



MARSHALL UNIVERSITY JOAN C. EDWARDS SCHOOL OF MEDICINE

# ACADEMY *of* MEDICAL EDUCATORS

KNOWLEDGE • PASSION • DEDICATION

PURSUING YOUR PASSION WITH EXCELLENCE IN TEACHING



## MESSAGE FROM THE DEAN

The creation of the Academy of Medical Educators is a landmark event which serves to inspire, enhance and reward teaching at MUJCESOM. It is a bold step which signifies the importance of medical education in the mission of our medical school.

Academy members represent “the best among us” in their dedication to providing excellence in teaching. The Academy serves as an advocate for all teachers and represents a rich resource to support teaching efforts at the medical school. I encourage you to take full advantage of this innovative program and the guest speakers from across the country, which provides us with cutting edge knowledge of the trends and practices in medical education.

## GOALS FOR THE ACADEMY

- Provide a platform for the continuous recognition of excellence in teaching
- Stimulate interest and visibility in teaching
- Provide an interdisciplinary support network for medical educators
- Develop a pool of knowledge and skills that will lead to innovation in teaching/learning

## INVITED GUEST SPEAKERS FOR THE ACADEMY

**David Irby, Ph.D.**

Vice Dean, Medical Education  
University of California, San Francisco  
School of Medicine

**Maryellen Gusic, M.D.**

Associate Dean, Clinical Education  
Penn State College School of  
Medicine

**Charles H. Rohren, M.D.**

Medical Educator, Mayo Clinic

**Larrie Greenberg, M.D.**

Internal Consultant, Faculty  
Development, George Washington  
School of Medicine

## MASTER EDUCATOR

### *Self Reflection*

*"A number of workshops have definitely helped me. I have learned ways to improve my teaching and this was my main goal of joining the Academy."*

**David Denning, M.D.**  
Master Educator 2005

*"Because of my participation in the Academy I was able to sit with other faculty members and hear their methods and ideas with regards to clinical teaching. Also, many of the outside speakers brought in for Academy presentations were excellent. It is always helpful to hear new or different ideas that I can use on my clerkship."*

**Joe Evans, M.D.**  
Master Educator 2005

*"Finally, an organization dedicated to true medical education and skills required to be a strong medical educator. Being both provocative and practical, the Academy was an outstanding experience."*

**Paulette Wehner, M.D.**  
Master Educator 2005

*"I believe that the techniques that I have developed through the Academy have benefited me and the residents. It allows me to obtain a more objective view of their progress as well as gives them a greater sense of autonomy. This makes it a more productive engagement."*

**Gerald McKinney, M.D., FACS**  
Master Educator 2006

*"Joining the Academy was both educational and stimulating. Finally, there is a place for educators to share their ideas and experiences."*

**Mitch Charles, M.D.**  
Master Educator 2006

*"Joining the Academy was a unique experience for me, it has consolidated and polished my teaching and educational skills. I would certainly recommend the program to every body involved in medical education."*

**Hisham Keblawi, M.D.**  
Teaching Scholar 2006

## SCHOLARSHIP OF TEACHING

**PLATFORM PRESENTATION; AAMC- SOUTHERN GROUP ON EDUCATIONAL AFFAIR MEETING, WAKE FOREST UNIVERSITY, APRIL 7, 2005**

### **Residency Survival Skills: A Unique Fourth Year Elective**

P. Mitch Charles, M.D. & Paulette S. Wehner, M.D.,  
Joan C. Edwards School of Medicine at Marshall University

### **EKG Curriculum: A Four Year Approach**

Paulette S. Wehner, M.D. and Sarah Rinehart, M.D.,  
Joan C. Edwards School of Medicine at Marshall University

**PLATFORM PRESENTATION; INTERNATIONAL ASSOCIATION OF MEDICAL SCIENCE EDUCATORS, NEW ORLEANS, LA JULY 2005**

### **Integrating Basic Science and Clinical Medicine using a "Heath Fair" Format for Case-Based Teaching**

Darshana Shah, M.D. and A. Betts Carpenter, M.D., Ph.D.,  
Joan C. Edwards School of Medicine at Marshall University

**POSTER PRESENTATION; INTERNATIONAL SCIENCE ASSOCIATION OF MEDICAL EDUCATORS, SAN JUAN, PR JULY 2006**

### **An evaluation of grading policy in a first year basic science course.**

Todd Green, Ph.D., Joan C. Edwards School of Medicine at Marshall University

## ACADEMY SPONSORED PROGRAMS

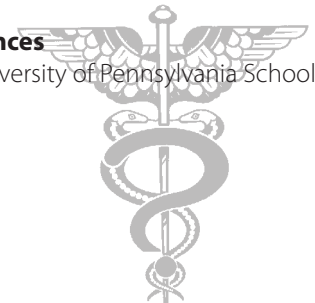
**PROFESSIONAL AND INSTITUTIONAL ENHANCEMENT SEMINAR (PIES) QUARTERLY SEMINAR ON TEACHING AND LEARNING FOR SCHOOL OF MEDICINE FACULTY**

### **Using Small Group Strategies to Enhance Teaching and Learning**

Sheila W. Chauvin, M.Ed., PhD Professor, Department of Internal Medicine and School of Public Health, Louisiana State University Health Sciences Center (January 2007)

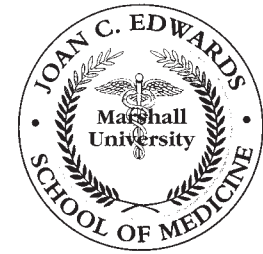
### **Writing Exam Questions in the Clinical/Basic Sciences**

Carolyn L. Cambor, M.D., Department of Pathology; University of Pennsylvania School of Medicine (April 2007)



# ACADEMY 2007

## *Abstracts*



### **Residents as Teachers: Self perception of preparedness**

Eduardo Pino, M.D.

Department of Pediatrics

Joan C. Edwards School of Medicine at Marshall University

**Background:** Residents are an invaluable tool in the education of medical students. However, very little time is spent preparing them to be effective teachers. The purpose of this study was to evaluate residents' self perception as teachers before and after an intervention to present effective teaching methods.

**Methods:** Pediatric house staff attended a seminar consisting of three one-hour lectures providing guidance on effective teaching techniques. Participants were given pre- and post session questionnaires evaluating their preparedness to teach. Results were summarized using a five point Likert scale.

**Results:** The sessions were enjoyed by the residents (mean score 4.7). All residents felt better prepared to teach after the seminar (mean 3.1 pre- vs. 3.9 post seminar). Overall, PL-1 residents felt the least prepared to teach (mean 2.9), but also showed the greater increase in preparation after the seminar (34% PL-1 vs. 24% all others). Awareness of expectations of a teacher also improved after the seminar, with the greatest increase again at the PL-1 level (39% PL-1 vs. 10% all others).

**Conclusions:** A brief, intensive intervention is beneficial in preparing residents to become better teachers. While the benefit is greater for first year house staff, it is also helpful to repeat the sessions for seniors.

### **Pretest and Posttest Assessment as a Tool to Improve Lecture Presentations**

Mehiar O. El-Hamdani, M.D.

Department of Cardiovascular Medicine,

Joan C. Edwards School of Medicine at Marshall University.

**Objective:** The objective of this study is to determine the utility of pretest and post test questions in power point presentations.

**Study Design:** a pretest questions in a true and false format distributed to a diverse audience of the cardiology department. The audience consists of cardiology fellows, medical students and faculty members. The pretest was collected and a lecture on a common cardiology problem was presented followed by a posttest assessment.

**Results:** there were a total of 150 pretest items, 83 items were answered correctly (55%) and 67 items were incorrect (45%). There were 200 post test items, 150 items were similar to the pretest assessment and an extra 50 new items for further assessment post presentations. A total of 152 items were correct (76%) versus 48 incorrect answers (24%). From those similar questions 125 items were correct (83%) and 25 items were incorrect (17%). Of the total 50 new questions 28 items (56%) were correct versus 22 items (44%) were incorrect.

**Conclusion:** from the above data, pretest assessment improved audience awareness to the tested subjects of the presentation but did not enhance their awareness to the non tested material of the presentation. Therefore, pretest assessment should concentrate on the key messages, to ensure adequate delivery of the presentation objectives.

# PBL in the Family Medicine Curriculum

Mathew Weimer, M.D.

PGY-2, Department of Family and Community Health

Joan C. Edwards School of Medicine at Marshall University

**Background:** Since its development at McMaster University in Ontario, Canada in the 1960's, problem-based learning (PBL) has gained credence as a teaching method in both undergraduate and medical education throughout the world, particularly in North America, Western Europe, and Australia<sup>1</sup>. While some institutions have adopted entire curricula around PBL, the more common approach involves PBL as an individual, longitudinal course that makes up a small fraction of the overall curriculum. While this approach has been widely accepted and adopted in the basic science years of medical school, most commonly in pathophysiology courses, clinical rotations often do not include this style of teaching. This project explores attitudes and experiences of medical students and family medicine residents and faculty regarding PBL, especially with regards to its place in a family medicine clerkship curriculum for medical students at the Joan C. Edwards School of Medicine at Marshall University.

**Methods:** A self-administered survey method was used to explore attitudes towards and experiences with PBL among a limited group of third- and fourth-year medical students, all family medicine residents, and all family medicine faculty located at the primary office of the department of Family and Community Health. The survey consisted of one question to identify the professional level of the responder, 5 questions requiring the responder to choose from one of five answers, and two questions requiring the responder to list up to five choices as the answer, with instructions not to list in any particular order.

The survey also included a definition of PBL from The Higher Education Academy; Subject Network for Sociology, Anthropology, Politics.

**Results/Discussion:** Four medical students responded to the survey (2 MS3 and 2 MS4), while 12 residents (55% of those in the department) and 8 faculty (57% of those faculty based at the main FCH office) responded.

	MS	Resident	Attending	Total
Q2: Level of experience [1(none) ↔ 5(extensive)]	2.5	3.8	3	3.42
Q3: Familiarity [1(none) ↔ 5(extensive)]	3	3.5	3.25	3.44
Q4: Rate experience [1(very poor) ↔ 5 (excellent)]	4	3.5	3.4	3.45
Q5: Usefulness in curriculum [1(not at all) ↔ 5(extremely)]	4.25	4	3.7	3.88
Q6: Weekly time commitment [1(0-30min) ↔ 5 (≥ 2 hrs)]	3.25	2.8	3	2.95

Residents had the most experience with PBL, and were also more familiar with this style of teaching. All subgroups rated the experience average-to-good, and all felt that PBL would be moderately-to-extremely useful in the family medicine curriculum. The average response for appropriate weekly time commitment was approximately 1-1.5 hours.

All three subgroups had similar responses for both the most common diagnoses encountered in the family medicine outpatient practice as well as the most appropriate topics for a PBL curriculum in family medicine. Some subtle but potentially important differences occurred between the most common diagnoses and the most appropriate for PBL. For example, more respondents listed specific symptoms, procedures, and specific situations as being appropriate for PBL, though these were not necessarily identified as common diagnoses. Nevertheless, the overall assessment was that the most common diagnoses are also the most appropriate diagnoses to be covered as part of a PBL curriculum

Most Common Diagnoses	MS	Resident	Attending	Total
	(n=4)	(n=12/22=55%)	(n=8/15=57%)	(n=24)
DM	3	11	6	20
HTN	3	11	5	19
HLP	1	6	5	12
COPD	0	7	3	10
Back pain	3	4	1	8

Others: affective d/o, CAD, OA, hypothyroidism, URI/Strep/OM, obesity, well visit/well child, CHF, AR, tobacco abuse, GERD, ADHD, dermatologic, non-compliance, headache

Most Appropriate Diagnoses	MS	Resident	Attending	Total
	(n=4)	(n=12/22=55%)	(n=8/14=57%)	(n=24)
DM	1	8	6	15
COPD	0	7	4	11
HTN	1	5	5	11
Affective d/o	0	4	3	7
HLP	1	1	5	7

**Others:** hypothyroidism, back pain, CHF, dermatologic, OA, DKA, URI/Strep/OM, headache, joint injections, obesity, AR, abdominal pain, GERD, ADHD, edema, ID, pulmonary nodule, thyroid nodule, CVA, bleed/clot d/o, falls in elderly, tobacco abuse, non-compliance, well visit/well child

**Conclusions:** The results of this survey indicate an overall positive previous experience with PBL; likewise, the general assessment of the usefulness of PBL in a family medicine clerkship is positive. The weekly time commitment felt to be appropriate was minimal (approximately 1-1.5 hours), which, coupled with the overall positive assessment of PBL, indicates a preference for this style of teaching as one of several aspects of the family medicine curriculum. The respondents at all levels identified the most common diagnoses seen in family medicine as the most appropriate for coverage through PBL, though one developing such a curriculum might consider including a single less common, more interesting or challenging case as part of a series of several cases. The limitations of this project include the relatively small sample size, particularly with regard to the medical student respondents, primacy and recency effects in terms of respondents' recall of diseases, and potential confusion regarding the definition of PBL. The results of this survey could be used to help to develop a PBL curriculum as part of the family medicine clerkship; the next phase would involve the development of a number of cases to be used in this effort.

<sup>1</sup> Camp, G. Problem-Based Learning: A Paradigm Shift or a Passing Fad? MEO 1996;1:2.

## The "Triad" Model of Mentoring: Fourth Year Student as a Lecturer in Pathology

William E. Triest, M.D.

Department of Pathology,

Joan C. Edwards School of Medicine at Marshall University

**Background:** Medical students face the challenge of assimilating an ever-expanding amount of information in a short period of time. The second year medical students in pathology report that the majority of students do not buy the textbook, and many of those who do buy it do not have time to read the entire assigned material. To compensate, many students want comprehensive handouts, but others want the length capped. Student evaluations are often emotional and focused on negatives, reflecting the stress of assimilating large amounts of new information at a stage in their career when they have difficulty in assessing the relevance of the material. Furthermore, successive second year classes often give conflicting input. Fourth year students sometimes spontaneously state that they have changed their views after exposure to clinical rotations and board examinations.

**Objective:** The input of a fourth year student was obtained on second year curriculum and handout content.

**Design:** To enhance teaching skills of senior students, JCESOM initiated an "Academic Medicine" fourth year elective during the Fall Term 2007. This two-week elective commences with providing the Senior Students with the basic theory of teaching and learning. The second component of the elective allows the Senior Student to apply the new teaching skills by lecturing in the basic science courses. Each Senior Student lecture is "supervised" by a faculty member.

An example of the implementation of this elective is that a Fourth Year Student chose to teach pathology to second year medical students. The student was provided with electronic copies of the faculty member's handout and powerpoint presentation as starting points. The student then modified these, based on his own learning experience and in light of his experience on clinical rotations and examinations. The student's material was reviewed by the faculty member in advance. The faculty member was present throughout the student's lecture, but intervention was kept to a minimum, and consisted of responding to questions and participating in class discussion.

**Results:** The quality of the student presentation was considered excellent and was well-received by the students. He made

frequent reference to points that he had found obscure as a second year student, but which had proved to be important during clinical rotations. By his serving as a role model, the second year students were able better identify the key content.

Comparison of the original faculty presentation material (which was still in draft form for the current year) with the student revision revealed several key differences:

The content of some sections was kept intact, but with formatting changes and variations in font size to clarify organization. Some bullet points were replaced by complete sentences. Discussions of pathophysiology were reduced.

Additional information such as radiologic correlations and tumor staging was added.

Some illustrations were replaced by diagrams. Interestingly, the content pertaining to pediatric disorders was retained, reflecting the strong pediatric clinical training in the Marshall program.

**Conclusion:** Students are faced with an overwhelming amount of new information. There should be a closer focus on key concepts, and less emphasis on less common entities that are included in differential diagnoses. Correlation with other modalities such as radiology and short clinical vignettes provides context.

The fourth year student provided valuable student perspective on the second year lecture, much of which will be incorporated in subsequent faculty presentations.

Fourth year student input in basic science education may be a valuable source of improvements in both refinement of key content, presentation format, as well as in aiding basic science students in managing the information load.

An additional new evaluation tool may be to develop an evaluation format for basic science students which can be repeated by the students in their fourth year, with comparison of input in light of their clinical experiences.

## Wilderness Medicine Study

Chuck Clements M.D.

Department of Family and Community Health

Joan C. Edwards School of Medicine at Marshall University

**Background:** The curriculum at the Joan C Edwards School of Medicine is designed to prepare students for a practice in either a hospital or office based practice. Wilderness Medicine, for the purpose of this study, was defined as "treatment of injuries and illness outside of the office or hospital". This study was designed to determine whether Medical Students at Marshall University felt that graduates should be prepared to treat family or strangers in a Wilderness setting; what were some of the barriers to treatment in a Wilderness setting; and whether students felt that they were prepared to treat persons in a Wilderness setting.

**Method:** A series of questions was prepared to identify student respondents by Medical School class and previous experience/training in medical training. They were then asked their opinion on whether physicians should be prepared to treat family or strangers outside of their office or hospital. They were then asked to identify barriers to treatment, with the option of choosing legal, equipment, or training. They could also add a fourth choice as a barrier. They were then asked if they felt they were prepared to treat someone in that environment, and if not, why not.

The survey was given or sent to each Medical Student, either in paper form (4<sup>th</sup> Years) or by e-mail. 99 surveys were at least partially completed, although one survey only identified class year and training, and did not fill out any of the other portions of the study.

**Result and Conclusion:** Of the 99 students, 51 had previous medical training, with 39 having taken Red Cross 1<sup>st</sup> Aid. All of the students completing the survey believed that they should be prepared to treat family in a Wilderness setting. All but 2 of the students felt that they should be prepared to treat strangers in that setting (98%). Clearly, students feel that there is a need to be prepared to treat people in a wilderness setting.

When identifying barriers to treatment, 64% identified training as the primary barrier to treatment. 21% identified lawsuits as their primary barrier, and 14% identified equipment as their primary barrier. One person listed the surveyor as "already being on the scene", but training was listed second. Training, more than the other two reasons combined, remains the biggest barrier to treatment in a Wilderness setting.

When asked if they were prepared to treat people in a Wilderness setting, 83% believe they are not prepared to treat in the Wilderness environment. Of the 15% who believed they were prepared, half had previous medical training.

The data above indicates that Medical Students at Joan C. Edwards School of Medicine believe that physicians should be prepared to treat people in a non-clinical environment (98%). The data shows that most students do not feel prepared to treat in a non-clinical environment (83%). It also shows that the most commonly identified barrier to that feeling of lack of preparedness is lack of training.

This survey shows that there is a need for at least rudimentary training in skills to treat people outside of the office or hospital. The curriculum committee should consider when and how this training can be incorporated into the curriculum.

## The Impact Of An Individualized Learning Plan On Resident Education And Professional Development

Bobby L. Miller, M.D.,  
Department of Pediatrics  
Joan C. Edwards School of Medicine  
at Marshall University

**Background:** Effective January 2006, the residency review committee for pediatrics instituted a requirement that each pediatric resident complete an Individualized Learning Plan (ILP) on an annual basis. Pediatric residents have not been required to complete ILPs in the past and do not currently have ILPs. The impact of ILPs on resident education and professional development remains largely unknown.

**Objective:** To determine the impact of ILPs on five areas of resident education and development: (1) identify individual strengths and weaknesses, (2) prioritize their learning needs, (3) develop objectives to address their learning needs, (4) encourage reflection on clinical practice to further define their learning needs, and (5) provide guidance for career planning

**Methods:** All residents in the pediatric program completed a survey addressing the five areas of interest hypothesized to be impacted by ILPs. The residents then developed an ILP using a pre-designed format provided by the American Academy of Pediatrics through the Pedialink educational website ([www.pedialink.org](http://www.pedialink.org)). The ILP was reviewed and updated 2 times during the academic year by the resident and discussed with the residency program director. All residents completed a similar survey at the end of the academic year in order to determine if the development, review, and updating of ILPs had an impact on the five areas of interest. All results were analyzed using the Fisher's Exact test or Chi Square where appropriate.

**Results:** All participants (100%) developed a list of strengths and weaknesses which was reviewed and modified with input from the program director in 95% of cases. The percentage of residents who felt they had a clear understanding of what they needed to learn in residency increased from 33% to 72% ( $p < 0.05$ ). Resident ability to reflect on and discuss their clinical

Table 1. Identifying strengths and weaknesses	Pre-ILP		Post-ILP	
	Yes % (n)	No % (n)	Yes % (n)	No % (n)
Do you have a written list of your strengths and weaknesses?	0	100% (18)	100% (18)	0
If yes, have you ever shown that list to someone else?			95 (17)	5 (1)
If yes, did that person help you modify your list or give you feed back?			95 (17)	5 (1)
Do you continue to modify/update the original list?			56 (10)	44 (8)

Table 2. Prioritize your learning needs	Pre-ILP		Post-ILP		p Value
	Absolutely % (n)	I think so % (n)	Absolutely % (n)	I think so % (n)	
Do you have a clear understanding of what you need to learn as a pediatric resident?	33% (6)	67% (12)	72% (13)	28% (5)	<0.05
Which method do you use most often to establish what your learning needs are?	Pre-ILP (n)		Post-ILP (n)		NS
Verbal feedback	7		6		
Written evaluation	2		5		
Patient encounters	6		6		
Test scores	3		1		

Table 3. Develop objectives to meet learning needs	Pre-ILP		Post-ILP		p Value
	Yes % (n)	No % (n)	Yes % (n)	No % (n)	
If you had a learning need that was not being met, do you have an individual that you could approach to help you meet your needs?	83% (15)	17% (3)	100% (18)	0	NS
What method do you use most often to address a need you have to acquire new knowledge or skills?	Pre-ILP (n)		Post-ILP (n)		NS
Resident lecture	1		0		
Textbooks/Journal Articles	9		13		
Attendings	2		2		
Other residents	3		1		
Internet	3		2		

Table 4. Reflect on clinical practice	Pre-ILP		Post-ILP		p Value
	Yes % (n)	No % (n)	Yes % (n)	No % (n)	
Is there a faculty member with whom you feel comfortable discussing your clinical performance without fear of being judged?	67% (12)	33% (6)	100% (18)	0	<0.01
Once you believe you have acquired new knowledge or skills, how do you test yourself?	Pre-ILP (n)		Post-ILP (n)		NS
Practice questions	7		5		
Teach other residents or students	5		4		
Patient interactions	5		8		
I do not test myself	1		1		

practice with a mentor was improved from 67% to 100% ( $p < 0.01$ ) after developing and discussing their ILPs. While ILPs did not impact on resident's career goals, there was a statistically significant increase in having a plan to reach their career goals ( $p < 0.01$ ).

The majority (95%) of residents reported that completing an ILP and discussing it with the program director helped them develop a more structured plan for their education during residency.

**Conclusion:** ILPs do impact on resident abilities to identify their strengths and weaknesses, prioritize their learning needs, reflect on clinical practice, and develop career plans.

Table 5. Career planning	Pre-ILP		Post-ILP		p Value
	Yes % (n)	No % (n)	Yes % (n)	No % (n)	
Do you have a general idea about where you want your professional career to be in five years?	89% (16)	11% (2)	100% (18)	0	NS
If yes, do you have a plan for getting to that point?	Pre-ILP (n)		Post-ILP (n)		<0.01
Absolutely	2		10		
I think so	9		7		
No	7		1		
	Pre-ILP		Post-ILP		
	Yes (n)	No (n)	Yes (n)	No (n)	
Have you ever discussed your career goals with a mentor?	8	10	15	3	<0.05
If yes, did the mentor give you any advice about how to achieve that goal?	8	0	14	1	
If yes, was that advice useful or helpful	8	0	14	1	

	Yes	No
Did completing an ILP and discussing it with the program director help you develop a more structured plan for your education while in residency?	17	1

# GRADUATES OF THE ACADEMY

## MASTER EDUCATORS 2005

David Denning, MD  
 Brenda Dawley, MD  
 Joe Evans, MD  
 Vern Reichenbecher, PhD  
 Darshana Shah, PhD  
 Paulette Wehner, MD

### Teaching Scholar:

Rafael Molina, MD  
 Mehdi Akhavan-Heidari, MD  
 Ben Allan, MD

## MASTER EDUCATORS 2006

Adam Franks, MD  
 A. Betts Carpenter, MD  
 Todd Green, PhD  
 Gerald McKinney, MD  
 Mitch Charles, MD

### Teaching Scholar:

Sarah Rinehart, MD  
 Hisham Keblawi, MD



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