Scholarship in Teaching Portfolio

Submitted in support of the appointment of Klara K. Papp to the
Case Western Reserve University School of Medicine faculty as professor in the
non-tenure track in the Department of General Medical Sciences
(Center for Medical Education)

By

Klara K. Papp, PhD

Table of Contents

	Page
Teaching Philosophy Statement	3
Professional Development in Medical Education	5
Teaching Inventories	6
Local	6
Regional and National	7
Curriculum Development and Instructional Design	9
Educational Administration	11
School of Medicine	10
Regional and National	12
Scholarship in Medical Education	13
Honors, Awards and Grants	14
Selected Letters and Evaluations	16
Reprints	51

Teaching Philosophy Statement

The challenge in teaching is to engage learners in ways that resonate with them and in ways that enable them to reconsider their assumptions and stretch their current level of understanding. While working in the Department of Surgery at the University of Louisville, I attended lectures presented to medical students during their surgical rotation. Following this experience, a lament by a medical student in 1891 became clear and seemed very current:

> "At a lecture a student plays an entirely passive part. He has no part to play in the mental exhibition; he has simply to listen and listen, and take in and take in; and the mind to do its best must have something more required of it than to note passively thoughts already elaborated by someone else."[1]

There appeared meaningful differences between those lecturers that engaged students by asking them questions and those lecturers that presented information 'grand rounds style' and left little time for questioning. No matter how interesting the talk and how well- crafted the slides, when the lecturer did not engage me, my attention wandered. Though my posture and demeanor showed that I was paying attention, in reality, I was not. Sometimes the lecturer would tum down the lights to enable the students to see the slides more vividly. I remember thinking how difficult it must have been for students to pay attention when post-call.

We devised a study to assess the influence of asking questions on learner perceptions of the lecture.[2] Students rated lectures significantly more favorably if the lecturers asked questions of them. Results showed a significant correlation between ratings of 'this lecture stimulated my thinking' and the number of questions that were asked.

This experience influenced my preparation and my behavior in the classroom. I think about ways in which I might engage participants in the subject matter trying a variety of methods. I carefully plan questions during presentations that I make and may also provide written questions to give participants time for giving more reasoned answers.

Engaging participants in material that I was teaching was simpler than I first anticipated. The irony did not escaped me that I was discussing educational issues with faculty with many years' experience teaching. Initially, I doubted whether I could contribute to their teaching performance in any meaningful way. I had the educational background; however, they possessed experiences gained through observation, self-reflection, and on the job training. I had a connection with the literature and could provide background to the research in medical

[1] Pusey WA. Medical education-from the student's point of view. Medical Record 1891: 40; 698-700.
[2] Papp KK, Miller FB. The answer to stimulating lectures is the question. Medical Teacher 1996; 18: 147-9.

education which was being sought by teaching faculty. The faculty's focus is more appropriately on effective methods to achieve student learning rather than on teaching techniques *per se.* It was good symbiosis.

My colleague and cherished collaborator, Dr. Terry Wolpaw, has been most influential in further shaping my thinking on this issue. We participated in a faculty development program that invested considerable resources in enabling faculty in the outpatient setting to become better teachers.[3] The investment of resources in students to become better learners to enable them to make better use of learning opportunities in the outpatient setting paled in comparison. This prompted us to design a planned program of research that set about investigating how to prepare students to make better use of the learning opportunities in the outpatient setting. We introduced a 6-step learner-centered technique for case presentations to enhance the expression of clinical reasoning, SNAPPS (**S**ummarize history and findings; **N**arrow the differential; **A**nalyze the differential; **P**robe preceptor about uncertainties; **P**lan management; **S**elect case-related issues for self-study). We focused on learners and found that the outcomes were very satisfying.[4,5]

My teaching philosophy thus evolved into a philosophy of learning which necessitates motivating the complex highly-human drive to learn and pushing the boundaries of human understanding through study and research.

The scholarship dimension of teaching and learning has become increasingly important to me. Recently, I have accepted the invitation to serve as deputy editor for the Journal of General Internal Medicine. In the process of adjudicating manuscripts, I have become much more keenly aware of the importance of scholarship in making improvements and contributing to the profession beyond one's institutional boundaries. When we implemented the WR_2 curriculum at Case Western Reserve University School of Medicine, there were many significant innovations that occurred here that I am eager to disseminate to the broader medical education community of scholars.

Klara Papp

[3] Our school participated in the GIMGEL project described in Bowen JL, et al. A National Collaboration to Disseminate Skills for Outpatient Teaching in Internal Medicine: Program Description and Preliminary Evaluation. Acad Med 2006; 81: 193-202.

[4] Wolpaw T, Papp KK, Bordage G. Using SNAPPS to facilitate the expression of clinical reasoning and uncertainties: a randomized comparison group trial. Acad Med 2009; 84: 517-24.

[5] Papp KK, Wolpaw T. Clinical reasoning in resident case presentations. Med Educ 2010; 44: 512.

Professional Development in Medical Education

1. Doctorate in Educational Psychology
   State University of New York at Buffalo 1973 - 1980
   The Department of Educational Psychology at SUNYAB offers doctoral and master's degree programs in psychology and counseling specialties. Faculty in this department has been identified as one of the top 10 most productive departments in the United States by Academic Analytics. It was a great department in which to learn curriculum development, program evaluation, research design, and quantitative skills in educational research methods.

2. Harvard Macy Institute for Educators in the Health Professions - 2006
   The goal of this program is to enhance the professional development of physicians, basic scientists and other health professionals as educators. It combines five major themes: learning and teaching, curriculum design, evaluation, leadership, and information technology. It provides a select group of healthcare professionals with the knowledge base and skills to enhance expertise in designing and implementing an educational project and taking a leadership role in education.

3. Social Network Analysis Summer Institute - 2008
   Social network analysis is the mapping and measuring of relationships and flows between people, groups, organizations, and social entities. The nodes in the network are the people and groups while the links show-relationships or flows between the nodes. SNA provides both a visual and a mathematical analysis of human relationships. The conference provided the background to use social network analysis software to map and measure the relationships among leaders in the CTSA and clinical and translational science investigators to assess collaborations and multidisciplinary interactions which was important for the CTSA evaluation initiatives.

Teaching Inventory

(Selected) Local Teaching Activities

Qualitative Research Methods

This workshop was intended for educators interested developing skills in designing and implementing qualitative research studies. Qualitative research methods are gaining acceptance in medical education research and are well-suited for hypothesis generation, answering questions like *What makes our good teachers good?* In this workshop, we described how to plan and conduct a qualitative study. Participants explored their own research questions and discussed techniques to analyze qualitative data. Participants compared and contrasted different qualitative research methods, and explored how to optimize validity and reliability.

Mixed Method Designs in Medical Education

This workshop was intended for educators interested in developing skills in designing and implementing mixed method research studies. Mixed methods are well- suited for hypothesis generation. In this workshop, we discussed how to plan and conduct a mixed-method study and participants explored their own research questions and identified possible techniques to analyze data. Participants compared different mixed-method research designs, and discussed how to optimize validity and approach data interpretation.

Survey Research Methods: Questionnaire Design

Surveys have applications within the health care domains of research, education, administration, and patient care. Successful collection and analysis of data depends on the quality of the survey. This workshop was designed for medical educators who planned to develop and administer a questionnaires and publish their findings. Participants identified steps to plan, design, and administer a questionnaire, discussed advantages and disadvantages of the different methods of data collection (mail, telephone, face-to-face, lnternet/e-mail), qualities of good questions, and how to improve response rates. Participants critically appraised examples of survey items that represented common question wording mistakes.

How to Write Effective Learning Objectives

This workshop identified how to write effective, clear, and unambiguous learning objectives that inform students and serve as guides to help them identify important learning issues.

Assessments that Matter: Beyond Recall of Factual Information

This workshop provided an overview of lessons learned in student assessment in WR2 and described essay-based method of assessing medical knowledge and reasoning and how it is reinforced through student portfolios. We also described efforts in assessing higher order thinking skills.

From Novice to Expert: The Role of Formative Assessment & Feedback

As learners become more experienced and proficient, their need for feedback changes. This workshop was intended for clinical faculty working with students in the clinical setting. Faculty identified effective methods for giving feedback based upon the learner's level of proficiency.

Social Network Analysis

Social network analysis is a means of assessing relationships among people, groups, and organizations. During this workshop, concepts of social network analysis were introduced and two applications of social network analysis adopted within the clinical and translational science community in Cleveland were described.

(Selected) Regional and National

The Analysis of Social Networks within a CTSA 02/2009 at Ohio State University

Interest in assessing relationships among clinical and translational scientists and among core key functions directors is growing among CTSAs. During this seminar, concepts of social network analysis were presented, basic network statistics explained, and examples of social network analysis diagrams, adopted within the clinical and translational science community in Cleveland were presented.

Assessments that Matter: Beyond Recall of Factual Information at the IAMSE Webinar 10/2008; also presented at the OSU SOM faculty retreat

A firmly held belief in medical education is that assessment drives learning. Medical students adapt themselves to what they need to learn to succeed for the test. It follows that various formats of tests foster various kinds of study, learning, and retention among medical students. Essay examinations are held to be superior to multiple choice tests in promoting more desirable study methods and higher performance on tasks requiring organization and deeper comprehension and analysis of information. Multiple-choice tests are viewed as promoting less desirable study methods since students are required to choose the correct answer from among a list of alternatives. During this seminar, educators considered how assessments used may contribute to better educated and more proficient doctors.

Medical Education Research Boot Camp CDIM Course Director 10/2009

This day-long session was intended for medical educators interested in designing their own research projects. It was held at Clerkship Directors in Internal Medicine (CDIM) Annual Meeting in Washington 2009. Participants identified how to conceive a research question and identified qualities of good research questions. Participants considered the type of research studies appropriate to the research question. In addition, they identified considerations in seeking IRB approval and considered case studies that enabled them identify whether IRB approval should be sought.

Questionnaire Design: Survey Construction & Analysis: CDlM 2009 and 2008

Surveys have applications within the health care domains of research, education, administration, and patient care. Successful collection and analysis of data depends on the quality of the survey. In this workshop, we will discuss how to plan, design, and conduct a survey. Participants will learn about advantages and disadvantages of the different methods of data collection (mail, telephone, face-to-face, lnternet/e-mail), qualities of good questions, and how to improve response rates. Participants critically appraised examples of survey items that represent common question wording mistakes.

Conceiving the Research Question

This session was intended for educators interested in identifying an educational research question and pursuing a research interest within the internal medicine core clerkship. Workshop participants examined current trends in research in medical education and discussed steps involved in conceiving a research question. The practical, hands-on, interactive approach enabled participants to consider what key elements necessary for a good research questions and how research questions differ from study aims and research hypotheses. During this workshop, participants identified qualities of good research questions and worked to identify their own research questions.

Evaluation of Clinical & Translational Research Education & Training:

Decades' Perspective 03/2010-NIH Webinar

The education and training of multidisciplinary clinical and translational scientists has been supported through NIH programs for over a decade. Every several years, funding was supported through different institutes and thus, there was need to reconcile the different approaches that have been taken to evaluate these programs and articulate lessons learned. I was invited to speak about the program evaluation design of the K-12 Multidisciplinary Research Career Development Program.

Curriculum Development and Instructional Design[5]

1. CWRU School of Medicine *WR2* Curriculum Assessment (2004 - 2011)-I worked with a core group of faculty to design, lead, and implement a major transformation of methods of assessing student performance. We worked collaboratively to identify 10 core principles of student assessment and designed a system that aligned with those principles. I worked as liaison to the Office of Administrative Computing to help shape the online software to administer the system. The procedures moved from largely multiple-choice test questions to essay based questions that assess critical thinking and analytical reasoning. I wrote a handbook that was used to describe the system and that facilitated the transition to the new system. The Handbook was used at CWRU SOM. Faculty at Hofstra and Uniformed Services of the Health Sciences School of Medicine were interested in our testing procedures were given copies of our Handbook.

2. CWRU School of Medicine *WR2* Program Evaluation (2004 - 2011)-Working with a core group of faculty, we designed the methods for assessing the outcomes of the *WR2* curriculum. The new curriculum was designed around for pillars of medical education: clinical mastery, research and scholarship, leadership, and civic professionalism.[6] We designed a study to assess whether these our program achieved the goals of our curriculum. We included students' and faculty's perceptions about the curriculum as well as internal and external measures of achievement in the documentation of outcomes. We identified several externally validated measures and adopted them for our design. These include Learning Environment Questionnaire, Cognitive Behavior Survey, Social Issues in Medicine, as well as National Board of Medical Examiners' Cumulative Achievement Tests and USMLE Steps 1 & 2 scores. Data collection is ongoing as the students in the class of 2010 are the first cohort to graduate. We plan to follow them beyond graduation into residency by surveying residency program directors as well as graduates to ascertain their perceptions of how well our curriculum prepared them.

3. Learning Objectives for *WR2* Curriculum (2004 - 2011) This brief presentation, about the essential elements of effective learning objectives, was designed for faculty development at CWRU. Writing effective learning objectives is important for guiding student learning and for communicating the content of each activity in the curriculum. This presentation was discussed with each design team working on the new curriculum.

4. Assessments that Matter: Beyond Recall of Factual Information This workshop described our assessment procedures and has been the basis for working with faculty in Foundations of Medicine and Health as they prepare measures for assessing student performance. In addition, it has been presented at a webinar of the International Association of Basic Science

[6]Horwitz RI. White Paper on Medical Education. Circulated at the Annual School of Medicine Faculty Retreat 02/2004.

Educators as well as to faculty at the Ohio State University School of Medicine Annual Faculty Retreat.

5. The Clinical Transaction Development P a t h w a y (2003 - 2006) I worked as co-investigator on a 3-year grant funded through the New York Academy of Medicine and the AAMC to develop a curriculum to help students improve their skills in the clinical encounter. This was a competitive grant that was awarded to only 6 medical schools. Working with a small core of faculty, we designed measurable outcomes of the program. The eighteen students who participated in this project gave valuable feedback and provided data on the feasibility of an electronic portfolio that became an integral part of student assessment in the WR2 curriculum.

6. Simulated Internal Medicine Patient Learning Exercises (SIMPLE) (2008-2012) co-authored the case of Mr. Kish, a 55-year old male with complaint of fatigue that is used by over 50 medical schools during the required core clerkship rotation in internal medicine. It is published by inTIME in February 2008.

7. Assessments that Matter: Beyond Recall of Factual Information This workshop describes our assessment procedures and has been the basis for working with faculty in Foundations of Medicine and Health as they prepare measures for assessing student performance. In addition, it has been presented at a webinar of the International Association of Basic Science Educators as well as to faculty at the Ohio State University School of Medicine Annual Faculty Retreat.

8. The Clinical Transaction Development P a t h w a y (2003-2006) I worked as co-investigator on a 3-year grant funded through the New York Academy of Medicine and the AAMC to develop a curriculum to help students improve their skills in the clinical encounter. This was a competitive grant that was awarded to only 6 medical schools. Working with a small core of faculty, we designed measurable outcomes of the program. The eighteen students who participated in this project gave valuable feedback and provided data on the feasibility of an electronic portfolio that became an integral part of student assessment in the WR2 curriculum.

9. Simulated Internal Medicine Patient Learning Exercises (SIMPLE) (2008-2012) co-authored the case of Mr. Kish, a 55-year old male with complaint of fatigue that is used by over 50 medical schools during the required core clerkship rotation in internal medicine. It is published by inTIME in February 2008.

10. The Aging Foot: An Interdisciplinary Perspective (2003-2005) co-editor to identify key learning objectives and develop modules on knowledge & clinical skills that primary care residents should master in providing foot care to elderly patients.

Educational Administration

School of Medicine

Director, Center for the Advancement of Medical Learning (CAML) School of Medicine (2006- 2011). CAML was established in 2006 to support faculty development, student learning, and educational scholarship. Since its inception, we have offered 138 workshops for faculty in the areas of teaching, clinical teaching, and research in medical education; 14 workshops for residents; 10 workshops for medical students. CAML provides resources and support to faculty for teaching and evaluation.

Member, Multidisciplinary Clinical Research Career Development Program (MCRCD) Program Evaluation Committee which evolved into the CTSC Program Evaluation Committee (2004 - 2011) This Committee oversees the activities of the Evaluation Core and provides oversight and input into the priorities and activities in conducting the CTSC program evaluation.

Chair, Committee on Program Evaluation School of Medicine (2005 - 2011) The Committee was established to set procedures and policies for program evaluation in the School of Medicine. The Committee meets monthly and discusses procedures and updates on evaluation issues.

Co-Chair, Committee on Student Assessment School of Medicine (2005 - 2011) This Committee reviews assessment issues in the WR2 Curriculum and recommends changes in policy and procedures to ensure that students are assessed in a manner that is consistent with WR2 principles and adhere to technical and professional standards for educational testing.

Member, Curriculum Monitoring Council (2006 - 2011) This Committee oversees the implementation of the curriculum. We provide data to this Committee regularly to enable members to make informed recommendations about the curriculum.

Member, Joint Clinical Oversight Group (2006 - 2011) This Committee oversees the implementation of the clinical curriculum. We provide data to this Committee regularly to enable members to make informed recommendations about the curriculum.

Member, Medical Education Research Committee Cleveland Clinic Lerner College of Medicine (2007-2011) This Committee reviews and approves medical education research projects that are submitted for consideration at CCLCM.

Educational Administration

Regional and National

Chair, Research Committee of the Clerkship Directors in Internal Medicine (CDIM) (2007 - 2010) The committee is charged to manage the annual CDIM survey; provide feedback on research abstracts presented during the CDIM National Meeting; provide faculty development to members related to conducting medical education research; and oversee CDIM's relationship with *Teaching and Learning in Medicine* through the association's affiliation with the Alliance for Clinical Education.

Member, CDIM Council (2007 - 2010) Work with members of CDIM Council to discuss issues of concern in teaching undergraduate medical students and participate in monthly conference calls and annual meetings.

Member, CTSA Evaluation Key Core Function Committees (2007- 2011) Participate in national workgroups to achieve the objectives of both local and national program evaluation objectives.

Member and then Co-Chair, K-12 Multidisciplinary Career Research Development (MCRCD) Program Evaluation National Evaluation Liaisons (2006 – 2011) Work with evaluation liaisons from other institutions with funded programs in multidisciplinary clinical research programs to define common measures and identify appropriate metrics to use to evaluate the programs. We worked closely with an external firm that was hired by the National Center for Research Resources (NCRR) at the NIH to assist with the national evaluation effort.

Member, K-12 Multidisciplinary Career Research Development (MCRCD) Program Evaluation National Evaluation Liaisons (2004 - 2006) CWRU's program was among the first cohort funded. This group was charged to share evaluation plans across institutions and participate in the national evaluation effort. The group was charged to identify appropriate metrics, collect data and prepare a report to Congress in 2009 on the short-terms outcomes of the program.

Scholarship in Medical Education

Peer Reviewed Publications[7]

1. Papp KK, Huang GC, Lauzon Clabo LM, Delva D, Fischer M, Konopasek L, Schwartzstein RM, Gusic M. Milestones of Critical Thinking: A Developmental Model for Medicine and Nursing. Acad Med 2014; 89: 715-20.
2. Wolpaw T, Côté L, Papp KK, Bordage G. Student uncertainties drive teaching during case presentations: More so with SNAPPS. Acad Med 2012; 87: 1210-7.
3. Papp KK, Baker EA, Dyrbye LN, Elnicki DM, Hemmer PA, Mechaber AJ, Mintz M, Durning SJ. Analysis and publication rates of clerkship directors in internal medicine (CDIM) annual meeting abstracts 1995-2005. Teach Learn Med 2011; 23: 342-6.
4. Liston BW, Fischer MA, Way DP, Torre D, Papp KK. Interprofessional Education in the Internal Medicine Clerkship: Results from a National Survey. Acad Med 2011; 86; 872-876. PMID: 21617514.
5. Papp KK, Wolpaw T. Clinical reasoning in resident case presentations. Med Educ 2010; 44: 512.
6. Wolpaw T, Papp KK, Bordage G. Using SNAPPS to facilitate the expression of clinical reasoning and uncertainties: a randomized comparison group trial. Acad Med 2009; 84:517-524.
7. Papp KK, Stoller EP, Sage P, et al. The effects of sleep loss and fatigue on resident-physicians: a multi-institutional, mixed-method study. Acad Med 2004; 79: 394-406.
8. Wolpaw TM, Wolpaw DR, Papp KK. SNAPPS: A Learner-Centered Model for Outpatient Education. Acad Med 2003; 78: 893-8.
9. Papp KK, Miller FB. The answer to stimulating lectures is the question. Med Teach; 1996: 18; 147-9.
10. Papp KK, Miller FB. A required trauma lecture series for junior medical students. J Trauma Crit Care 1995: 38; 1-3.

Selected Abstracts, Posters and Workshops[7]

1. Papp KK, Wilson-Delfosse AL, Wolpaw T, Wolpaw DR, Scott SY, Mieyal JJ. (2007) Testing Basic Science Knowledge with essay questions: Do they measure up?
2. Krause ND, Roulette GD, Papp KK, Kaelber D. Assessing medical informatics confidence among 1st and 2nd year medical students. AMIA Annu Symp Proc. 2006:989.
3. Hyson AM, Scott SY, Papp KK, Marina 0, Stulberg J, Wilson-Delfosse AL, Wolpaw TM, Omt D, Wolpaw DR (2007) Evaluating Curriculum Change: The CWRU Experience. Society of General Internal Medicine.
4. Papp KK, Wolpaw TM, Helm NA, Gilbert I, Hodder SL. The Objective Structured Clinical Examination in the Internal Medicine Core Clerkship: A Critical Look. Poster presented at the Clerkship Directors in Internal Medicine Annual Meeting Oct 18-20, 2001 Tucson, AZ.

[7] Please see Curriculum Vitae for full listing

Educational Products

1. Padrino SL, Papp KK. Case #5 Mr. Kish, a 55-year old male with complaint of fatigue. Simulated Internal Medicine Patient Learning Exercises (SIMPLE) The Institute for Innovative Technology in Medical Education. Feb 2008.

2. Gabel LL, Haines DJ, Papp KK. (Editors) The Aging Foot: An Interdisciplinary Perspective. Columbus, OH: Century Graphics, Copyright Txu 1-179-167, 407 pp, 2005.

3. Papp KK, Goldman MH. Oral Examinations. A videotape illustrating the technique of conducting an oral examination prepared for the 4th annual meeting of the Association for Surgical Education, 1984 available through the Clearinghouse of the Association.

Awards, Honors, and Grants

2011 Millennium 2011 Invitational Conference on Critical Thinking, Harvard Medical School and the Shapiro Institute.

2009 Clerkship Directors in Internal Medicine (CDIM) Charles H. Griffith, ill, MD, Award for Medical Education Research.

2008 Scholarship in Teaching Award, Case Western Reserve University School of Medicine

2007 Millennium 2007 Invitational Conference on Medical Education Research, Harvard Medical School, AAMC, and the Shapiro Institute.

2006 Scholar in Medical Education, Harvard Macy Institute for Educators in the Health Professions

2006 Outstanding Poster Award International Association of Medical Science Educators (IAMSE), Cleveland, Ohio

2005-06 Scholars Collaboration in Teaching and Learning, Invited Mentor, Case Western Reserve University School of Medicine

2005 Publication in Academic Medicine listed as the 5th Most Frequently Accessed Research Reports, September 2003-2004 [Papp KK., Stoller EP, Sage P, et al. The effects of sleep loss and fatigue on resident physicians: a multi-institutional, mixed method study. 2004; 79: 394-406.

Co-Authored Evaluation Sections of the Following Funded Grants

The Influence of Feedback on Case Presentation Summaries [PI: Klara Papp]
CDIM 2013 – 2015
To assess the influence of feedback on students' written and oral case presentation summary skills during the Internal Medicine and Family Medicine Core Clinical Rotations.

Clinical Translational Science Award (CTSA) [PI: Pamela Davis]
N C R R 10/2007-09/2012
The CTSA is an ambitious plan for institutional change to overcome barriers between clinical and basic research, as well as the increasing complexities involved in conducting clinical research. The purpose of the CWRU/Cleveland Clinic CTSA is to forge a uniquely transformative, novel, and integrative academic home for Clinical and Translational Sciences.
Role: Program Evaluator

Case/Cleveland Clinic Research Training Program [PI: Richard Rudick]
NCI/NICHD 10/2004-09/2007
This program is part of the NIH Roadmap Initiative to develop and evaluate a program for clinical research scientists to that encourages work in multi-disciplinary teams, novel partnerships, such as those between the public and private sectors, to accelerate the movement of scientific discoveries from the bench to the bedside and back.
Role: Program Evaluator

Essentials of Cancer Genetics [PI: Georgia Wiesner]
NCI 10/2003-09/2006
This project aimed to develop a series of computer based instructional modules for undergraduate medical students covering the essential core content in cancer genetics.
Role: Program Evaluator

Clinical Transaction Development Pathway (PI: Daniel Ornt, MD)
NY Academy of Medicine, 2003-2005
This project sought to identify better ways to teach and evaluate students' competence in the clinical encounter. It focuses on improving history-taking, physical examination, clinical reasoning, and communication skills.
Role: Program Evaluator

K-30 Clinical Research Scholars Program (PI: ER McFadden)
NIH/ NHLBI, 09/2000-09/2005
Goals of this project were to develop and evaluate a training program including didactic elements and mentored research for clinical research scholars.
Role: Program Evaluator

Under Review

A Measure of Critical Thinking in Nursing and Medicine (PI: Klara Papp)
National Board of Medical Examiners Stemmler Fund for Medical Education 05/2015 - 04/2017
To construct and validate a measure of critical thinking in medicine & nursing