The Medical Education Certificate Program:
Interprofessional Training in Teaching Skills, Instructional Design, and Curriculum Development for Health Professions Students

Wake Forest® School of Medicine

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Needs Assessment: Training in instructional design and delivery is important for educator effectiveness, though most academic faculty do not receive such training prior to starting their careers. In response to increasing student interest, a faculty group collaborated to design and implement a new medical education certificate program (MECP).

Program Objectives: The MECP sought to:
- Build learners' knowledge of the science of learning, adult learning principles, evidence-based instructional methods, and curriculum development;
- Provide learners opportunities to practice and receive feedback on their teaching skills;
- Provide learners opportunities to engage in inter-professional collaboration; and
- Provide learners an opportunity to participate in medical education scholarship.

Description of Program: An interprofessional faculty team developed a shared vision for the program's objectives, content, logistics, application process, and completion requirements. Eleven, 2-hour training sessions were scheduled between February and December, 2019. Thirty-five participants from the PA, MD, and CRNA programs were selected from a pool of 60 applicants.

MECP faculty collaboratively developed lesson plans, learning materials, and assignments using Kolb's experiential learning cycle[1] and deliberate practice principles.[2-3] In class, students actively applied new knowledge through small group work, facilitated discussions, and teaching skills practice with immediate feedback.

Students worked collaboratively in teams to complete a needs assessment project and a capstone medical education scholarship project, with guidance from MECP program faculty and other mentors.

Evaluation/Assessment: Out of 35 students enrolled, 15 MD, 2 CRNA, and 2 PA students completed the in-class components.

Students' knowledge, self-assessed educator skills, and career plans were assessed through a questionnaire before and after program participation. Learner evaluations were collected before and following every class session.

Mean performance on knowledge assessment improved pre- (61% correct) to post-program participation (90% correct).

Learners' self-assessed educator skills also improved pre- vs. post-program participation.

Students evaluated all MECP sessions favorably. Narrative comments indicated in-class active learning was preferred over asynchronous readings; lengthy pre-class assignments were sometimes challenging to complete, given other demands; and the needs assessment project was an enlightening experience.

Students' interest in pursuing a medical education career increased overall, pre- vs. post-MECP participation.

Conclusions and Lessons Learned:

The MECP was favorably evaluated by students. The most effective aspects were active practice and application of new concepts and skills. Balancing MECP activities with students' competing demands was sometimes challenging.

Our findings indicate introductory training on medical education for health professions students is feasible, can improve students' knowledge, educator skills, and interest in pursuing a medical education career, and offers a unique opportunity for interprofessional education.

Future directions include improving overall workload distribution and exploring distance-learning options.

Table I. Learners' self-assessed educator skills pre- vs. post-program participation.

| Educator skill set | Self Assessed Skill Level (% Respondents) | | | | | | | | | |
| | Novice | | Advanced Beginner | | Competent | | Proficient | | Expert | |
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Small group facilitation	21%	0%	26%	0%	37%	17%	16%	83%	0%	0%
Large group discussion facilitation	47%	0%	21%	33%	26%	50%	5%	17%	0%	0%
Simulation facilitation	63%	0%	21%	33%	11%	50%	5%	17%	0%	0%
Team-based learning facilitation	37%	0%	37%	17%	26%	50%	0%	33%	0%	0%
Case-based learning facilitation	32%	0%	32%	0%	37%	33%	0%	67%	0%	0%
Interactive didactics presentation/facilitation	63%	0%	16%	0%	16%	17%	5%	83%	0%	0%
Student reflection facilitation	47%	0%	32%	0%	16%	33%	5%	50%	0%	17%
Clinical skills coaching	26%	0%	42%	33%	32%	33%	0%	33%	0%	0%
Providing formative feedback	11%	0%	47%	0%	16%	17%	26%	50%	0%	17%

| | Poor | | Fair | | Good | | Excellent | |
Self-directed learning skills	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	16%	0%	32%	0%	47%	67%	5%	33%

| | Strongly disagree | | Disagree | | Neutral | | Agree | | Strongly agree | |
I am satisfied with my current level of performance as an educator.	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
	26%	0%	42%	17%	26%	33%	5%	33%	0%	17%

Table II. Students' interest in pursuing a medical education career pre- vs. post-MECP participation.

| | Undecided | | Probably/ considering | | Definitely considering | |
	Pre	Post	Pre	Post	Pre	Post
Currently considering pursuing a career in medical education	11%	0%	42%	33%	47%	67%

References:

1. Kolb DA. *Experiential learning: Experience as the source of learning and development* (Vol. 1). Englewood Cliffs, NJ: Prentice-Hall, 1984.
2. Ericsson, K. A. (Ed.). (2009). Development of professional expertise: Toward measurement of expert performance and design of optimal learning environments. New York, NY, US: Cambridge University Press.
3. Ericsson KA. Deliberate practice and the acquisition and maintenance of expert performance in medicine and related domains. *Acad Med* 2004;79(10 Suppl):S70-81.