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Teaching Interdisciplinary Collaboration: Theory, Practice, and Assessment

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Interdisciplinary collaboration has long been a focal point for certain professions, such as social work and medicine. More recently, with increased globalization and the call for complex problem solving, lawyers have recognized the need to work more collaboratively with other professions. To support this concept of interdisciplinary collaboration, law schools are providing increased opportunities for students to work with individuals outside of the legal field. A medical-legal collaboration between California Western and the University of California at San Diego (UCSD) has been part of this movement towards increased interdisciplinary work. Our partnership takes several forms, including a joint Masters Degree Program in Law and Medicine,¹ a joint clinical project with the homeless,² and a course we, the authors, co-teach entitled “Problem Solving and Prevention in Healthcare.”³

Programs such as ours are burgeoning in legal academia, and helpful descriptions of such programs appear often in the professional literature.⁴ However, law journals have not in-

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¹ California Western School of Law’s Institute of Health Law Studies has partnered with the University of California, San Diego to create a master’s degree program in Health Law. *California Western School of Law – Institute of Health Law Studies*, <http://www.cwsl.edu/main/default.asp?nav=ihs.asp&body=ihs/home.asp> (last visited Mar. 3, 2010). The program “equips both legal and medical/health professionals with the essential knowledge and skills to improve practice where healthcare and law overlap.” *Master’s Degree in Health Law*, <http://hlaw.ucsd.edu> (last visited Mar. 3, 2010).

² For a more complete description of this clinic from its creator, see generally Ellen Beck, *The UCSD Student-Run Free Clinic Project: Transdisciplinary Health Professional Education*, 16(2) J. HEALTH CARE FOR THE POOR & UNDERSERVED 207 (2005).

³ The details of this course have been discussed in two prior articles: see generally Linda Morton, *A New Approach to Health Care ADR: Training Law Students to be Problem Solvers in the Health Care Context*, 21 GA. ST. U. L. REV. 965 (2005) [hereinafter *A New Approach*]; see generally Janet Weinstein & Linda Morton, *Interdisciplinary Problem Solving Courses as a Context for Nurturing Intrinsic Values*, 13 CLINICAL L. REV. 839 (2007).

⁴ For a recent description of a comprehensive medical-legal collaborative, see gen-

cluded, to date, an explicit and proven methodology for teaching interprofessional collaboration.⁵ In this article, we offer our own theory-based methodology for teaching interprofessional collaboration to law students and we present our preliminary data on its effectiveness.

Part I explicates the definition and development of interdisciplinary collaboration. Part II describes how we have grounded our course in current theory, and Part III explains the extent to which our efforts have been successful. Finally, in Part IV, we offer additional thoughts regarding the teaching of interdisciplinary collaboration and pose questions and ideas for future data collection.

I. Definition and Development of Interdisciplinary Collaboration

A. Definition of Interdisciplinary Collaboration

“Interdisciplinary” or “interprofessional” collaborations involve members of different professions who work together on a problem “with intention, mutual respect, and commitment.”⁶

erally Elizabeth Tobin Tyler, *Allies Not Adversaries: Teaching Collaboration to the Next Generation of Doctors and Lawyers to Address Social Inequality*, 11 J. HEALTH CARE L. & POL'Y 249 (2008). See also generally Paula Galowitz, *Collaboration Between Lawyers and Social Workers: Re-examining the Nature and Potential of the Relationship*, 67 FORDHAM L. REV. 2123 (1999) (examining the value, benefits, and impediments to collaboration). For a list of additional interdisciplinary course descriptions, see *infra* note 54.

⁵ Professor Janet Weinstein has begun the conversation as to the necessary competencies for, and barriers to, teaching interdisciplinary collaboration in her groundbreaking article. See generally Janet Weinstein, *Coming of Age: Recognizing the Importance of Interdisciplinary Education in Law Practice*, 74 WASH. L. REV. 319 (1999). Our own theory builds on Weinstein's competencies, and adds further structure. See *infra* Part II. Empirical data proving the effects of interdisciplinary teaching methods, though absent from the law journals has been recently reported by educators in the field of social work. Professors Lisa Colarossi and Mary Ann Forgey of the Graduate School of Social Service, Fordham University, completed a study of the effects of their domestic violence course involving law students and social work students. Colarossi and Forgey specifically studied the degree to which their students gained substantive knowledge of domestic violence and other professions, and the degree to which the course changed students' attitudes about domestic violence and interdisciplinary collaboration. Their results, though somewhat ambiguous due to the nature of the study, were overall favorable towards the explicit teaching of interdisciplinary collaboration. See generally Lisa Colarossi & Mary Ann Forgey, *Evaluation Study of an Interdisciplinary Social Work and Law Curriculum for Domestic Violence*, 42(2) J. SOC. WORK EDUC. 307 (2006).

⁶ Gary L. Harbaugh, *Assumptions of Interprofessional Collaboration: Interrelatedness and Wholeness*, in R. MICHAEL CASTO & MARIA C. JULIA, INTERPROFESSIONAL CARE AND COLLABORATIVE PRACTICE 11, 19-20 (1994). We use the terms “interdisciplinary” and “interprofessional” interchangeably. However, we do not elaborate on differences between phrases of cross-disciplinary, transdisciplinary, and multi-disciplinary. For a discussion of these terms, see JAMES R. DAVIS, INTERDISCIPLINARY COURSES AND TEAM

The process “facilitates the achievement of goals that cannot be reached when individual professionals act on their own.”⁷ Collaboration consists of the following elements: a common purpose, separate professional contributions, and a process of cooperative joint thinking and communication.⁸ Ultimately, “[a]n interprofessional approach does not blur the distinctiveness of each profession, but it does break through the extreme role specialization that fails to appreciate the kind of balance and integration that a holistic orientation requires.”⁹ Interdisciplinary collaborative partnerships frequently involve larger societal problems, requiring strategies at a more systemic level.¹⁰

Barriers to collaboration among disciplines are often caused by the distinctions in subject matter content, professional language, communication techniques, skill sets, and approaches to problem-solving within each profession.¹¹ Only in recent years have professions begun teaching their students how to work in teams with members of other disciplines. Furthermore, only through such educational reform and changes in professional socialization can interdisciplinary collaboration become an effective model for problem solving.¹²

Today’s increasingly complex society necessitates interdisciplinary collaboration. Single disciplinary approaches cannot resolve and often only exacerbate problems such as disease,

TEACHING: NEW ARRANGEMENTS FOR LEARNING 46 (1995). “Integrated services” and ‘Enhanced Strategic Collaboration’ are further examples of nomenclature for the idea of different professionals working together towards a common goal. Susan R. Jones, *Promoting Social and Economic Justice Through Interdisciplinary Work in Transactional Law*, 14 WASH. U. J. L. & POL’Y 249, 303 (2004).

⁷ Laura R. Bronstein, *A Model for Interdisciplinary Collaboration*, 48(3) SOC. WORK 297, 299 (2003) (internal citation omitted).

⁸ Harbaugh, *supra* note 6, at 20 (citing ROSALIE A. KANE, *INTERPROFESSIONAL TEAMWORK* (1983); ALEX J. DUCANIS & ANNE K. GOLIN, *THE INTERDISCIPLINARY HEALTH CARE TEAM: A HANDBOOK* (1979)).

⁹ *Id.* (citing Hans S. Falck, *Interdisciplinary Education and Implications for Social Work Practice*, 13(2) J. EDUC. FOR SOC. WORK 30, 30-37 (1977)).

¹⁰ *Id.*

¹¹ DAVIS, *supra* note 6, at 36; Maria C. Julia & Arlene Thompson, *Essential Elements of Interprofessional Teamwork: Task and Maintenance Functions*, in R. MICHAEL CASTO & MARIA C. JULIA, *INTERPROFESSIONAL CARE AND COLLABORATIVE PRACTICE* 43, 45-46 (1994); Pippa Hall & Lynda Weaver, *Interdisciplinary Education and Teamwork: A Long and Winding Road*, 35 MED. EDUC. 867, 867 (2001).

¹² Cf. Wynne R. Waugaman, *Professionalization and Socialization in Interprofessional Collaboration*, in R. MICHAEL CASTO & MARIA C. JULIA, *INTERPROFESSIONAL CARE AND COLLABORATIVE PRACTICE* 23, 28 (1994) (“[P]rofessionals are truly not taught within their own professions to work in teams with members of other disciplines.”).

hunger, urban blight, and ethnic warfare.¹³ "Effective problem solvers today have skills in seeing 'the big picture,' in creating webs of interrelated knowledge, and in working in teams."¹⁴ Although participants may complain that engagement with other professionals in problem solving can be more time consuming, bureaucratic, or lead to role-confusion,¹⁵ all involved ultimately benefit from the collaboration. Certainly, clients benefit from increased streamlining of services, and society benefits from a more systemic and creative approach to its endemic issues. Moreover, this collaboration also presents professionals with an opportunity to affirm their own boundaries and increase their affiliations and personal growth. Researchers have found engagement in collaborative work enhanced students' appreciation for other professions, attitudes towards conflict as a tool to resolve complex problems, and effectiveness as professionals helping clients.¹⁶

In discussing the infiltration of "interdisciplinary collaboration and holistic problem-solving" into law and medical schools, Elizabeth Tobin Tyler, Director of Public Service and Community Partnerships at Roger Williams University School of Law (RI), wrote

As educators incorporate these concepts into the curriculum, medical-legal partnership in the academy can offer a rich opportunity to bring future doctors and lawyers together to explore issues of social justice and professional ethics, as well as to practice interdisciplinary collaboration and problem-solv-

¹³ DAVIS, *supra* note 6, at 39.

¹⁴ *Id.*

¹⁵ Inger P. Davis, Alan J. Litrownik & Janet Weinstein, *Levels of Interdisciplinary Education for Child Welfare Practice: A Report of the San Diego Interdisciplinary Child Welfare Training (ICWT) Project 5* (1997) (explaining the dangers of applying knowledge "borrowed" from another profession) (on file with the author). For a more detailed discussion of the rationales for and against interprofessional teams, see ROSALIE A. KANE, INTERPROFESSIONAL TEAMWORK 5-12 (1975).

¹⁶ R. Michael Casto, *Program Model for Interprofessional Education: A Case Study*, in R. MICHAEL CASTO & MARIA C. JULIA, INTERPROFESSIONAL CARE AND COLLABORATIVE PRACTICE 157, 167 (1994) (citing a series of studies on the effects of interdisciplinary collaborative education on the attitudes of students conducted in the 1980s). For a thorough discussion of the benefits of interdisciplinary collaboration, see Anita Weinberg & Carol Harding, *Interdisciplinary Teaching and Collaboration in Higher Education: A Concept Whose Time Has Come*, 14 WASH. U. J. L. & POL'Y 15, 22-33 (2004). For an excellent discussion of collaboration theory and benefits generally, see generally Susan Bryant, *Collaboration in Law Practice: A Satisfying and Productive Process for a Diverse Profession*, 17 VT. L. REV. 459 (1993).

ing. But it also offers a unique forum for dialogue between the professions—about the future of the legal and medical professions, about opportunities for reinvigorating our core values through service to our clients and patients, and about how to address the apparent dissatisfaction among many medical and legal practitioners and students.¹⁷

Now that our society is beginning to appreciate the benefits, if not the necessity, of interdisciplinary collaboration, it is rapidly expanding in both the medical and the legal professions, as the following section illustrates.

B. Development of Interdisciplinary Collaboration

Interdisciplinary collaboration has its roots in the concept of professional teamwork. Teamwork began as a relationship of individuals within each profession. For example, in the 1920s, medical specialists were encouraged to work together on individual patient problems.¹⁸ In the 1940s, the concept of multiprofessional teams of at least two different professions began and remained particularly strong in the various health care fields, including medicine, social work, and occupational therapy.¹⁹ Finally, in the 1970s, the idea of interprofessional teams, involving the integration of varied disciplines to resolve an agreed upon goal, began to flourish.²⁰ In recent years, both federal agencies (e.g., the National Institutes of Health, the National Academy of Sciences, and the National Science Foundation) and private organizations (e.g., the MacArthur, Keck, and Robert Wood Johnson Foundations) have focused more explicitly on interdisciplinary research to solve societal issues.²¹

¹⁷ Tyler, *supra* note 4, at 276-77 (citation omitted).

¹⁸ DUCANIS & GOLIN, *supra* note 8, at 3.

¹⁹ For example, in 1946, psychologist Kurt Lewin developed the concept of "action research" or the notion of collaborative work with other community leaders to apply theoretical constructs to real societal issues. Lewin's focus, however, was primarily on members of his own profession. Daniel Stokols, *Toward a Science of Transdisciplinary Action Research*, 38 AM. J. COMMUNITY PSYCHOL. 63, 63-64 (2006).

²⁰ Maria C. Julia & Arlene Thompson, *Group Process and Interprofessional Teamwork*, in R. MICHAEL CASTO & MARIA C. JULIA, INTERPROFESSIONAL CARE AND COLLABORATIVE PRACTICE 35, 35-37 (1994). For a detailed discussion of the evolution of interdisciplinarity, see JULIA THOMPSON KLEIN, INTERDISCIPLINARITY: HISTORY, THEORY, AND PRACTICE 19-39 (1990).

²¹ Stokols, *supra* note 19, at 67. As an example of federal interest in interdisciplinary work, the National Center on Child Abuse and Neglect, in 1988, issued a grant to California Western School of Law; the School of Social Work and the Graduate Psychol-

1. *Interdisciplinary Collaboration within the Medical Profession*

Over the past century, the medical profession has maintained an increasingly strong presence in the field of interdisciplinary teamwork,²² and has more recently incorporated it into undergraduate and postgraduate medical education.²³ Acknowledging this trend, the Accreditation Council for Graduate Medical Education (ACGME) has stressed the need for physicians to be trained to “work effectively as a member or leader of a health care team or other professional group” as part of their core competencies.²⁴

In many settings, cross-disciplinary education helps to improve the health of the medically underserved.²⁵ Several major initiatives of the Institute of Medicine (IOM) have included a call for more interdisciplinary work to improve the community health.²⁶ The IOM’s *Crossing the Quality Chasm* report included the “[d]evelopment of effective teams” as a recommendation to improve health care quality.²⁷ In its 2003 report, *Unequal Treatment*, the IOM focused on addressing racial and ethnic disparities in health care.²⁸ The IOM recommended the implementation of multidisciplinary treatment and preventive care teams “as [a] strategy for improving care delivery, imple-

ogy Program, San Diego State University; The Center for Child Protection, Children’s Hospital; and the School of Medicine, University of California at San Diego, to train graduate students in interdisciplinary work to help remedy child maltreatment. Weinstein, *supra* note 5, at 320. The above recipients later obtained another grant for their work from the U.S. Department of Health and Human Services. *Id.* For a discussion of the Child Abuse Interdisciplinary Training Program, which resulted from the two grants, *see id.* at 354-56.

²² DUCANIS & GOLIN, *supra* note 8, at 3-4.

²³ For a more detailed discussion of the history of interprofessional policy developments in the medical field, *see* Audrey Leathard, *Policy Overview*, in INTERPROFESSIONAL COLLABORATION: FROM POLICY TO PRACTICE IN HEALTH AND SOCIAL CARE 11, 11-39 (Audrey Leathard ed., 2003).

²⁴ ACCREDITATION COUNCIL FOR GRADUATE MEDICAL EDUCATION (ACGME), COMMON PROGRAM REQUIREMENTS: GENERAL COMPETENCIES 2 (2007), <http://acgme.org/outcome/comp/generalCompetenciesStandards21307.pdf>.

²⁵ *See generally* Ginger Ruddy & Kyu Rhee, *Transdisciplinary Teams in Primary Care for the Underserved: A Literature Review*, 16 J. HEALTH CARE FOR POOR & UNDERSERVED 248, 248-56 (2005).

²⁶ *See id.*

²⁷ COMM. ON QUALITY OF HEALTH CARE IN AM., INST. OF MED., *CROSSING THE QUALITY CHASM: A NEW HEALTH SYSTEM FOR THE 21ST CENTURY* 12 (2001) [hereinafter *CROSSING THE QUALITY CHASM*].

²⁸ *See generally id.*

menting secondary prevention strategies, and enhancing risk reduction.”²⁹ Both reports commented about the need for training to improve the functionality of transdisciplinary teams at multiple stages of team members’ professional development.³⁰

Training for cross-disciplinary collaboration in medicine now spans both undergraduate and graduate medical education.³¹ The undergraduate level offers a combination of didactic classroom and field experiences in interprofessional collaboration.³² Postgraduate clinical training includes interdisciplinary and experiential training opportunities.³³ At the UCSD School of Medicine, undergraduate medical students may take an elective entitled, “Community Advocacy.”³⁴ The course includes didactic classroom time, a weekly reflective component and five sessions at the UCSD Free Clinic sites.³⁵ At the UCSD Free Clinic, students collaborate with pharmacy, social work, acupuncture, dental, and law students.³⁶

The Residency Program in Social Medicine at Montefiore Medical Center trains students in interdisciplinary collaboration as part of a three-year curriculum in social medicine and behavioral science.³⁷ Residents from departments of internal medicine, family medicine and pediatrics form interdisciplinary teams with health care workers, pharmacists, nutritionists, social

²⁹ COMM. ON UNDERSTANDING AND ELIMINATING RACIAL AND ETHNIC DISPARITIES IN HEALTH CARE, INST. OF MED., *UNEQUAL TREATMENT: CONFRONTING RACIAL AND ETHNIC DISPARITIES IN HEALTHCARE* 18 (Brian D. Smedley et al. eds., 2003) [hereinafter *UNEQUAL TREATMENT*].

³⁰ *CROSSING THE QUALITY CHASM*, *supra* note 27, at 208; *UNEQUAL TREATMENT*, *supra* note 29, at 19-20.

³¹ The correct language for medical student training is undergraduate medical education; residency and fellowship are collectively called graduate medical education. For a discussion of the development of interdisciplinary education in medicine, *see, e.g.*, Hall & Weaver, *supra* note 11, at 869; *see generally* KLEIN, *supra* note 20, at 140-55.

³² *See generally* Timothy Shope, Beverly Bradley & Howard Taras, *A Block Rotation in Community Pediatrics*, 104(1) *PEDIATRICS* 143 (2009); *see also generally* Philip R. Nader et al., *Education for Community Pediatrics*, 43(6) *CLINICAL PEDIATRICS* 505 (2004) [hereinafter *Education for Community Pediatrics*].

³³ *See, e.g.*, *Education for Community Pediatrics*, *supra* note 32, at 505-21.

³⁴ Beck, *supra* note 2, at 215.

³⁵ *Id.*

³⁶ *Id.* at 209-10.

³⁷ Albert Einstein Coll. of Med. of Yeshiva Univ., Residency Program in Social Medicine (RPSM), <http://www.einstein.yu.edu/dfsmpage.aspx?id=447> (last visited Mar. 3, 2010); *see generally* A.H. Strelnick et al., *The Residency Program in Social Medicine of Montefiore Medical Center: 37 Years of Mission-Driven, Interdisciplinary Training in Primary Care, Population Health, and Social Medicine*, 83(4) *ACAD. MED.* 378, 382 (2008).

workers, and psychologists.³⁸

The practice of community pediatrics, by its nature, requires interdisciplinary training. In this field, pediatric residents are trained to assess and address a community's health needs. In 2000, in response to the need for better models of training pediatricians, the Dyson Community Pediatrics Training Initiative was launched with the goal of enhancing training in interdisciplinary collaboration to improve children's health.³⁹

In launching the Dyson Initiative, colleagues in public health, cultural anthropology, and law collaborated to help with curriculum and training.⁴⁰ At UCSD, the Initiative comprises a required month-long pediatric resident training rotation.⁴¹ The curriculum consists of didactic teaching, a month-long block rotation, and cultural immersion experiences offered throughout the three years of training.⁴² Participating residents experience cross-disciplinary collaboration by working with other health care and public health professionals; participating in education, health and social-related assessments at local schools; and interacting with cultural anthropologists and lawyers.⁴³ Evaluations of the program, evidenced by student self-evaluations and community member feedback, indicate that residents improved their knowledge of skills necessary to provide culturally effective care in diverse community settings, and learned collaborative skills by working through multidisciplinary community partnerships.⁴⁴

2. *Interdisciplinary Collaboration within the Legal Profession*

Although some juvenile courts and legal aid organizations have incorporated the concept of professional teamwork since the 1960s,⁴⁵ overall the legal profession has been a more reluc-

³⁸ Strelnick et al., *supra* note 37, at 380.

³⁹ Judith S. Palfrey et al., *Educating the Next Generation of Pediatricians in Urban Health Care: The Anne E. Dyson Community Pediatrics Training Initiative*, 79(12) *ACAD. MED.* 1184, 1184 (2004).

⁴⁰ *Education for Community Pediatrics*, *supra* note 32, at 505.

⁴¹ Maria Luisa Zuniga et al., *Evaluation of Residency Training in the Delivery of Culturally Effective Care*, 40 *MED. EDUC.* 1192, 1194 (2006).

⁴² *Id.*

⁴³ Dean E. Sidelinger et al., *Communities as Teachers: Learning to Deliver Culturally Effective Care in Pediatrics*, 115(4) *PEDIATRICS* 1160, 1160 (2005); Zuniga et al., *supra* note 41, at 1193.

⁴⁴ Zuniga et al., *supra* note 41, at 1196.

⁴⁵ Stacy L. Brustin, *Legal Services Provision Through Multidisciplinary Practice—Encour-*

tant partner with other disciplines.⁴⁶ In the late 1960s and early 1970s, Rosalie Kane examined 229 interdisciplinary health care teams discussed in journal articles to assess the frequency at which each profession appeared on a team and the percentage of instances in which each profession led an interdisciplinary team.⁴⁷ Social workers appeared on 189 teams, or 82.5 percent, physicians appeared on 126 teams, or 59.4 percent, and teachers appeared on 60 teams, or 26.1 percent.⁴⁸ Lawyers, however, along with engineers and health educators, appeared on 4 teams, or 1.7 percent.⁴⁹ Moreover, lawyers never appeared as team leaders.⁵⁰ Professor Janet Weinstein posits that the study of law creates particularly difficult barriers to team work, due to its emphasis on competition, its solitary learning experience, its lack of emphasis on communication skills, and its narrow focus on linear thinking.⁵¹ According to Weinstein, these learning environments can promote negative interpersonal traits, such as the need for individual achievement, aggressiveness, inflexibility, hierarchical behavior, and lack of self-awareness.⁵² These negative interpersonal traits further impede the potential for interdisciplinary collaboration.⁵³

Despite these impediments, law courses involving problem solving with non-lawyer professionals have blossomed in law schools, particularly in the past decade. Concurrently, there is increased discussion in law journals as to content and design of interdisciplinary courses, as well as barriers to and benefits of interdisciplinary teaching.⁵⁴ Such partnerships between disci-

aging Holistic Advocacy While Protecting Ethical Interests, 73 U. COLO. L. REV. 787, 795-96 (2002).

⁴⁶ For a more complete discussion of the history of legal education's approach to interdisciplinary work, see Weinberg & Harding, *supra* note 16, at 18-21. As summarized by Weinberg and Harding, "while there has been much talk, little has changed in legal education over almost 100 years-including in interdisciplinary efforts." *Id.* at 21.

⁴⁷ Edward T. Bope & Timothy S. Jost, *Interprofessional Collaboration: Factors That Affect Form, Function, and Structure*, in R. MICHAEL CASTO & MARIA C. JULIA, INTERPROFESSIONAL CARE AND COLLABORATIVE PRACTICE 61, 62-63 (1994) (citing ROSALIE A. KANE, INTERPROFESSIONAL TEAMWORK 50-52 (1983)).

⁴⁸ *Id.* at 63.

⁴⁹ *Id.*

⁵⁰ *Id.* Although, the author acknowledges that "in settings outside health care, team membership and leadership may look quite different." *Id.*

⁵¹ Weinstein, *supra* note 5, at 347-48.

⁵² *Id.* at 349.

⁵³ *Id.* at 328-51.

⁵⁴ As early as 1986, Professor Dale Moore began teaching a course involving both

plines offer a different image of more compassionate lawyers working to help their community. Supporting the increase of interdisciplinary courses in the law school curriculum, Professor Mary C. Daly states:

The courses offered to students, the clinical opportunities made available to them, and the methods of classroom instruction must be adjusted to acknowledge that 'legal' advice is rarely just that. The complexity of modern society increasingly creates a superabundance of problems in which it is virtually impossible to separate the legal component from components more traditionally associated with other disciplines Multidisciplinary knowledge and skills are needed as much on Main Street as they are on Wall Street.⁵⁵

Drafters of current regulations could do more to encourage interdisciplinary work in legal education.⁵⁶ The American Bar Association (ABA) has discouraged "multidisciplinary practices," or "MDPs," in which lawyers partner with other professionals to deliver integrated solutions to clients' problems.⁵⁷ Although a study by the ABA Commission on Multidisciplinary Practice con-

doctors and lawyers. See generally Dale L. Moore, *An Interdisciplinary Seminar on Legal Issues in Medicine*, 39 J. LEGAL EDUC. 113, 113-120 (1989). In the past few years, the number of interdisciplinary courses taught and discussed in law journals has increased substantially. In addition to those cited in note four, see generally, e.g., Randy Retkin, Gary L. Stein & Barbara Hermie Draimin, *Attorneys and Social Workers Collaborating in HIV Care: Breaking New Ground*, 24 FORDHAM URB. L.J. 533 (1997); V. Pualani Enos & Lois H. Kanter, *Who's Listening? Introducing Students to Client-Centered, Client-Empowering, and Multidisciplinary Problem-Solving in a Clinical Setting*, 9 CLINICAL L. REV. 83 (2002); C.K. Gunsalus & J. Steven Beckett, *Playing Doctor, Playing Lawyer: Interdisciplinary Simulations*, 14 CLINICAL L. REV. 439 (2008); Jane R. Wettach, *The Law School Clinic as a Partner in a Medical-legal Partnership*, 75 TENN. L. REV. 305 (2008); Christina A. Zawisza & Adela Beckerman, *Two Heads are Better than One: The Case-Based Rationale for Dual Disciplinary Teaching in Child Advocacy Clinics*, 7 FLA. COASTAL L. REV. 631 (2006); Kim Diana Connolly, *Elucidating the Elephant: Interdisciplinary Law School Classes*, 11 WASH. U. J.L. & POL'Y 11 (2003); Jones, *supra* note 6; Dina Schlossberg, *An Examination of Transactional Law Clinics and Interdisciplinary Education*, 11 WASH. U. J.L. & POL'Y 195 (2003); Rose Voyvodic & Mary Medcalf, *Advancing Social Justice Through an Interdisciplinary Approach to Clinical Legal Education: The Case of Legal Assistance of Windsor*, 14 WASH. U. J.L. & POL'Y 101 (2004); Colarossi & Forgey, *supra* note 5; J. Michael Norwood & Alan Paterson, *Problem-Solving in a Multidisciplinary Environment? Must Ethics Get in the Way of Holistic Services?*, 9 CLINICAL L. REV. 337 (2002).

⁵⁵ Mary C. Daly, *What the MDP Debate Can Teach Us About Law Practice in the New Millennium and the Need for Curricular Reform*, 50 J. LEGAL EDUC. 521, 521-22 (2000).

⁵⁶ See generally Linda Morton, Howard Taras & Vivian Reznik, *Encouraging Physician-Attorney Collaboration Through More Explicit Professional Standards*, 29 HAMLINE J. PUB. L. & POL'Y 317 (2008).

⁵⁷ Daly, *supra* note 55, at 531-32.

cluded that MDPs were in the public interest, in July of 2000, the ABA House of Delegates rejected the Commission's recommendations.⁵⁸ The House of Delegates cited concerns that MDPs might impose upon the core values of the legal profession and create certain ethical issues.⁵⁹ Yet, despite the ABA's reluctance, collaborative professional partnerships continue to thrive as clients seek more efficient and effective approaches to solving their problems.⁶⁰

II. *Theoretical Foundations of the Course Design*

Through our course, "Problem Solving and Prevention in Healthcare," we hope to enhance students' interprofessional collaboration skills. By teaching students to understand, respect, and learn from a variety of professional approaches to a problem, we hope to stimulate their cognitive and creative thinking.⁶¹ Ultimately, we aim to have our students consider their own roles as lawyers in society from a broader, more inclusive, and more collaborative perspective.

To better accomplish our objectives, we designed, and continue to redesign, our course's context, structure, and competencies. We base our course teaching and framework on certain theoretical principles, borrowed from the professions of social work, medicine and law.

A. *Course Context*

1. *Theory*

Effective education in interprofessional collaboration requires certain conditions. For example, the collaborating professionals must share common interests.⁶² Furthermore, the client or society must have a stake in the professional collabora-

⁵⁸ *Id.* at 532.

⁵⁹ *Id.* at 531-32.

⁶⁰ To view a summary of state modifications regarding MDP, see American Bar Association, *Multidisciplinary Practice—Center for Professional Responsibility*, www.abanet.org/cpr/mdp/home.html (last visited Mar. 3, 2010). For further discussion of the MDP debate, see Jones, *supra* note 6, at 303-07; see generally Brustin, *supra* note 45; see generally Daly, *supra* note 55.

⁶¹ For discussions regarding the effect of interdisciplinary work on cognitive thinking, see Weinberg & Harding, *supra* note 16, at 22-24. As to the effect of interdisciplinary work on creative thinking, see Weinstein, *supra* note 5, at 325-28.

⁶² R. Michael Casto, *Education for Interprofessional Practice*, in R. MICHAEL CASTO &

tion.⁶³ Education in professional collaboration requires strong institutional support,⁶⁴ and this support must be sustainable.⁶⁵ Instruction should incorporate complex subject matter and require a team approach.⁶⁶ The program must strengthen the students' expertise in their own professional area, as well as their competencies in working with individuals outside their profession.⁶⁷

Faculty teaching interprofessional collaboration must, themselves, model interprofessionalism. In essence they "must work together as a team, negotiate, and learn to understand each other's roles and capabilities."⁶⁸ They must be able to champion their cause through "energy, dedication, persistence and a substantial time commitment. . ."⁶⁹ Students enrolled in the program must be willing to learn about and engage in teamwork. They must be willing to work with other professionals, as well as engage in a complex problem solving process. Finally, they must be willing to engage in critical, reflective, and creative thinking as they attempt to resolve the issues at hand.⁷⁰

MARIA C. JULIA, INTERPROFESSIONAL CARE AND COLLABORATIVE PRACTICE 95, 95 (1994) [hereinafter *Education for Interprofessional Practice*].

⁶³ *Id.* at 95-97 (explaining (1) "Interprofessional education should be provided in areas where professional education programs have common or overlapping interests," and (2) "Interprofessional education should be provided in areas where it would be in the client's or society's interest to enhance communication and cooperation between the professions") (emphasis in original). See also Laura R. Bronstein, *Index of Interdisciplinary Collaboration*, 26 SOC. WORK RES. 113, 114 (2002) [hereinafter *Index of Interdisciplinary Collaboration*] (describing "Interdependence," "Newly created professional activities," and "Collective ownership of goals" as necessary components to interprofessional collaboration); Kendall Ho et al., *Making Interprofessional Education Work: The Strategic Roles of the Academy*, 83(10) ACAD. MED. 934, 935 (2008) (discussing the importance of dialogue and common goals of stakeholders).

⁶⁴ *Education for Interprofessional Practice*, *supra* note 62, at 100 ("Education for interprofessional practice requires the institutional commitment of funds, personnel, and physical facilities."); Stokols, *supra* note 19, at 69.

⁶⁵ See generally Ho et al., *supra* note 63.

⁶⁶ John Gilbert & Leslie Bainbridge, *Canada—Interprofessional Education and Collaboration*, in INTERPROFESSIONAL COLLABORATION: FROM POLICY TO PRACTICE IN HEALTH AND SOCIAL CARE 284 (Audrey Leathard ed., 2003) (internal citations omitted).

⁶⁷ *Education for Interprofessional Practice*, *supra* note 62, at 97 ("Education for interprofessional practice should enhance both the students' knowledge of their professional area of competence and their skills and knowledge in interprofessional practice.").

⁶⁸ DUCANIS & GOLIN, *supra* note 8, at 160.

⁶⁹ Ho et al., *supra* note 63, at 935.

⁷⁰ This last context criterion arises from my own experiences teaching the course. *A New Approach*, *supra* note 3. See also *Index of Interdisciplinary Collaboration*, *supra* note 63, at 114-15 (describing "Flexibility" and "Reflection on process" and "Personal

2. *Application*

Students enrolled in our course, “Problem Solving and Prevention in Healthcare,” work in teams to resolve actual, current public health care problems in San Diego. Student teams work on problems such as the unavailability of healthy food products on school grounds; the effects of the Safely Surrendered Baby Law on the abandonment of newborns; the lack of adequate mental health care for incarcerated juveniles; and the lack of medical professionals available to administer insulin to elementary school children. A physician (either Dr. Howard Taras or Dr. Vivian Reznik), who has some knowledge of the problem, supervises the team. The teams work primarily with their own team members, but also with other professionals in San Diego, such as teachers, nurses, social workers, psychologists, and law enforcement, to investigate and attempt to resolve their chosen problem. At the end of the semester, student teams present their findings in a written report and an oral presentation to the class, and to other organizations with whom they have worked.⁷¹

In planning, teaching, and evaluating our course, the faculty makes every effort to work collaboratively.⁷² We limit our course to sixteen students, and through explicit course descriptions and conversations prior to the class commencing, we attempt to screen out those students whose lack of motivation may impede classroom learning. Our course has strong and consistent support from both our institutions—California Western School of Law and the University of California at San Diego.

characteristics” as necessary elements to collaboration). R. Michael Casto adeptly articulates the students’ learning process as follows: “*Education for interprofessional practice moves through a progression of awareness. . . sensitivity to the advantage of comprehensive rather than fragmented delivery of service. . . openness to the perspectives of other professions. . . engagement in the cooperative delivery of services. Finally, what results is cooperation in policy formulation.*” *Education for Interprofessional Practice*, *supra* note 62, at 99 (emphasis in original).

⁷¹ For a more detailed description of the course itself, see generally *A New Approach*, *supra* note 3.

⁷² For additional discussion on these four “continua of collaboration,” see DAVIS, *supra* note 6, at 20-22.

B. Course Structure

1. Theory

In their book on interdisciplinary health care teams, Alex J. Ducanis and Anne K. Golin describe three elements of interdisciplinary team education as follows:

1. [C]ognitive (primarily didactic) information – including organizational theory, small group dynamics, and the sociology of the professions
2. [A]ffective (and experiential) learning – by participating in a team, the students learn through experience how a team operates, how roles are established, how leadership emerges, etc.
3. [C]linical training – By participating as part of a team in assessment, treatment, and similar activities with the client, the student not only learns necessary clinical skills but also learns how to use those skills in conjunction with other professionals.⁷³

In addition to classroom learning, team participation is a critical element of the students' education in interprofessional collaboration; faculty demonstration of interprofessional teamwork is just as critical.⁷⁴ In terms of the necessity of a fieldwork component, findings from a 1982 study showed that students who participated in the fieldwork portion of a course, in contrast with a control group of students who did not, had a more sophisticated understanding of the complexities of interprofessional work and a wider knowledge of the work of other professions.⁷⁵

2. Application

We have structured our course based on Ducanis and Golin's three components. We use a different nomenclature to describe each component: (1) didactic (replacing "cognitive"); (2) teamwork (replacing "affective learning"); and (3) fieldwork (replacing "clinical training"). This structural framework forms

⁷³ DUCANIS & GOLIN, *supra* note 8, at 157.

⁷⁴ For a more detailed discussion of the educational theory behind teamwork, see generally James O. Billups, *Interprofessional Team Process*, 26(2) THEORY INTO PRACTICE 146 (1987).

⁷⁵ Marie Weil, *Research on Issues in Collaboration between Social Workers and Lawyers*, 56 SOC. SERV. REV. 393, 402-03 (1982).

the basis for detailing our course competencies in Section C.2, below.

C. Course Competencies

1. Theory

To create a set of course competencies—the knowledge, skills and attitudes we want our students to learn—we rely on Professor Janet Weinstein’s theory of interdisciplinary collaborative principles, outlined in her article, *Coming of Age: Recognizing the Importance of Interdisciplinary Education in Law Practice*.⁷⁶ Weinstein’s theory aptly synthesizes causes of, and solutions to, inter-professional rifts. Relying, in part on prior work by her co-teacher, Professor Inger Davis, Weinstein details specific competencies necessary for effective interdisciplinary collaboration, namely: (1) “Communication Skills”;⁷⁷ (2) “Knowledge of Non-Legal Resources”;⁷⁸ (3) “Awareness of Self and Others”;⁷⁹ (4) “An Understanding of and Appreciation for Group Process”; and (5) “Leadership Skills.”⁸⁰ According to Weinstein, the following may obstruct interdisciplinary work: professional cultural differences; lack of skills training; the competitive and narrow

⁷⁶ See generally Weinstein, *supra* note 5. For a discussion of collaborative skills, generally, and their application in a Constitutional Law course, see Elizabeth A. Reilly, *Deposing the “Tyranny of Extroverts”: Collaborative Learning in the Traditional Classroom Format*, 50 J. LEGAL EDUC. 593, 606-14 (2000). Collaborative skills include communication skills, interpersonal skills (including leadership, delegation, self-knowledge and diversity skills), conflict management skills, and task management skills. *Id.* at 606. For another list of competencies regarding effective interprofessional collaboration, see Colarossi & Forgey, *supra* note 5, at 309 (incorporating Weinstein’s list, with the addition of “positive attitudes toward collaboration”). We included this attitude in our list of course prerequisites, see *supra* Part I.B.

⁷⁷ Communication skills have two facets: one is “the ability to speak and understand a shared language;” the second is “the ability to engage in dialogue with another, so that the participants actually exchange ideas,” otherwise known as, “active, empathic listening.” Weinstein, *supra* note 5, at 335-36.

⁷⁸ Weinstein names five components to fulfilling her second criteria “Knowledge of Non-Legal Resources.” Weinstein, *supra* note 5, at 337. The factors are: (1) process and content of training involved; (2) “licensing requirements;” (3) kinds of work professionals in the discipline perform; (4) “underlying values of the profession;” and (5) limitations in expertise. *Id.*

⁷⁹ Awareness of self and others comprises knowledge of one’s personal and professional values, as well as prejudices and behaviors – particularly those that might affect teamwork. *Id.* at 338.

⁸⁰ Under the final category of “Leadership Skills,” Weinstein describes a number of skills necessary for leaders to convey authority and to maintain sensitivity to group needs. *Id.* at 340.

nature of legal education and practice; and personality issues in lawyers and law students, which can inhibit collaborative skills.⁸¹

The next section discusses how we have incorporated Weinstein's principles into the didactic, fieldwork, and teamwork components of our course.

2. *Application*

i. Communication Skills and Methods

We teach, both in our initial weekend training and throughout the class, a variety of communication skills, including listening, negotiation and interviewing skills. For example, students conduct role playing exercises where they attempt to contact and set up a meeting with a busy professional. In our class debriefings, students discuss their successes and failures in applying different skills to their interactions with other professionals in their fieldwork. Students also offer helpful suggestions to other groups experiencing communication difficulties. We also teach a compilation of problem solving methods, such as mediation, negotiation, facilitation, arbitration, and systems design. Students apply these skills and methods in their field experience, teamwork, and problem solutions.

ii. Knowledge of Other Disciplines

To make students more aware of how their legal training and consequential approach to problem solving differs from medical training, Dr. Howard Taras explains these differences in the initial weekend training. Students continue to interact with their assigned field supervisors (Dr. Taras or Dr. Reznik) throughout the course. Students also interact with a variety of professionals involved in their chosen public health issue, including health professionals, social workers, police officers, educators, and school administrators. During class time, we debrief students' experiences communicating with professionals outside of the legal profession. Each student team has at least one law

⁸¹ *Id.* at 320. For additional discussion of factors that can impede or frustrate collaboration, see Stokols, *supra* note 19, at 71. For a list of institutional and individual barriers, see DUCANIS & GOLIN, *supra* note 8, at 59. For a more detailed description of student discomfort and resistance to interdisciplinary collaboration, see Voyvodic & Medcalf, *supra* note 54, at 121-27.

student, who has worked in the health care field prior to law school (as a physician, nurse, risk manager, etc.), in order to lend further insight to each team's approach to its public health problem.

iii. Understanding Group Process and Team Building

Most law students consider teamwork a foreign concept. In our training, we engage them in group work immediately to give them an idea of the complexities of teamwork. The specific teams for each public health issue are created during the training. Each team spends time reading and discussing aspects of team building and problem solving, with particular focus on the team's chosen problem. Our final training exercise utilizes "AWAKA®," a cross-cultural communication simulation.⁸² An experienced physician and a team of volunteers lead the exercise, which combines all of these team components and teaches important lessons not only on team formation and teamwork, but also on understanding of other cultures and other professions. In the field, students observe a variety of interprofessional teams working together as they investigate and attempt to resolve a problem. In class, the teams spend time with their team members, but we also encourage students to view the entire class as a team. Individual teams are not in competition with each other, but instead serve to help one another by offering suggestions based on their own experiences. We, as the faculty, also try to mentor teamwork in our teaching.

iv. Awareness of Self and Others, Including Effects of One's Behaviors on Others

In her teaching, Linda Morton explicitly discusses the benefits and processes of both self-awareness and self-evaluation throughout the training, indicating that this component factors into each student's final grade. Each team turns in three sequential reports on their problem. On the first two reports, the team must provide a separate evaluation of its collaborative efforts. In the third and final report, each student evaluates his or her own contribution, development, and reaction to the team

⁸² AWAKA: *Cross-Cultural Communication Simulation*, <http://www.discoverylearning.com/products/awaka.aspx> (last visited Mar. 3, 2010).

problem solving process. In their final reports to the class and to the agencies, teams frequently discuss their own team process, and even their team's own procedural flaws. As faculty, we also self-evaluate, with the students and among ourselves, regarding our processes, contributions, and flaws.

v. Leadership Skills

Leadership skills do not receive the emphasis in our course that perhaps they should. Although the course provides students with opportunities to be team leaders, and students discuss leadership issues in their team and in their self-evaluations, we have yet to teach leadership concepts explicitly. We believe that students should first learn humility and respect towards other professions before they consider leadership roles as attorneys. However, we do plan to better incorporate this concept in future classes, and explain the value of humble, respectful, and inclusive leadership.⁸³

Despite our attempt to create and nourish a set of core competencies, structure, and context for teaching interprofessional collaboration, questions remain as to the effectiveness of our attempts. Are students actually improving their competency in interprofessional collaboration? To what extent do they actually reconsider the relationships lawyers have to others in society? How might we improve what we do?

Although many have extolled the virtues, if not the necessity, of interprofessional education and collaboration, the data on its effectiveness remains "sparse and confusing."⁸⁴ As one scholar wrote, "If the interprofessional education agenda is to be more than a mystical attitude, we need to be very clear about who gains, who pays, who assesses relevance and who measures outcomes."⁸⁵ The following section offers our findings, both qualitative and quantitative, on our efforts to enhance students' skills in interdisciplinary collaboration.

⁸³ For further discussion of principled leadership, see Davis, *supra* note 6, at 96-97.

⁸⁴ Gilbert & Bainbridge, *supra* note 66, at 283.

⁸⁵ *Id.* at 285.

III. Methods of Evaluation and Results

For the past three years, we have collected both qualitative and quantitative data from students enrolled in our course. Through our survey methods, we hoped to ascertain: (1) if students were satisfied with the course; (2) whether students felt they had improved in the five areas of competency enumerated above; and (3) whether students felt more comfortable collaborating with other professionals as a result of their course participation. Below we outline our methods and present our results.

A. Data Collection Methods

1. Qualitative Data Collection

We surveyed each of our three student groups during our three years of teaching as to course satisfaction and experience working with other professionals. All survey questions were open-ended, such as:

- Comments on the field experience
- What benefits did you gain from the course?
- How, if at all, has this course changed your career values?
- What is your comfort level in collaborating with other professionals?
- How is it collaborating with other professionals to solve health-related problems?
- How do other professionals' approaches to problems differ from those of a lawyer?

We distributed the surveys to all students as written, anonymous questionnaires; over eighty percent of the students completed the questionnaire each year.

2. Quantitative Data Collection

Most recently, from 2007-2008, we added several questions to our survey to elicit student self-assessment in the five skills Weinstein deems necessary for interprofessional collaboration: communication skills, knowledge of other disciplines, teamwork skills, awareness of self and others, and leadership skills. In the past year, we conducted a pre- and post-test survey on students' self-assessment of these skills, and, in the post-survey, asked them

the degree to which they thought they had increased or decreased their abilities in each competency. Each student was also asked in a pre- and post-test survey during this last year to assess their comfort level in working with other professionals, and the degree to which they felt it had changed as a result of the class.

B. Results

1. Qualitative Results: Course Satisfaction and Skills

i. Course Satisfaction

Almost all students responded positively to the open-ended questions regarding the quality of the course. With few exceptions, most students enjoyed both the class and the field experiences. On the other hand, many students felt that the expectations and requirements for the periodic written reports on their team's progress were not detailed enough. Regarding each component of the course (i.e., readings, discussion, role playing, group report development, and presentations), there was no general consensus or even one prevalent trend. Each student had a broad range of opinions ranging from strong endorsement to negative criticism.

ii. Skills

On the qualitative self-assessment of collaboration skills, students generally expressed improvement in their collaboration skills. Typical sample responses included:

- *"Finding a solution is one thing while gaining acceptance of the possible solution in the community is another."*
- *"In general, I want to be a good listener and not just be preparing to speak. This applies to both my personal life and my professional life."*
- *"I feel that my biggest gain was in relations with others. I went out into the field and talked with a lot of people. I think that my ability to engage with others is stronger. I will strive to better myself in these areas in my future career."*

Looking at a qualitative self-assessment of knowledge of other disciplines, students varied on their perception of the

knowledge gained regarding other disciplines. The following sample of representative responses exhibits this variation:

- *“They think obviously, outside legal terms and solve problems with more macro approaches. It is refreshing to engage with professionals that aren’t lawyers because they have different skill sets.”*
- *“This is the portion of that class that I enjoyed the most and learned the most. The collaboration with other professionals was interesting because you get an understanding of how others see the problems.”*
- *“I learned I do not like working with Dr’s. They are arrogant and ridiculous.”*

On the qualitative self-assessment of group process and teambuilding, students similarly varied in their responses. The following is a sample of various representative responses:

- *“It was very difficult at first to trust others with my grade. It ended up being great.”*
- *“New appreciation of complexities of teamwork”*
- *“Did not like it”*

Regarding the qualitative self-assessment of awareness of self and others, most students gained something from this process; however, students varied on the degree of self-awareness and awareness of others. The following sample of representative responses exhibits this variation:

- *“Working in a group forces you to understand others’ ideas and thoughts. You are forced out of your shell. Personally, the idea was a little strange at first but once the groups were formed and the ideas were laid out, everything went great.”*
- *“Although working with this team was often times very frustrating for me, I did learn some things about myself. For example, when a conflict arises, or I am not happy with another member’s performance, I need to confront them right away.”*
- *“[B]eing a ‘Type A’ personality, I am reluctant to relinquish control to another person when my level of accomplishment (translation: grade) is dependent on his or her performance. By the end of Report One, I had no trouble giving up control. . . .I consider this a positive experience.”*

Finally, to Weinstein’s list of necessary skills for interdisciplinary collaboration, we added our own category on “awareness of

complexities in collaborative problem solving,” due to frequent student comment on the subject. Below is a representative sample of student responses:

- “I gained more insight to the complexity of a large societal problem. A greater appreciation for how difficult it can be to affect change.”
- “As much as I learned and enjoyed this portion of the class I did realize that it is hard to work in collaboration with so many fields. So many of them seem self interested or [believe] that their solution is the best. It is hard to foster new ideas when so many people already have preconceived ideas of how the solution is to be formed.”
- “I came away with the feeling that everyone is working away in their own respective sphere, aware that the problem is huge but resigned to it. Everyone wants it better, wants a change, but thinks the problem is too big to do anything individually. So an attorney might do the same thing. . . .”

2. Quantitative Results: Self-Assessment of Skills

We asked students before and after the course to self-assess their own skills in the five Weinstein competencies, as well as to self-assess their comfort in collaborating with other professional groups. Nine (of a possible thirteen) responded to both the pre- and post-survey questionnaires, and these data are tabulated in Table A. Students were not reminded of their initial self-rated skill score when they completed the survey after the course ended.

Table A. Pre-and post-course mean self-ranking scores for Weinstein competency skills and comfort collaborating with other professional groups (pre and post-course):

“Please rank yourself in terms of following skills and attributes (high, medium, low)†”

†Score Low = 0 Medium = 1 High = 2	Communication Skills	Knowledge of other disciplines	Teamwork skills	Awareness of self and others	Leadership skills	Comfort collaborating with other professionals
Before Course	1.7	1.1	1.6	1.6	1.1	1.6
After Course	1.8	.8	1.2	1.3	1.3	1.7
Difference between Pre and Post	+0.1	-0.3	-0.4	-0.3	+0.2	+0.1

From Table A, it would appear that there were only very small gains in students' comfort with collaborating with other professional groups, leadership skills, and communication skills. For other competencies, it appears that students had *lower* self-assessed skills scores *after* completing the course. However, we also asked students to self-assess the extent to which their level of competency and comfort in collaboration had changed in the final evaluation. Eleven (of a possible thirteen) students responded to these questions. These results, which are far more positive in terms of improvement, are described in Table B, below. Again, students were not reminded of their initial responses in the pre-test survey.

*Table B. Response to question at post-course survey:
"To what extent has each [skill] has increased or decreased since the beginning of the course (increased a lot, increased a little, stayed the same, decreased a little, decreased a lot".*

Score 0=No improvement 1=Little improvement 2=A lot of Improvement	Communication Skills	Knowledge of other disciplines	Teamwork skills	Awareness of self and others	Leadership skills	Comfort collaborating with other professionals
Average score for perceived change at end of course	+0.9	+1.5	+1.0	+1.2	+0.5	+1.3

Significant perceived improvement in all five competencies and in comfort in collaborating with other professional groups was apparent when the question was asked in this way. Of the five categories, students perceived the least improvement with their "leadership skills" at the end of the course, and the highest improvement with "knowledge of other disciplines." The different results between these two ways of measuring change as a result of the course are shown in Table C.

Table C. Comparison of numerical change in skill self-assessment (pre vs. post), with perceived change at end of course.

Score 0=No improvement 1=Little improvement 2=A lot of Improvement	Communication Skills	Knowledge of other disciplines	Teamwork skills	Awareness of self and others	Leadership skills	Comfort collaborating with other professionals	Number of respondents
Difference between Pre and Post	+0.1	-0.3	-0.4	-0.3	+0.2	+0.1	9
Average score for perceived change at end of course	+0.9	+1.5	+1.0	+1.2	+0.5	+1.3	11

Several factors explain the apparent discrepancy when a student gives himself a lower score for a competency at the conclusion of the course, despite perceiving improvement in that same competency as a result of the course. First, at the end of the course students may not have remembered the scale they used to judge their own skill set several months earlier when the course began. Second, although students noticed self-improvement, they may also have learned that true competency requires many more skills than they had originally anticipated. In addition, this was a self-report, not an objective assessment of their skill level in each of the five competencies. Objective assessments may well have had different pre- and post-course results. Finally, these results rely on a very small sample size (between nine and eleven of a possible thirteen). We also only have measures of one class in one year. Statistically significant outcomes require more robust figures—something we will attempt to collect in future years. Given the seemingly contradictory results of how students changed as a result of the course, these students' written comments (i.e., the qualitative results) are more revealing and of paramount importance to understanding the change.

IV. Discussion

Our current data tells us that students are generally satisfied with our course, and that they believe they have improved in the skills and attitudes that form the foundation of collaboration theory. Also, most students feel the course increased their comfort level interacting with other professionals. Since students, on average, feel they have improved their competency and comfort in working with other disciplines, we consider this course a suc-

successful movement towards our ultimate goal of promoting successful inter-professional collaboration in law students. The students' awareness that public health problems are very complex is a realistic and necessary perception, and another positive influence of this course. Student teams' explorations of current and complex public health problems will continue to be a focus of our class.

We recognize that our research contains gaps. Our quantitative data comes from limited numbers of students, and relies on students' self-efficacy, not on their actual knowledge. Although we measured changes in students' skills and attitudes, we have not measured changes in students' *behaviors*. In addition, some causal links between our course design and students' improved competencies remain unclear. For example, we do not know, at this point, which of the three classroom components (didactic, teamwork, fieldwork) or which aspects of our teaching (lecture, role plays, speakers, etc.) most effectively teach collaboration skills. Moreover, we have not quantitatively measured students' awareness of the complexities of collaborative problem solving—another competency we have added to Weinstein's list.

We hope to address the gaps in our research in future studies, which might include additional evaluative methods, including direct skill-based testing, control groups, and career follow-up testing to assess behavioral changes. We also have further questions to pursue:

- To what extent do students' solutions to community problems provide new and useful ideas to the constituencies they work with?
- To what extent does an individual's personality impede or promote their learning of collaboration skills?
- Should the course be followed by another with more advanced application of the competencies learned?
- To what extent are we teaching students to step outside their own discipline?⁸⁶ At this point in their learning, do they have the capability to assess their own disci-

⁸⁶ This concept of looking at one's profession as an outsider is known as "metadisciplinary" work. With a metadisciplinary perspective, facts and knowledge are relative—reflections of one's training and life perspective. For further discussion of metadisciplinary work in interdisciplinary theory, see Weinberg & Harding, *supra* note 16, at 30-33.

pline's assumptions and biases? To what extent can understanding of other disciplines increase without full development of one's own identity? To what extent should we further incorporate the concept of role clarity in our own teaching?⁸⁷

- Are we too confined to our own goals and theory? For example, are we trying to simply teach students to collaborate, or are we trying to alter their way of thinking? If so, how might we measure this type of change? What might students be learning that we have not considered? What are they missing, and what is missing from our curriculum and methods?⁸⁸

We have also begun to examine our own collaboration of two physicians and a lawyer, resulting in additional questions for us to pursue. For example, what were the necessary conditions for our own collaboration? How has our collaboration progressed? To what extent have our own competencies improved? What factors are necessary for our collaboration to thrive? What have been our frustrations? Our gratifications? What have we learned in the process—about collaboration, about our teaching, and about ourselves individually?

All of these questions deserve further thought and exploration beyond the focus of this article. We have certainly found that the theoretical conditions precedent to any collaboration, such as common purpose and institutional support, must exist. Beyond this theoretical framework, however, we believe that intellectual curiosity and trust underlie our successful collaboration. These two qualities inspired our initial meetings and have only expanded as our collaboration has grown, despite vastly different vocabularies, educational systems, and practices. In addition to trust and curiosity, we have relied on humor and good

⁸⁷ See Billups, *supra* note 74, at 148 ("Interprofessional collaboration is an extension of professional expertise and no substitute for it.") (internal citations omitted). For further discussion of the timing and pitfalls of interdisciplinary learning, see, e.g., Hall & Weaver, *supra* note 11, at 869; DUCANIS & GOLAN, *supra* note 8, at 159-62.

⁸⁸ For example, we have begun discussions to introduce additional disciplines, such as nursing and social work, to our teams. If we do, perhaps we should teach more about lawyer identity and role clarity, as collaboration theory consistently warns against role confusion where career identities are not fully molded. For our second year participants, this could be a true danger. See generally Billups, *supra* note 74.

coffee to enhance our work together. We look forward to the future.

V. Conclusion

Our course and our research have shown that the concept of interdisciplinary collaboration can be successfully taught and evaluated in a legal education curriculum. We further believe that our framework for teaching law students to collaborate with outside professionals can be applied to most other subjects in legal education. However, the framework we offer is simply a structural support—a base from which to begin. Successful interdisciplinary teaching depends primarily on the motivation of the students, faculty, and institutions involved.

