

## Structured Summary

### Note about reference to dates in this example:

- Dates are given in relative terms to show length of intervals (e.g., “Year1-Year3” indicates a three-year interval—NOT calendar year when positions began or ended per se).
- In your individual prototype absolute dates should be used (e.g., 2002-2005).

### Edd, Education Section of a Clinical Department

<b>Personal Statement</b>	
Personal Goals	<ul style="list-style-type: none"> <li>• To develop and utilize appropriate and scientifically validated methods and instruments to evaluate medical education</li> <li>• To analyze the interaction of all factors associated with learning in medical settings</li> <li>• To assess the impact of medical education on learners, teachers, patients, and society</li> <li>• To identify, develop, and/or utilize creative ways to impart medical knowledge to all types of learners</li> <li>• To conduct careful observation of and experimentation with the application of educational theory and methods to medical education</li> </ul>
Personal Preparation	<ul style="list-style-type: none"> <li>• Participation in national professional organizations in medical education, curriculum design, and organizational development</li> <li>• Collaboration with colleagues</li> </ul>
Personal Reflection/ Process for Improvement	<ul style="list-style-type: none"> <li>• Use of a colleague network for identification, development, and critique of research efforts in education.</li> <li>• Personal experiences as reviewer of others' works</li> <li>• Continuous use of literature to improve my own work</li> <li>• Continuous effort to understand and reflect osteopathic principles in my research efforts</li> </ul>
<b>Research Effort</b>	
<p>Theme: The Assessment of Learners</p> <ol style="list-style-type: none"> <li>1. What are the basic skills medical students should develop during the pre-clinical years of medical school?</li> <li>2. How valid is a 5-station CPX to measure student application of a conceptual model for primary care clinical visits?</li> <li>3. How does training affect standardized patient inter-rater reliability on a clinical performance exam?</li> <li>4. What factors affect student self-assessment?</li> </ol>	

Theme: Learning Methods and Outcomes in Integrated Problem Solving

1. Does student use of learning resources in a problem-based learning course change over time?
2. Will faculty be willing and able to make effective use (with minimum training) of an observation tool designed to facilitate peer observation and feedback of problem-based learning facilitation?

Should allied health students be included with osteopathic medical students in a first-year problem-based learning course?

### **Discussion of Breadth**

I have worked in both the preclinical and the clinical training areas and faculty development and have focused on learning behavior, peer review and performance assessment using a variety of educational research methods.

## **Personal Statement EdD, Education Section of a Clinical Department**

The value of teaching for me comes from the realization that learning is the key element in the creation and re-creation of humanity. Education has been responsible throughout history for the creation and dissemination of knowledge and for the development and preservation of human culture throughout the centuries. In the words of Paulo Freire, a Brazilian adult educator, education is the means to bring about true freedom for human beings, as it opens the door to civilization and makes it possible for individuals to think, act, and interact in the world.

In my journey as an educator, the love of teaching and education has not always translated into effective practice. My beginning years in England as a professional—when I worked as a school chaplain, school psychologist and teacher—were characterized by a lot of trial and error. It was then that I realized I needed further preparation so that I could participate in education systematically. I learned that I could not work haphazardly and still have quality results that could be demonstrated and duplicated over time. That realization brought me to the United States where I pursued master's degrees in Educational Psychology and Religion and a doctoral degree in Educational Psychology. Graduate work opened my mind to the possibilities in education, to the tools for planning and conducting systematic educational work, to the consideration of the multiple variables and factors associated with learning in different settings, and to the value of needing systematic inquiry into education. These understandings were also central to my subsequent work at an college of osteopathic medicine.

In the course of my graduate studies, the birth of my daughter serendipitously brought me to medical education. My need for a job to help support the family led me to work in faculty development for family medicine. I began my learning journey in medical education under the mentoring of Dr. Paul, currently the Director of Medical Education at a COM. I worked with Dr. Paul for four years and was exposed through him to all aspects of faculty development in medical education, including research. He helped me

with my doctoral dissertation research in clinical teaching and introduced me to nationally renowned excellent teachers and role models in medical education. After my work with Dr. Paul, I have had several positions as a faculty development and education specialist in different institutions in the United States, and for the past four years I have been the education specialist for my COM.

My formal educational training, my mentoring experience, my interaction with colleagues, and my personal sense of mission have shaped the roles I enjoy playing in my position as an education specialist: service and research. I enjoy offering my educational expertise to my colleagues in medical education to contribute towards the quality of the educational work we do in the Department and at the College. I have special interests in the areas of clinical teaching, faculty and professional development, curriculum design, and evaluation. I attempt to facilitate the application of osteopathic principles, educational theory, learning theories, and measurement principles to the several dimensions of the educational work that we do. Most of the time I do not prefer to take the top leadership role in the areas of our work in the Department, but I thrive in offering my expertise and services to those in leadership. When I do assume a leadership role (currently I direct the department's central educational evaluation unit), I try to impart the same vision of service to my work and the work of those whom I supervise. The key principles I try to apply in my work are: we need to be systematic in planning and application of knowledge; we need to conduct careful follow-up and evaluation of learning, teaching, and programs; we need to utilize sound scientific and osteopathic principles when designing and implementing medical education innovations. The goals I have attempted to reach through my role in terms of educational research are:

1. To identify, develop, and/or utilize creative ways to impart medical knowledge to all types of learners
2. To conduct careful observation of and experimentation with the application of educational theory and methods to medical education
3. To develop and utilize appropriate and scientifically validated methods and instruments to evaluate medical education
4. To analyze the interaction of all factors associated with learning in medical settings, parallel to the interaction of systems in osteopathic medicine
5. To assess the impact of medical education on learners, teachers, patients, and society.

I have tried to maintain my skills as an educator and to keep myself abreast of current developments by reading education and medical education literature, maintaining and interacting with colleagues across the nation, participating in professional organizations, and collaborating actively with my departmental and College colleagues. I have benefited from serving as a reviewer for professional meeting presentations, journal articles, curricular products, and educational grants as that experience has given me opportunities to reflect upon what is done by others and on what I am doing in my work. I have used the comments I received from peers who have reviewed my work (both when accepting it and when rejecting it) to improve the quality of my work. I keep looking for ways to make my work relevant to the mission of the institution and to my personal mission towards the improvement of others.

## Structured Abstracts EdD, Education Section of a Clinical Department

### Theme: Assessment of Learners

**Research Question 1:** What are the basic skills medical students should develop during the pre-clinical years of medical school?

Investigation: (Year1) With the increasing adoption of early clinical experiences in the first 18 months of medical school, we recognized the need to identify and evaluate the basic clinical skills these experiences must develop in medical students.

Methods: As part of a student research project, the students and I conducted a Delphi study to identify the basic skills students should demonstrate prior to starting their clinical rotations in medical school. A panel of eight clinical faculty, with responsibility for student teaching in clerkships and during the pre-clinical years, was selected for the study.

Results & the Impact of Findings: After a consensus was reached regarding the necessary clinical skills, an evaluation instrument to be used by clinical preceptors was developed.

Contributorship:

- I supervised the two students involved in the project throughout all phases of the project, including design, data analysis, and reporting.

Dissemination 1: Paul M, Morgan M, Bear JA, Sarey GS. Development of a clinical skills evaluation instrument for pre-clinical medical students. Paper presented at the 31<sup>st</sup> Annual Spring Conference of the Society of Teachers of Family Medicine. April 22-26, Year1, Chicago, IL.

**Research Question 2:** How valid is a 5-station CPX to measure student application of a conceptual model for primary care clinical visits?

Investigation: (Year1-Year2) An analysis of three-year results of student performance in a 5-station clinical performance examination (CPX) in a third-year clerkship was conducted to assess the measurement properties of the exam.

Methods: Reliability analysis was done through the application of generalizability theory to identify the sources of variance of the entire exam, and of each station. Content analysis of the clinical cases used for the exam as well as a factor analysis of student scores, provided the information for validity assessment.

Results & the Impact of Findings: Exam and station reliability indexes were moderate, indicating the need of additional stations; content analysis and a confirmatory factor analysis supported the construct validity of the exam, based on the curricular model used in the clerkship. Results of the study are continuously used to improve the clinical cases in the CPX stations, generate new stations, and train standardized patients. In addition, the results were also used to revise the behavior checklists used by the SPs for student rating.

### Contributorship:

- Mary Mortan provided the analysis and interpretation of the data and co-wrote the paper.
- Janice English, designed the study and co-wrote the paper.
- Thomas Chou, designed the study and co-wrote the paper.

Dissemination 1: Chou TE, English JE, Mortan M. What are we measuring? Content and construct validity assessment in a third-year family medicine clerkship. Paper presented at the 27<sup>th</sup> Annual Predoctoral Education Conference of the Society of Teachers of Family Medicine. February 1-4, Year1, Long Beach, CA.

Dissemination 2: Mortan M, English JE, Chou T. The case for content validity as a check for construct validity determination in clinical performance examinations. Lecture-Discussion presented at the 32<sup>nd</sup> Annual Spring Conference of the Society of Teachers of Family Medicine. May 3-7, Year1, Orlando, FL.

**Research Question 3:** How does training affect standardized patient inter-rater reliability on a clinical performance exam?

Investigation: (Year1) A training program to improve the inter-rater reliability of standardized patients' (SPs) ratings in a clinical performance examination (CPX) was implemented.

Methods: The SPs used a behavior checklist to rate videotape recordings of students taking the Family and Community Medicine Clerkship CPX before and after being trained on the rating standards established by clerkship faculty. SP ratings were compared against faculty ratings on the same videotapes. Cohen's kappa coefficients and agreement indexes were calculated before and after the training.

Results & the Impact of Findings: Most SPs demonstrated higher agreement with the faculty ratings after training. Results of reliability assessment served to identify SPs in need of special training. SPs who consistently conflicted with other SPs in their ratings of students were dismissed from the SP pool.

### Contributorship:

- Mary Mortan was responsible for the data analysis for the project and served as consultant for the assessment of the SP trainers, and wrote the paper.
- Ken Clark, designed study, collected data
- Janice English, collected data
- Thomas Chou, SP trainer

Dissemination 1: Clark K, English JE, Chou T, Mortan, M. Observation versus recall: Enhancing the reliability of standardized patient ratings. Paper presented at the 28<sup>th</sup> Annual Predoctoral Education Conference of the Society of Teachers of Family Medicine. February 1-4, Year1, Tampa, FL.

**Research Question 4:** What factors affect student self-assessment?

Investigation: (Year1-Year2) My department has been investigating the issue of student self-assessment. Factors such as gender, medical school level, humanism, and the

ability to deal with uncertainty have been analyzed in their relationship to student self-assessment of performance in clinical evaluations.

Methods: This study investigated the relationship of gender, timing of clerkship rotation (1<sup>st</sup> quarter, 2<sup>nd</sup> quarter, etc.), and medical school year (MS2, MS3, and MS4) to student self-assessment of performance on a written exam. We analyzed two years of data.

Results & the Impact of Findings: Gender was the only factor found with some relationship to student self-assessment.

### Contributorship:

- Mary Mortan was responsible for the data analysis for the project. Wrote and presented the paper.
- Wai Hong, data analysis
- Janice English, edited paper, collected data
- Enrique Rameriz, data collection and analysis

Dissemination 1: Hong WY, Mortan M, English JE, Rameriz E. Clerkship self-assessment of a written clinical case examination. Paper presented at the 34<sup>th</sup> Annual Spring Conference of the Society of Teachers of Family Medicine. April 28-May 2, Year1, Denver, CO.

### **Theme: Integrated Problem Solving**

**Research Question 1:** Does student use of learning resources in a problem-based learning course change over time?

Investigation: (Year1 – Year5) Interest developed in determining the impact of facilitator training and in the impact of the information technology education component of the problem-based learning course on the resource use, skills and habits of the first year medical students enrolled in the course.

Methods: A detailed analysis of resource use was selected as the basis for this study. A self-report form allowed collection of attendance and student use of learning resources. Student self-report data was collected, entered into an Access database and analyzed. All first and second year medical students (328) were studied for one academic year.

Results & the Impact of Findings: In general, the results obtained indicate that, with time, student use of primary literature resources decrease; interviews of clinical experts increase; and digital media is constant—with some variation due to demands of specific cases.

### Contributorship:

- Mary Mortan, EdD, ideator, writer, editor, methodologist and resource gatherer
- Charles Stiles, PhD, ideator, writer and editor
- Lois Dretcher, MEd, data entry, databasing and writer

Dissemination 1: Mortan M, Stiles C, and Dretcher L. (Year1) Student information resource utilization in problem-based learning: A preliminary report. Medical Education

Online, Volume III, Issue III, Fall.

Dissemination 2: Reported to the Steering Committee of the Integrated Problem Solving course September, Year1.

Dissemination 3: Morgan M, Stiles C, and Dretcher L. (accepted for publication, Year1 in Academic Medicine) Problem-based Learning: Where do students get their information?

**Research Question 2**: Will faculty be willing and able to make effective use (with minimum training) of an observation tool designed to facilitate peer observation and feedback of problem-based learning facilitation?

Investigation: (Year1-Year2) Some faculty asked to be observed and evaluated in their capacity as problem-based learning facilitators. To provide feedback in a useful, but non-judgmental manner, a tool was developed which could be used by a peer to assist in their observation of a small-group session led by a colleague.

Methods: A focus group consisting of new and long-time facilitators and first through fourth year medical students was convened to discuss the attributes of a good facilitator. A two-page form was developed, a set of accompanying directions were created, and a two-tier pilot study was conducted, i.e., first six facilitators from the focus group utilized the form and its instructions to observe the facilitation of six problem-based learning groups. Structured interviews of all twelve pilot study participants (observers and observees) were conducted around a set of questions.

Results & the Impact of Findings: Of the 17 facilitators who were evaluated, 15 stated when interviewed that the experience was very positive, that the evaluation tool assisted in accurately capturing and communicating expertise in facilitation, and they indicated that they perceived that their facilitation had improved as a result of the experience. Nevertheless, the time required to participate in peer review, with or without the form, tended to reduce faculty enthusiasm for the peer review process as a whole and for the use of the form specifically.

Contributorship:

- Mary Mortan, EdD, designer, tool developer, observer, conductor of focused interviews, article writer
- Peter Hatter, MD, designer, observer, editor
- Alice Meyers, MEd, observer, data collection

Dissemination 1: Report to the Curriculum Committee.

Dissemination 2: Morgan, M, Hatter, P, Meyers, A. (Year1) Faculty development for problem-based learning tutors through peer observation and feedback. J. Gen. Int. Med. 15:213-218.

Dissemination 3: Poster presented at the National AERA meeting, April Year1, New York.

**Research Question 3**: Should allied health students be included with osteopathic medical students in a first-year problem-based learning course?

Investigation: (Year1-Year2) At the inception of a problem-based learning course, both

medical and non-medical students were together in the course. The non-medical students constituted approximately 15% of the students in the course. After three years, some faculty suggested that the students be separated

Methods: Two focus groups were conducted with the medical and non-medical students, separately, asking them to comment on the positives and the negatives associated with their prior experience together in the problem-based learning course. The comments provided by the allied health and medical student cohorts were analyzed and summarized.

Results & the Impact of Findings: Allied health and medical students perceived in all areas of their problem-based learning experience positively and appreciated the opportunity to work together, warranting the continued inclusion of both groups of students in the same course.

### Contributorship:

- Mary Mortan, EdD, focus group facilitator, data collection and writer

Dissemination 1: Mortan, M., (Year1) Inclusion of allied health program students in Baylor College of Medicine's problem-based learning course. Academic Med. 73:607-608.

Dissemination 2: Paper: Inclusion of allied health program students in my College of Osteopathic Medicine's problem-based learning course, presented, AACOM, April, Year1, Atlanta, Georgia.

Dissemination 3: Presentation to the faculty of the School of Allied Health, Summer, Year1.

Dissemination 4: Presentation to the Curriculum Committee, Summer, Year1.