley Pub. Co., 1983.

Although the problem solving activities included in this book are aimed at junior-high school math students, they may be helpful in developing useful exercises for any age group.

FISHER, Roger and William URY. Getting to Yes: Negotiating Agreement Without Giving In. 2nd ed. New York, NY: Penguin Books, 1991.

Getting to Yes is an often-cited popular work for the lay reader on how to satisfactorily address problems through negotiation.

FLOOD, Robert L. and Michael C. JACKSON. Creative Problem Solving: Total Systems Intervention. New York, NY: Wiley, 1991.

Total Systems Intervention ("TSI") is a technique which seeks to "choose an appropriate methodology for tackling the problem situation as it is perceived, but always to recognise that other possible perceptions of that problem situation are possible." (p. xi) It uses case studies geared toward management, but the technique has application to social and political problems.

FLOOD, Robert L. Solving Problem Solving: A Potent Force for Effective Management. New York, NY: Wiley, 1995.

The authors use the TSI ("Total Systems Intervention") technique in case studies from a variety of disciplines and jurisdictions. Solving Problem Solving is aimed at managers in organizations and their consultants.

FLOWER, Linda. Problem-Solving Strategies for Writing. 1st ed. New York, NY: Harcourt Brace Jovanovich, 1981.

This work is a basic textbook on how to write about problems and their solutions.

FOX, William M. Effective Group Problem Solving: How to Broaden Participation, Improve Decision Making, and Increase Commitment to Action. San Francisco, CA: Jossey-Bass, 1987.

Fox emphasizes group problem solving as an effective management technique for a work group, committee or volunteer group. He presents a process known as Improved Nominal Group Technique ("INGT") which employs rules and procedures to minimize the problems associated with group procedures.

GAGNÉ, Robert M. The Conditions of Learning and Theory of Instruction. 4th ed. New York, NY: Holt, Rinehart and Winston, 1985.
Chapter 9, *Problem Solving*, is of particular interest. Gagné describes problem solving as a process that yields new learning through the application of previously-learned rules.

GAGNÉ, Robert M. "Problem Solving." Categories of Human Learning. Ed. Arthur W. Melton. New York, NY: Academic Press, 1964. 293-317.
Problem Solving is a detailed examination of the author's theory of the problem solving process. It is accompanied by comments by Tracy S. Kendler, *Learning and Problem Solving: Comments on Professor Gagné's Paper.* (p. 318-323)

GICK, Mary L. and Keith J. HOLYOAK. "Analogical Problem Solving." Issues in Cognitive Modeling: A Reader. Eds. A.M. Aitkenhead and J.M. Slack. London, Eng.: Lawrence Erlbaum Assoc., 1985. 279-306.
This study describes the author's investigation of the use of analogy as a guide to solving ill-defined problems.

GILHOOLY, K.J., ed. Human and Machine Problem Solving. New York, NY: Plenum, 1989.
Starting with the premise that problem solving is a form of information processing, the editor compares and contrasts, in complimentary chapters, problem solving by humans and problem solving by machines (artificial intelligence).

GRAY, Barbara. Collaborating: Finding Common Ground for Multiparty Problems. San Francisco, CA: Jossey-Bass, 1989.
Gray presents collaboration as a problem solving device in multiparty disputes.

HARE, A. Paul. Creativity in Small Groups. Beverly Hills, CA: Sage, 1982.
Hare discusses how small groups can work together for maximum creativity. The author believes "the steps in the creative process are essentially the same as the steps in ordinary problem solving. The difference lies in the degree of originality of the product." (p. 11)

HARRISON, Allen F. Styles of Thinking: Strategies for Asking Questions, Making Decisions, and Solving Problems. Garden City, NY: Anchor Press/Doubleday, 1982.
Intended as a guide to understanding your own style of thinking and to introduce a number of theories for augmenting and expanding that style, Harrison presents the reader with new strategies for problem solving.

HAYES, John R. The Complete Problem Solver. 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Assoc., 1989.

The Complete Problem Solver is intended as a text for a course in general problem solving skills. "Teaching problem solving skills is a bit like coaching: the instructor needs to watch the students in action to be sure that they are performing the skills in the right way." (p. viii)

HODNETT, Edward. The Art of Problem Solving: How to Improve Your Methods. New York, NY: Harper, 1955.

Intended for the general reader, this self-help book provides suggestions on how to solve problems in all areas of one's life.

HOGARTH, Robin M. Judgement and Choice: The Psychology of Decision. 2nd ed. New York, NY: John Wiley & Sons, 1987.

Hogarth's goal is to teach the reader better decision making by emphasizing the unstructured, natural way individuals make judgments and choices. Chapter 9, *Problem Structuring and Decision Aids*, is of particular interest.

HOLYOAK, Keith J. "Problem Solving." Thinking: An Invitation to Cognitive Science, v. 3. 2nd ed. Eds. Daniel N. Osherson and Edward E. Smith. Cambridge, MA: M.I.T. Press, 1990. 267-296.

Holyoak discusses the nature of problem solving and the theoretical issues the topic raises for cognitive science.

JACKSON, Keith F. The Art of Solving Problems. New York, NY: St. Martin's Press, 1975.

The Art of Solving Problems centers its discussion on five stages of problem solving: (1) formulating the problem; (2) interpreting the problem; (3) constructing courses of action; (4) decision making; and (5) implementation.

JONES, Beau Fly, Claudette M. RASMUSSEN and Mary C. MOFFITT. Real-Life Problem Solving: A Collaborative Approach to Interdisciplinary Learning. 1st ed. Washington, D.C.: American Psychological Association, 1997.

While the focus is on primary and secondary education, the authors include a general introduction to problem-based learning.

KAUFMAN, Roger. Identifying and Solving Problems: A Systems Approach. 1st ed. La Jolla, CA: University Assoc., 1976.

Intended for the general reader, this is a how-to approach on solving life's problems.

KRANTZ, Steven G. Techniques of Problem Solving. Providence, RI: American Mathematical Society, 1997.

Using mostly mathematical examples, Krantz presents a methodology for analytical thinking, discussing the basic principles of problem solving, both mathematical and non-mathematical.

LAMB, David. Discovery, Creativity and Problem-Solving. Brookfield, VT: Avebury, 1991.

This book is a philosophical inquiry into creativity and discovery with an emphasis on a rational account of the process. Chapter 4, *Discovery as a Mode of Problem-Solving*, emphasizes discovery in science, with some information on computer simulation of the problem solving process. The work contains an interesting section on solution *generators* vs. solution *restrictors*.

LEICHTMAN, Harry M. Helping Work Environments Work. Washington, D.C.: CWLA Press, 1996.

While this book is geared to social service agency work, Chapter 8, *The Notion of a Problem and its Management*, contains an analysis of what "problems" are.

LEIGH, Andrew. Decisions, Decisions!: A Practical Management Guide to Problem Solving and Decision Making. Hampshire, Eng.: Gower, 1983.

Aimed at middle managers as a practical aid to enhancing the decision making process, Chapter 1 discusses a variety of different frameworks representing the problem solving process. The book includes checklists and strategies suggestions.

LURIIA, Aleksandr R. and Lubov S. TSVETKOVA. The Neuropsychological Analysis of Problem Solving. Orlando, FL: Paul M. Deutsch Press, 1990. (Classic Soviet Psychology Series)

Translated from a Russian work originally written in the 1960s, this is a very technical discussion of the neuropsychological underpinnings of problem solving.

MAIER, Norman R.F. Problem Solving and Creativity in Individuals and Groups. Belmont, CA: Brooks/Cole Pub. Co., 1970.

Maier analyzes a variety of laboratory studies in problem solving.

MAIER, Norman R.F. Problem Solving Discussions and Conferences: Leadership Methods and Skills. New York, NY: McGraw-Hill, 1963.

The author discusses the skills necessary to provide effective leadership in group problem solving.

MARSHALL, Sandra P. Schemas in Problem Solving. New York, NY: Cambridge University Press, 1995.

"Schema," a means by which similar experiences are assimilated and brought together to be remembered, play an important role in problem solving.

MATTAINI, Mark A. and Bruce A. THYER, eds. Finding Solutions to Social Problems: Behavioral Strategies for Change. Washington, D.C.: American Psychological Association, 1996.

The editors have included essays by behavioral analysts exploring solutions to some important social problems that have a critical impact on human life. Solutions involve practical application of the general principles of the science of behavior to areas such as sexual coercion, child maltreatment, education, crime, and drug abuse.

MAYER, Richard E. Thinking, Problem Solving, Cognition. 2nd ed. New York, NY: W.H. Freeman, 1992.

Mayer's goal is to introduce the reader to the cognition aspects of cognitive psychology. He includes a variety of problem solving activities. Of particular interest is Chapter 12, *Creativity Training: Thinking as a Learnable Skill.*

NADLER, Gerald and Shozo HIBINO. Breakthrough Thinking. 2nd ed. Rocklin, CA: Prima Publishing, 1994.

Intended as a self-help book, Breakthrough Thinking presents a method of problem solving involving seven basic principles of successful solution finding.

NATHANSON, Leslie, Francis L. ULSCHAK and Peter G. GILLAN. Small Group Problem Solving: An Aid to Organizational Effectiveness. Reading, MA: Addison-Wesley, 1981.

The authors set up a logical path to solve problems in group settings, stressing an active stance toward the process.

NEWELL, Allen and Herbert A. SIMON. Human Problem Solving. Englewood Cliffs, NJ: Prentice-Hall, 1972.

Human Problem Solving is an often-cited early work in the study of problem solving. The authors develop a theory of problem solving in knowledge-lean task domains (those that do not require previous knowledge to solve a problem).

NICKERSON, Raymond S., David N. PERKINS, and Edward E. SMITH. The Teaching of Thinking. Hillsdale, NJ: Lawrence Erlbaum Assoc., 1985.

Chapter 4, *Problem Solving, Creativity and Metacognition,* is a review of the research on problem solving and the teaching of problem solving skills.

PRUITT, Dean G. and Peter J. CARNEVALE. Negotiation in a Social Conflict. Pacific Grove, CA: Brooks/Cole Pub. Co., 1993. (Mapping Social Psychology Series)

This work is an introduction to the social psychological literature on negotiation and mediation as a means of resolving social conflict. Problem solving is one of the key strategies in negotiation and mediation. Chapter 7, *The Dual Concern Model and the Determinants of Problem Solving*, discusses problem solving's applicability in negotiation when there are dual concerns: concern for one's own outcome, and concern for the outcome of the other party.

ROTH, William, James RYDER and Frank VOEHL. Problem Solving for Results. Delray Beach, FL: St. Lucie Press, 1996.

With a focus on problem solving in the workplace, the authors discuss how to reward problem solving and influence attitudes toward problem solving. They present tools and techniques for increasing the effectiveness of problem solving efforts. One particular model, Quality Journey Problem Solving Process, is covered in detail.

ROTHMAN, Jay. Resolving Identity-Based Conflict in Nations, Organizations, and Communities. 1st ed. San Francisco, CA: Jossey-Bass, 1997. (Jossey-Bass Conflict Resolution Series)

Rothman integrates problem solving techniques into the resolution of public problems.

RUBINSTEIN, Moshe F. and Iris R. FIRSTENBERG. Patterns of Problem Solving. 2nd ed. Englewood Cliffs, NJ: Prentice-Hall, 1995.

Intended as a textbook for classes in problem solving, Patterns of Problem Solving presents various models for problem solving, with attention paid to the interplay of cultural values and human values. It "attempts to provide the reader with tools and concepts that are most productive in problem solving . . . ." (p. xiii) Problems for the user to solve are included.

RUSSO, J. Edward and Paul J.H. SCHOEMAKER. Decision Traps: The Ten Barriers to Brilliant Decision-Making and How to Overcome Them. New York, NY: Simon & Schuster, 1989.

The authors provide the lay reader with systematic coaching on how to make decisions, using good decision makers as models.

SANDERSON, Michael. Successful Problem Management. New York, NY: Wiley, 1979.

Using the building-block approach, Sanderson provides managers with a methodology/technique for promptly detecting and solving problems.

SCHOENNAUER, Alfred W.W. Problem Finding and Problem Solving. Chicago, IL: Nelson-Hall, 1981.

This manual on the techniques of problem solving, beginning with the step of problem finding, is presented from a management viewpoint.

SCHÖN, Donald A. Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions. 1st ed. San Francisco, CA: Jossey-Bass, 1987.

The author proposes that "professional education should be redesigned to combine the teaching of applied science with coaching in the artistry of reflection-in-action." (p. xii) Reflection-in-action is the skilled practice of thinking about what you are doing while you are doing it. It stresses learning by doing in such a manner that the doer can go beyond the stateable rule to new ways of framing problems in order to reach a resolution. Much of the book describes the use of this technique in the performing and visual arts, but the concluding section turns to the use of this technique in the professions.

SCHÖN, Donald A. The Reflective Practitioner: How Professionals Think in Action. New York, NY: BasicBooks, 1983.

Schön inquires into the epistemology of professional practice, addressing the question, "What is the kind of knowing in which competent practitioners engage?" (p. viii) He postulates that practitioners in most professions have a capacity for reflection in their intuitive knowledge that allows them to solve problems that arise in the practice of their profession. While he uses examples from professions other than law, his analysis could be applied to the legal profession.

SCHÖN, Donald A., ed. The Reflective Turn: Case Studies in and on Educational Practice. New York, NY: Teachers College Press, Teachers College, Columbia University, 1991.

This is a collection of essays describing practice situations exemplifying Schön's theory of reflective practice in the professional setting. Chapter 7, *Recipes and Reflective Learning: "What Would Prevent You From Saying It That Way?"* by Robert W. Putnam, analyzes the changing use of "recipes," i.e., prescribed phrases, during various stages of the learning process.

SIMON, Herbert A. "Information-Processing Theory of Human Problem Solving." Issues in Cognitive Modeling: A Reader. Eds. A.M. Aitkenhead and J.M. Slack. London, Eng.: Lawrence Erlbaum Assoc., 1985. 253-278.

Simon presents an overview of the general theory of problem solving derived from research during the past twenty years. He examines research that has been done to formulate the theory, and some of the methodological issues that have to be faced in that research.

SINNOTT, Jan D., ed. Everyday Problem Solving: Theory and Applications. New York, NY: Praeger, 1989.

The editor provides the reader with access to parts of the everyday problem solving literature not normally encountered. Included are discussions of key everyday problem solving areas, emphasizing the psychological and educational perspectives. Chapter 11, *Interpreting Discrepant Narratives: Hermeneutics and Adult Cognition*, by Bonnie Leadbeater and Deanna Kuhn, is particularly intriguing.

STERNBERG, Robert J. and Peter A. FRENSCH, eds. Complex Problem Solving: Principles and Mechanisms. Hillsdale, NJ: Lawrence Erlbaum Assoc., 1991.

Sternberg and Frensch present a comprehensive overview of the then-current research on problem solving. They include discussion of the practical application of such research. Of particular interest is Chapter 7, *Do Lawyers Reason Differently from Psychologists?: A Comparative Design for Studying Expertise*, by Eric Amsel, Rosanna Langer and Lynn Loutzehniser.

STERNBERG, Robert J. and Janet E. DAVIDSON, eds. The Nature of Insight. Cambridge, MA: MIT Press, 1995.

The contributions selected by the editors represent diverse points of view on the phenomenology of insight. Of particular interest are Chapter 2, *Insight and Problem Solving*, by Roger L. Dominowski and Pamela Dallob; and Chapter 5, *Prolegomena to Theories of Insight in Problem Solving: A Taxonomy of Problems*, by Robert W. Weisberg.

STERNBERG, Robert J. Thinking and Problem Solving. 2nd ed. San Diego, CA: Academic Press, 1994.

Aimed at the cognitive scientist, this collection of articles covers a wide range of topics related to thinking and problem solving. Of particular interest are: Chapter 7, *Problem Solving*, by Earl Hunt; and Chapter 13, *The Teaching of Thinking and Problem Solving*, by Raymond S. Nickerson.

STICE, James E., ed. Developing Critical Thinking and Problem-Solving Abilities. San Francisco, CA: Jossey-Bass, 1987. (New Directions for Teaching and Learning; no. 30)

The editor has included articles with various authors' perspectives on how to teach problem solving and critical thinking skills.

STONEWATER, Jerry K. "Strategies for Problem Solving." Fostering Critical Thinking. Ed. R.E. Young. San Francisco, CA: Jossey-Bass, 1980. (New Directions for Teaching and Learning, no. 3) 33-58.

Stonewater describes four approaches to teaching problem solving. He then uses various elements of the approaches to devise his own model for successful teaching of problem solving.

TUMA, D.T. and R. REIF, eds. Problem Solving and Education: Issues in Teaching and Research. Hillsdale, NJ: Lawrence Erlbaum Assoc., 1980.

Tuma and Rief present detailed descriptions of then-current research projects in the nature and teaching of problem solving.

ULSCHAK, Francis L. "Finishing Unfinished Business: Creative Problem Solving." 1979 Handbook for Group Facilitators. Ed. John E. Jones and J. William Pfeiffer. La Jolla, CA: University Assoc., 1979. 154-173.

Ulschak's article attempts to provide an understanding of how problem solving is facilitated or blocked in both individuals and groups. He then goes on to describe various problem solving tools.

VANGUNDY, Arthur B. Creative Problem Solving: A Guide for Trainers and Management. New York: Quorum Books, 1987.

Meant as a textbook, Creative Problem Solving focuses on dealing with ill-structured problems, using the Osborn-Parnes Creative Problem Solving ("CPS") model. The author believes "you are born with certain attributes that can affect your ability to deal with problems. However, there also are certain problem solving skills that you acquire throughout your life." (p. 1)

VANGUNDY, Arthur B. Techniques of Structured Problem Solving. 2nd ed. New York: Van Nostrand Reinhold Co., 1988.

This work is a guide to over 100 techniques that can be used to facilitate the creative problem solving process. The techniques are not prescriptive but meant to be used as a flexible set of activities. The author includes a general problem solving model and guidelines for selecting and using the techniques. He also describes the use of the techniques to resolve a variety of ill-structured problems.

VANLEHN, Kurt. "Problem Solving and Cognitive Skills Acquisition." Foundations of Cognitive Science. Ed. Michael I. Posner. Cambridge, MA: MIT Press, 1990. 527-579.

Using an overview of research in the field, the author does not attempt to provide a coherent theory of problem solving, but rather describes the ingredients necessary for developing such a theory.

VOSS, James F., et al. "Problem-Solving Skill in the Social Sciences." The Psychology of Learning and Motivation. Ed. Gordon H. Bower. New York, NY: Academic Press, 1983. (Advances in Research and Theory, v. 17) 165-213.

The authors concentrate on problem solving in political science, particularly on problems related to the Soviet Union. The article includes a flow chart on problem solving techniques.

WHIMBEY, Arthur and Jack LOCHHEAD. Beyond Problem Solving and Comprehension: An Exploration of Quantitative Reasoning. Philadelphia, PA: Franklin Institute Press, 1984.

The authors explore the use of quantitative reasoning (i.e., mathematical) skills in technical disciplines.

WHIMBEY, Arthur and Jack LOCHHEAD. Problem Solving and Comprehension. 5th ed. Hillsdale, NJ: Lawrence Erlbaum Assoc., 1991.

This self-help textbook on increasing problem solving ability contains a variety of exercises and tests.

WILKERSON, LuAnn and Wim H. GIJSELAERS, eds. Bringing Problem-Based Learning to Higher Education: Theory and Practice. San Francisco, CA: Jossey-Bass, 1996. (New Direction for Teaching and Learning, no. 68)

"This volume describes the growth of PBL from early days in medical schools to current uses in a variety of fields." (Introductory materials) The editors, believing problem-based learning to be a standard teaching method, have collected a number of short papers related to this methodology.

II. PROBLEM SOLVING IN THE LEGAL PROFESSION: MONOGRAPHS

American Bar Association Task Force on Law Schools and the Profession: Narrowing the Gap. Legal Education and Professional Development: An Educational Continuum. Chicago, IL: American Bar Association, 1992.

Known as the *MacCrate Report*, this report lists problem solving as one of the fundamental lawyering skills. It goes on to identify five underlying skills in problem solving: "identifying and diagnosing a problem, generating alternative solutions and strategies, developing a plan of action, implementing the plan, and keeping the planning process open to new information and ideas." (p. 142)

AMSEL, Eric, Rosanna LANGER and Lynn LOUTZENHISER. "Do Lawyers Reason Differently from Psychologists? A Comparative Design for Studying Expertise." Complex Problem Solving: Principles and Mechanisms. Eds. Robert Sternberg and Peter Frensch. Hillsdale, NJ: Lawrence Erlbaum Assoc., 1991. 223-250.

The authors begin with the premise that lawyers are experts in solving complex problems within their area of expertise, as are psychologists.

They then examine the question of whether the education and experience of lawyers leads them to solve the same problem differently than experts in other professions. That is, is there a uniquely legal style of reasoning and problem solving?

Association of American Law Schools Committee on Teaching Methods. "Report of the Committee on Teaching Methods, 1966: The Problem Method, Survey and Appraisal." Proceedings, Association of American Law Schools 1966 Annual Meeting, pt. 1. Washington, D.C.: American Association of Law Schools, 1966. 198-266.

The *Report* is an analysis of the results of an inquiry into the rise of the problem method (as opposed to the case-method) of instruction in American law schools in the mid-1960s. It defines the focus of the problem method as analysis of the problem(s) posed, not as an analysis of solutions already rendered.

BASTRESS, Robert M. and Joseph D. HARBAUGH. Interviewing, Counseling and Negotiating: Skills for Effective Representation. Boston, MA: Little, Brown, 1990.

The authors discuss several models, other than the adversarial model, which may be used to provide effective representation for a client.

BENNETT, Merit. Law and the Heart: A New Paradigm for Lawyer-Client Relationships. Sante Fe, NM: The Author, 1994.

Law and the Heart is a series of essays discussing the psychological framework underlying the interaction between lawyer and client. It reflects the author's philosophy that a lawyer must "expand . . . [his/her] awareness of the intrinsic laws of human relationship . . . by understanding the mind's habits and by re-introducing intuition through the feeling heart." (p. 3)

BINDER, David A., Paul BERGMAN and Susan C. PRICE. Lawyers as Counselors: A Client-Centered Approach. St. Paul, MN: West Pub. Co., 1991. (American Casebook Series)

This casebook is a practical guide to a client-centered approach to problem solving. "More than a set of techniques, the client-centered approach is an attitude of looking at problems from clients' perspectives, of seeing problems' diverse natures and of making clients true partners in the resolution of their problems." (p. xxi)

BROWN, Louis M. Lawyering Through Life: The Origin of Preventive Law. Littleton, CO: Rothman, 1986.

Lawyering Through Life is the autobiography of the lawyer who first used the term "preventive law" to describe his belief that a major concern of the lawyer should be to prevent legal problems for his clients.

COSTANZO, Margot. Problem Solving. London, Eng.: Cavendish Pub. Ltd., 1995. (Essential Legal Skills)

Costanzo's work is intended for Australian law students, but the methodology advocated for teaching problem solving skills is applicable to any course of legal studies. The author distinguishes between creative thinking ("search for new knowledge and new methodologies") and problem solving ("applying established professional knowledge and methodologies to solve a problem"). (p. 3)

FREUND, James C. Lawyering: A Realistic Approach to Legal Practice. New York, NY: Law Journal Seminars Press, 1979.

Chapter 2 addresses the lawyer as problem solver: which problems come to the lawyer, the reflective process for addressing these problems, and the application of analytical reasoning to non-legal problems.

GALANTER, Marc and Thomas PALAY. Tournament of Lawyers: The Transformation of the Big Law Firm. Chicago, IL: University of Chicago Press, 1991.

This history of the emergence of the big law firm documents the changes of the last 20 years, many of which the author finds disturbing. Chapter 6 presents a brief inquiry into the future shapes of law practice, mentioning a new emphasis on problem solving.

GUINIER, Lani, Michelle FINE and Jane BALIN. Becoming Gentlemen: Women, Law School, and Institutional Change. Boston, MA: Beacon Press, 1997.

The authors assume that lawyers are basically problem solvers. They then go on to address the question: "Are conventional teaching methods and assessment techniques predictive of the kinds of work, the kinds of relationships, the kinds of collaborative approaches to solving private and public problems that lawyers will need in the future?" (p. 5)

HALL, Lavinia, ed. Negotiation: Strategies for Mutual Gain. Newbury Park, CA: Sage Publications, 1993.

Based on the basic seminar of the Harvard Program on Negotiation at Harvard Law School, this work, while dealing mainly with conflict management, "is about breaking the paradigm of winning and losing and transforming negotiation into a search for improved solutions to problems." (p. viii) Of particular interest is Chapter 3, *Facilitated Collaborative Problem Solving and Process Management*, by David Strauss.

HARTJE, Jeffrey H. and Mark E. WILSON. Lawyers' Work: Counseling, Problem Solving, Advocacy and Conduct of Litigation. Seattle, WA: Butterworth, 1984.

Lawyers' Work is often cited by other works which discuss problem solving as a major component of the lawyer's work. Chapters 1 and 2 are of particular interest.

HAYDOCK, Roger S., et al. Lawyering: Practice and Planning. St. Paul, MN: West Pub. Co., 1995. (American Casebook Series)

This casebook concentrates on the skills listed in the ABA's *MacCrate Report*, including problem solving. It considers the many roles of the lawyer, among which are wise counselor, problem solver and technician.

KRONMAN, Anthony T. Lost Lawyer: Failing Ideals of the Legal Profession. Cambridge, MA: Belknap Press of Harvard University Press, 1993.

An intriguing look at what this lawyer feels is the lost ideal of the lawyer: the lawyer-statesman who was a problem solver. The lawyer counseled clients, helped them avoid disputes, and facilitated resolution of disputes if necessary.

LÓPEZ, Gerald P. Rebellious Lawyering: One Chicano's Vision of Progressive Law Practice. Boulder, CO: Westview Press, 1992. (New Perspectives on Law, Culture, and Society)

López describes, primarily through story-telling, the type of activist lawyering which he believes will bring about fundamental changes for those who are disadvantaged in our society. Much of his discussion involves creative problem solving.

MAUGHAN, Caroline and Julian WEBB. Lawyering Skills and the Legal Process. London, Eng.: Butterworths, 1995.

This work is based on the authors' teaching of second and third year LL.B. students at the University of the West of England. Two particularly applicable chapters are: Chapter 3, *Problem-Solving: The Practical Dimension*; and Chapter 4, *Problem-Solving: The Business and Ethical Dimensions*.

MCCORMACK, Mark H. What I Should Have Learned at Yale Law School: The Terrible Truth About Lawyers. New York, NY: Avon Books, 1988.

McCormack, who is also the author of What They Don't Teach You at Harvard Business School, looks at the practical side of lawyering. While not specifically labeled problem solving, the approach advocated is creative problem solving in the business-client relationship.

NATHANSON, Stephen. What Lawyers Do: A Problem-Solving Approach to Legal Practice. London, Eng.: Sweet and Maxwell, 1997.

What Lawyers Do is British in focus, but it is easy to generalize the approach to other legal education systems. There is some emphasis on two aspects of problem solving: playing-out conflict and conflict-blocking. The author provides a problem solving theory that can be applied to the learning of law, to the practice of law, and to the teaching of law.

ROMBAUER, Marjorie Dick. Legal Problem Solving: Analysis, Research and Writing. 5th ed. St. Paul, MN: West Publishing Co., 1991.

This is a classic law school text, with an emphasis on analysis, research, and writing as methods of problem solving.

WEBB, Julian and Caroline MAUGHAN, eds. Teaching Lawyers' Skills. London, Eng.: Butterworths, 1996.

Teaching Lawyers' Skills is British in orientation, but the principles are of general application. Chapter 7, *Problem-based Learning in Legal Education*, by David A. Cruickshank, includes a discussion of problem solving.

WIGGINS, Charles B. and L. Randolph LOWRY, eds. Negotiation and Settlement Advocacy: A Book of Readings. St. Paul, MN: West, 1997.

While focusing on negotiation and settlement, several articles included in this work address problem solving from various angles.

WINSOR, Keith. "Applying Problem-Based Learning to Practical Legal Training." The Challenge of Problem Based-Learning. 2nd ed. Eds. David Boud and Grahame I. Feletti. New York: Kogan Page, 1997. 224-232.

This short article details the use of problem-based learning in practical legal training at the College of Law, New South Wales.

III. PROBLEM SOLVING IN THE LEGAL PROFESSION: ARTICLES

AMSTERDAM, Anthony G. Clinical Legal Education—A 21st Century Perspective, 34 J. Legal Educ. 612 (1984).

Amsterdam reflects on a new type of law school curriculum centered on problem solving. He also explores the conceptual skills involved in problem solving in legal practice.

BARTON, Thomas D. Creative Problem Solving: Purpose, Meaning, and Values, 34 Cal. W. L. Rev. 273 (1998).

The author believes that "creative problem solving . . . attempts to broaden the inquiry concerning legal problems and to acknowledge a

broader range of skills for their effective resolution." (p. 296) In order to lay a strong conceptual foundation for legal problem solving he asks the questions: "What does creative problem solving mean in a legal context? Why is it needed? What goals should animate our efforts? Finally, importantly, what values are implicated in its advancement?" (p. 273)

BINTLIFF, Barbara. From Creativity to Computerese: Thinking Like a Lawyer in the Computer Age, 88 L. Library J. 338 (1996).

The author discusses the profound influence computer-assisted legal research has had upon the legal approach to problem solving.

BLASI, Gary L. What Lawyers Know: Lawyering Expertise, Cognitive Science and the Functions of Theory, 45 J. Legal Educ. 313 (1995).

"What Lawyers Know" provides a very detailed look at various theories of problem solving and their application to lawyering. Blasi contends law schools have focused on gaining teaching expertise in solving doctrinal problems, but have neglected problem solving in other legal areas. He believes advances in cognitive science provide the tools to consider empirically the relationship between problem solving theory and lawyering practice. He concludes that the "core activity of lawyers entails problem solving and the making of decisions" (p. 318) and presents some implications for the law school curriculum.

BREST, Paul and Linda KRIEGER. On Teaching Professional Judgment, 69 Wash. L. Rev. 527 (1994).

Brest and Krieger emphasize teaching law students to solve problems. "At their best, lawyers serve as society's general problem solvers, skilled in avoiding as well as resolving disputes and in facilitating public and private ordering." (p. 529)

BREST, Paul. The Responsibility of Law Schools: Educating Lawyers as Counselors and Problem Solvers. 58, no. 3-4 Law & Contemp. Probs. 5 (1995).

In this essay, the author proposes complementing the traditional case-based law school curriculum with a series of advanced courses integrating the skills of counseling and problem solving with insights from other disciplines. "The complementary curriculum is designed to prepare students for practice in a world that their forebears could scarcely have imagined." (p. 16)

CARRINGTON, Paul D. A Tale of Two Lawyers, 91 Nw. U.L. Rev. 615 (1997).

Carrington contrasts Abraham Lincoln and Charles Sumner as lawyers, stressing Lincoln's success as a lawyer. "[Lincoln] was a problem solver . . . [H]e created peace where there had been no peace." In contrast, "Sumner did not solve problems, he made them." (p. 627)

CAVERS, David F. In Advocacy of the Problem Method, 43 Columbia L. Rev. 449 (1943).

Contrasting the casebook study of cases (studying previous solutions to problems) with the problem method (how to solve problems), the author concludes there is a need to include the problem method in law school education. He then discusses means of implementing this method.

COOPER, James M. Towards a New Architecture: Creative Problem Solving and the Evolution of Law, 34 Cal. W. L. Rev. 297 (1998).

Cooper envisions law as social architecture, structuring his analysis around the ideas of Le Corbusier, the 20th century architect and urban planner. His article is an attempt to "introduce the concept of Creative Problem Solving into the lexicon of jurisprudence." (p. 302)

D'AMATO, Anthony. The Decline and Fall of Law Teaching in the Age of Student Consumerism, 37 J. Legal Educ. 461 (1987).

Critical of the state of law teaching, D'Amato applies theories from Marvin Mensky's The Society of the Mind (New York, 1986) to law school teaching. Mensky believes intelligence has a core meaning: the ability to solve problems. This ability needs to be taught. As a person uses his/her skill in problem solving, the ability is strengthened for further use. Previously solved problems are used to shift and compare possible solutions to the present problem. D'Amato believes law school teaching must support this skill development.

DISARE, Thomas. A Lawyer's Education, 7 Md. J. Contemp. Legal Issues 359 (1996).

Disare states that problem solving used to be taught to new attorneys in the firms after hire—a "finishing off" of their formal legal education. However, this is no longer true. He proposes changes in legal education which would "force students to begin with a focus on the client's true goal and then to suggest creative solutions to client problems." (p. 373)

DZIENKOWSKI, John S. Lawyering in a Hybrid Adversary System, 38 Wm. & Mary L. Rev. 45 (1996).

Dzienkowski comments on Carrie Menkel-Meadow's, *The Trouble with the Adversary System in a Postmodern, Multicultural World* (38 Wm. & Mary L. Rev. 5 (1996)). While applauding her attempt to present a new model of justice in the post-modern, multicultural world, he is "less optimistic than [she] that such changes can be made efficiently." (p. 61)

GARTH, Bryant G. and Joanne MARTIN. Law Schools and the Construction of Competence, 43 J. Legal Educ. 469 (1993).

Garth and Martin's study updates Frances Zemans and Victor G. Rosen-

blum's work in the late 1970s surveying the Chicago Bar's opinions on what makes a competent legal practitioner. The study finds Chicago hiring partners, when ranking factors in promotion to partnership, rank the ability to diagnose and plan solutions for legal problems second only to the ability to obtain and keep clients.

GRISWOLD, Erwin N. Law Schools and Human Relations, Wash. U. L.Q. 217 (1955).

The author discusses four problems in legal education. The third problem "concerns what might be called the forgotten areas of law practice, the problems which do not appear in upper court decisions—human problems, presented and solved in the lawyer's office." (p. 221)

HANDLEY, Robin & Damien CONSIDINE. Introducing a Client-Centered Focus into the Law School Curriculum, 7 Legal Educ. Rev. 193 (1996).

While focusing on Australian legal education, the authors' approach is of general interest. The problem method of learning (hypothetical fact situations leading to analysis of the issues involved) is not the same as problem-based learning, which does not expand the issues to other legal and non-legal components of the client's problem. The problem method anticipates the need to change focus to the context of the problem and the client's situation. The authors stress that the lawyer does not always own the answers or the techniques to solve the problem—other professionals might. They discuss the development of a client-centered curriculum.

JOHNSON, Andrea L. Teaching Creative Problem Solving and Applied Reasoning Skills: A Modular Approach, 34 Cal. W. L. Rev. 389 (1998).

Johnson asserts the new dynamics of business have rendered traditional law school teaching methods "outmoded or ineffective. These methods are often ineffective because they are passive and linear, and fail to teach students how to formulate practical solutions and alternatives to resolving disputes, or effecting a client's interests." (p. 389) She suggests a new paradigm which integrates creative problem solving into substantive courses, using a modular approach.

JORDON, Michael. Law Teachers and the Educational Continuum, 5 S. Cal. Interdisciplinary. L.J. 41 (1996).

Thinking like a lawyer is a relative term; the type of problem solving skills needed may vary from setting to setting. Intelligence is the ability "to solve problems and produce things that are valued in a particular cultural setting." (p. 52)

KEEVA, Steven. Opening the Mind's Eye, 82 A.B.A. J. 48 (June 1996).

Opening the Mind's Eye is a short piece, with very practical ideas on the necessity of creative problem solving in the practice of law.

KELSO, Charles D. In Quest of a Theory for Lawyering: Some Hypotheses and a Tribute to Dean Soia Mentschikoff, 29 U. Miami L. Rev. 159 (1975).

Kelso writes on the development of lawyer competencies—basic to which is problem solving. He includes a description of Professor Mentschikoff's skill in teaching strategy skills for reaching lawyer decisions. The article was written in response to the Law School Admission Council's desire to study career performance criteria.

KERPER, Janeen. Creative Problem Solving vs. The Case Method: A Marvelous Adventure in Which Winnie-the-Pooh Meets Mrs. Palsgraf, 34 Cal. W. L. Rev. 351 (1998).

The author contends that "compared to more sophisticated models of problem solving, case analysis is a blunt instrument." (p. 352) She critiques the case method, contrasting it with the techniques of creative problem solving, using *Palsgraf* as a model.

LANDMAN, J.H. The Problem Method of Studying Law, 5 J. Legal Educ. 500 (1953).

The "problem method . . . approximates the thinking of the practising lawyer when confronted with a new problem." (p. 505) Landman would apply the scientific process of thinking to the study of law (problem method) instead of the case method (casebooks). The scientific process includes four steps: (1) realize a problem; (2) observe, experiment, analyze and classify data; (3) adopt a tentative hypothesis as a solution, using experience and imagination; and (4) by deduction and induction, reject or verify the hypothesis.

LASER, Gary S. Educating for Professional Competence in the Twenty-First Century: Educational Reform at Chicago-Kent College of Law, 68 Chi..-Kent L. Rev. 243 (1992).

More than just describing legal education at Chicago-Kent, the author reflects on the art of problem solving in a technical education setting. There is a lengthy discussion of Schön's Reflective Practitioner. "In law practice, most problems lie in the indeterminate environment, where use of the art of problem solving is essential." (p. 253)

LÓPEZ, Gerald P. Lay Lawyering. 32 UCLA L. Rev. 1 (1984).

López asserts that lawyering means problem solving, which involves using persuasion. The lawyer persuades by manipulating "stock stories" which help individuals interpret the world. He uses such a "story" to show how the process works.

LÓPEZ, Gerald P. Training Future Lawyers to Work with the Politically and Socially Subordinated: Anti-Generic Legal Education, 91 W. Va. L. Rev. 305 (1988).

López sees legal education as a "stubborn underachiever" (p. 342) with a generic vision of the world. This mind-set needs to be challenged if law students are to be trained to solve the problems of particular people.

MACLEOD, Gordon A. Creative Problem-Solving—for Lawyers?!, 16 J. Legal Educ. 198 (1963).

"A lawyer might best be described as a professional problem-solver." (p. 198) The author describes an early course in creative problem solving offered by the Creative Education Foundation at the University of Buffalo Law School in 1962.

MACNAUGHTON, Ann L. Cross-cultural Conflict Resolution: Finding Common Ground in Disputes Involving Value Conflicts, 33 Willamette L. Rev. 747 (1997).

This essay on "the impact of *values conflicts* on problem-solving and collaborative dispute resolution paradigms" (p. 749) includes a brief discussion of conflict resolution theory, followed by an analysis of the challenges presented in value conflicts. It offers some suggestions on structuring a collaborative problem solving process when values collide.

MENKEL-MEADOW, Carrie. The Legacy of Clinical Education: Theories About Lawyering, 29 Clev. St. L. Rev. 555 (1980).

While not specifically mentioning problem solving, Menkel-Meadows discusses the role of the lawyer, including the micro-theory of the role of the lawyer: the lawyer as "interviewer, planner, investigator, negotiator, examiner or interrogator, advocate, debater and counselor." (p. 559)

MENKEL-MEADOW, Carrie. Narrowing the Gap by Narrowing the Field: What's Missing from the MacCrate Report—Of Skills, Legal Science and Being a Human Being, 69 Wash. L. Rev. 593 (1994).

Menkel-Meadow criticizes the *MacCrate Report* as espousing "a kind of 'technocratic problem-solver'" as opposed to a human problem solver who exercises practical wisdom and judgment, using intuition, feeling and sympathy, as well as the reason and science of lawyering.

MENKEL-MEADOW, Carrie. To Solve Problems, Not Make Them: Integrating ADR in the Law School Curriculum, 46 SMU L. Rev. 1995 (1993).

One component of ADR is problem solving. "Well educated lawyers should be taught to solve problems, facilitate relationships and transactions and negotiate legislation and diplomatic arrangements, not just to litigate disputes." (p. 1995)

MENKEL-MEADOW, Carrie. Toward Another View of Legal Negotiation: The Structure of Problem Solving, 31 UCLA L. Rev. 754 (1984).

The author applies a problem solving model to a negotiation rather than a win/lose model, with the lawyer's role to satisfy the needs of both parties rather than maximize individual gain.

MENKEL-MEADOW, Carrie. The Trouble with the Adversary System in a Postmodern, Multicultural World, 38 Wm. & Mary L. Rev. 5 (1996).

Menkel-Meadow is critical of the binary nature of the adversary system because it does not adequately address complex problems which require "complex and multifaceted solutions." (p. 7)

MORGAN, Thomas D. Economic Reality Facing 21st Century Lawyers, 69 Wash. L. Rev. 625 (1994).

In this short article on the potential demand for lawyers, the author concludes "the most fundamental skill of a twenty-first century lawyer is likely to be understanding a client's business or family problem. Skills of lawyering will more and more become skills of problem-solving . . . ." (p. 634)

MORTON, Linda. Teaching Creative Problem Solving: A Paradigmatic Approach, 34 Cal. W. L. Rev. 375 (1998).

Morton describes her "use of a visual paradigm, or model, to teach creative problem solving in the law school curriculum." (p. 375) After defining the term "creative problem solving," she justifies its use in law school education, describes her use of the model in clinical classes, and suggests how it might be used in traditional courses.

MOSKOVITZ, Myron. Beyond the Case Method: It's Time to Teach with Problems, 42 J. Legal Educ. 241 (1992).

The author believes the problem method is the best method to train professionals, although not the only method. "If our job is to train students to 'think like lawyers' then we should train them to solve [the problems presented by clients] because that is the kind of thinking that lawyers must actually do." (p. 245) He concludes that "problem-solving is the single intellectual skill on which all law practice is based." (p. 245)

MOUST, Jos G. and Herman J. NUY. Preparing Teachers for a Problem-Based, Student-Centered Law Course, 5 Prof. Legal Educ. 16 (1987).

The entire curriculum at the University of Limburg Faculty of Law (Netherlands) is oriented towards problems and their solutions. The curriculum stresses continuous training in problem solving as students learn substantive law. The author discusses the role of teacher in this environment.

NATHANSON, Stephen. Changing Culture to Teach Problem-Solving Skills, 14 J. Prof. L. Educ. 143 (1996).

Nathanson discusses how to educate students to think deeply and to solve complex problems, with an emphasis on instructional design.

NATHANSON, Stephen. Creating Problems for Law Students: The Key to Teaching Legal Problem Solving? 10 J. Prof. Legal Educ. 1 (1992).

Recognizing that designing a law school curriculum to teach problem solving is daunting, Nathanson details a two-pronged strategy to accomplish the task. The first prong consists of following existing principles of curriculum design. The second is to invest significant resources in the design of *good* problems.

NATHANSON, Stephen. The Culture of Design, 3 Int'l J. Legal Prof. 301 (1996).

Nathanson describes the need to inculcate a "culture of design" in order to facilitate a change to problem-based learning, which requires new curricular design.

NATHANSON, Stephen. Designing Problems to Teach Legal Problem Solving, 34 Cal. W. L. Rev. 325 (1998).

"Problems form the basis of learning activities and assessments found in a skills-based or problem-centered curriculum." (p. 326) Nathanson emphasizes the need to design *good* problems because such problems are essential to the success of the problem-centered curriculum. He then discusses the principles for making *good* problems.

NATHANSON, Stephen. Developing Legal Problem-Solving Skills, 44 J. Legal Educ. 215 (1994).

This detailed work on curricular design recognizes that the instructional methodology in legal education will need to synthesize general problem-solving skills and context-specific knowledge.

NATHANSON, Stephen. Problem-Solving in Professional Legal Education, 7 J. Prof. Legal Educ. 121 (1989).

Focusing on the work being done by professional legal education institutes in Australia to integrate the "teaching of legal skills with legal transactions in a problem-solving framework," (p. 121) the author presents problem solving as a unifying theme for professional legal education. He sees problem solving as a five-step process: (1) problem and goal identification; (2) fact investigation; (3) legal issue identification and assessment; (4) option identification and decision making; and (5) planning and implementation.

NATHANSON, Stephen. The Role of Problem Solving in Legal Education, 39 J. Legal Educ. 167 (1989).

This is a short article on problem solving as a generic skill that has been overlooked in legal education, even though it is "the essence of what lawyers are supposed to do in their practice." (p. 168) Nathanson addresses the question of whether a theory of legal problem solving can be developed and, if it can, what role problem solving should play in legal education.

NIVALA, John F. The Architecture of a Lawyer's Operation: Learning from Frank Lloyd Wright, 20 J. Legal Prof. 99 (1995/96).

Lawyering is an art; legal educators guide students to work toward that art by letting them deal with real-life problems. The architect Frank Lloyd Wright saw each client's needs as a problem to be solved. Nivala applies Wright's philosophy to the role of the lawyer, particularly in relation to the art of legal writing.

OGDEN, Gregory L. Problem Method in Legal Education, 34 J. Legal Educ., 654 (1984).

Ogden encourages greater use of problems by law teachers. He defines the problem method and examines the objectives of legal education, describing how the method meets those objectives. He also discusses the advantages and disadvantages of the method and its use in specific courses.

O'LEARY, Kimberly E. Using "Difference Analysis" to Teach Problem-Solving, 4 Clinical L. Rev. 65 (1997).

Recognizing the need for the legal profession to take into account the importance of perspective in understanding the law, the author discusses the ways a clinical course can integrate "difference analysis" into the process of problem solving for a client. "Difference analysis" is defined as "the systematic exploration of diverse perspectives as a means of generating options to assist a client in the solving of a legal problem." (p. 66, ft. 5)

PODGERS, James. Grassroot Lessons, 82 A.B.A. J. 68 (Feb. 1997).

This essay describes former-President Gerald Ford's successes as a lawyer. "Solving peoples' problems was at the center of whatever he did." (p. 69)

RE, Edward D. The Causes of Popular Dissatisfaction with the Legal Profession, 68 St. John's L. Rev. 85 (1994).

One suggestion presented by the author, to counter the current dissatisfaction, is a focus on the lawyer as a counselor who uses alternatives other than litigation to solve legal problems.

RE, Edward D. The Lawyer as Counselor and the Prevention of Litigation, 31 Cath. U. L. Rev. 685 (1982).

Re's lecture highlights the lawyer's role as a counselor who can help a client avoid controversy and resolve a problem without litigation. He stresses the counseling is not just for legal consequences, but to "inform the client of the practical and social consequences of the act." (p. 693)

RE, Edward D. The Role of the Lawyer in Modern Society, 30 S.D. L. Rev. 501 (1985).

Re discusses the role of the lawyer as a counselor who must use problem solving techniques other than litigation.

RENO, Janet. Speech: The Honorable Janet Reno, Attorney General of the United States, 31 New Eng. L. Rev. 159 (1996).

Reno speaks of a specialty called "community advocacy" which would train lawyers and advocates in problem solving and conflict resolution.

SAUNDERS, Kurt M. and Linda LEVINE. Learning to Think Like a Lawyer, 29 U.S.F. L. Rev. 121 (1994).

Learning to think like a lawyer involves mastery of problem solving methods.

SCIESZINSKI, Annette J. Return of the Problem-Solvers: The Profession Needs to Focus on Helping People, Not Just Fighting Battles, 81 A.B.A. J. 119 (June 1995).

This short perspective piece by a young Iowa lawyer states that "for the student, law school training may tend to glamorize litigation and de-emphasize problem-solving." (p. 119) Scieszinski goes on to state that "lawyers should offer their professionalism and problem-solving skills to clients rather than marketing their courtroom prowess." p. 119.

SHEPPARD, Harrison. American Principles & the Evolving *Ethos* of American Legal Practice, 28 Loy. U. Chi. L.J. 237 (1996).

Sheppard presents three recommendations to remedy what he believes are the ethical misdirections the practice of law has taken in the last three decades. First, senior partners in law firms and senior executives in the public service must espouse an ethos of problem solving and non-adversarial conflict resolution within their firms and agencies. Second, the organized bar must require skills of negotiation and problem solving. Third, legal education must produce *"skilled peacemakers"* (p. 256) and train lawyers using a problem solving model.

SMITH, Rhona K. M. The International Impact of Creative Problem Solving: Resolving the Plight of Indigenous Peoples, 34 Cal. W. L. Rev. 411 (1998).

Because traditional legal approaches have proved unsatisfactory, Smith applies creative problem solving techniques when addressing the problems encountered by indigenous peoples.

SPIEGELMAN, Paul J. Integrating Doctrine, Theory, and Practice in the Law School Curriculum: The Logic of Jake's Ladder in the Context of Amy's Web, 38 J. Legal Educ. 243 (1988).

Spiegelman applies Carol Gilligan's work on moral development (In a Different Voice: Psychological Theory and Development (Cambridge, 1982)) to legal education with the aim of increasing student awareness of alternative methods of perceiving and solving problems.

STERNLIGHT, Jean R. Symbiotic Legal Theory and Legal Practice: Advocating a Common Sense Jurisprudence of Law and Practical Applications, 50 U. Miami L. Rev. 707 (1996).

Law schools need to foster an education after which "law students will go on to become legal practitioners who can use abstract theories to solve practical problems." (p. 767) The author recognizes the need to develop a "jurisprudence of applications," a complimentary relationship between abstract theory of the law and the practice of law. Legal theorists can make their work more powerful by focusing on real world problems and their solutions, while practitioners should "look to academia for new and creative solutions to real world legal problems." (p. 714)

STUCKEY, Roy T. Education for the Practice of Law: The Times They Are A-Changin', 75 Neb. L. Rev. 648 (1996).

"My thesis is that the primary objective of law schools should be to teach students to be competent problem-solvers. A lawyer's core function is problem-solving." (p. 669)

STURM, Susan P. From Gladiators to Problem-Solvers: Connecting Conversations About Women, the Academy, and the Legal Profession, 4 Duke J. Gender L. & Pol'y 119 (1997).

Women, the legal academy, and the legal profession all have expressed concern about the sole view of the lawyer as gladiator—fighting to win while someone else loses. "[The article] explores the outlines of a problem-solving orientation to lawyering and legal education that has the potential to address and create a dynamic between the concerns of women and the need to reclaim the soul of the legal profession." (p. 122) Sturm suggests a shift from gladiator to problem solver may brighten the fate of the legal profession, and the fate of women and other under-represented groups in the profession. She also describes a model for the lawyer as problem solver.

TZANNES, Maria. Problem Based Learning in Legal Education: Intentionally Overlooked or Merely Misunderstood, 31 Law Teacher 180 (1997).

Legal education, differing from medicine and architecture, has not overwhelmingly embraced problem-based learning. Problem-based learning is a sub-skill of problem solving, where the student is given a real-life problem (not necessarily a real-life client) and the responsibility to solve the problem. For legal education this means not just curricular change, but a change in the basic work of the teacher. Tzannes identifies obstacles to problem-based learning, some of which are centered in the changing role of the teacher. The article is Australian in focus, but of general application.

WHINERY, Leo H. The Problem Methods in Legal Education, 58 W. Va L. Rev. 144 (1955).

Whinery uses the concept of "problematicism": the lawyer's duty to solve legal problems through counseling and advocacy. "The law school should provide the student with an educational program designed to enable him to evaluate *legal problems* in light of *applicable legal principles* and *relevant extra-legal doctrine*." (p. 146) The student's focus should be on analysis of problems, with legal and non-legal ramifications, and reaching solutions. The author reflects on a number of problem oriented methods, including a detailed analysis of the strengths and drawbacks of using hypotheticals.

ZWIER, Paul J. and Ann B. HAMRIC. The Ethics of Care and Reimagining the Lawyer/Client Relationship, 22 J. Contemp. L. 383 (1996).

Zwier and Hamric present an "ethic of care" model for the relationship between lawyer and client, which takes into account the human side of the client's problem. They believe such an approach "produces better, more creative, and more tailored solutions to the parties' problems." (p. 388)

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