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Abstract

Purpose: The process of attracting, training, and retaining volunteer clinical faculty can be a challenge for regional medical campuses. It is important to have a faculty development program that addresses the specific needs of community-based faculty members. However, there is a shortage of literature on how to best develop and deliver such programs at regional campuses. **Objective:** to describe the development and implementation of a comprehensive faculty development program at a regional medical campus.

Method: An intensive faculty development program was developed at the regional medical campus of a large US Midwestern medical school. The faculty development program was created and directed by a senior faculty member at the regional medical campus working with a senior educator from the medical education office on the main campus. The program expanded the number of yearly faculty development workshops offered to all volunteer faculty at the regional campus and included an additional intensive 2-year certificate program for 12 faculty Teaching Scholars. The 2-year Teaching Scholars program was designed to provide more intensive training for faculty members interested in taking on leadership duties in medical education at the regional campus.

Results: Additional workshops were administered across the reported 2-year period. The Teaching Scholars cohort was constructed and maintained regular session attendance. Self-assessed knowledge and skills in completing common teaching activities improved for the Teaching Scholars across the study period. These faculty members rated the certificate program good (18%) to excellent (82%) and all indicated they would recommend the program to colleagues.

Conclusions: The described program can be accomplished by any regional medical campus working with faculty experts at the main campus. The financial costs of the program were minimal and data from the program supported its benefits.

INTRODUCTION

Many medical students receive clinical training at a regional medical campus. A challenge for these campuses is attracting, training, and retaining adjunct clinical faculty, who are generally unpaid volunteers often located at considerable distances from the main medical school. An element regularly cited as important to these adjunct community-based preceptors is having opportunities for faculty development to help them acquire and advance their teaching skills.¹⁻³ In particular, there has been a documented need for local approaches to faculty development which address the specific needs of these community-based members.⁴⁻⁷ A key component of local faculty development is providing information on topics of interest to the community-based faculty members delivered by content experts.^{6,8} Funding to support these efforts is usually limited.⁹ A review of the

literature indicates only a few published studies examining how faculty development has been implemented at regional campus sites. Previously published studies reporting interventions at regional campuses point to the need for identification of local administrative champions as well as content experts to help direct faculty development efforts at the regional campuses.^{8,10-12} In this paper, we describe the development and implementation of expanded faculty development opportunities at one regional medical campus using existing resources to direct these efforts.

METHODS

Setting

An intensive faculty development program was developed at the regional medical campus of a large US Midwestern medical school. The regional campus consists of 2 community

Steven R. Craig, MD is an Adjunct Clinical Professor of Internal Medicine and Assistant Dean at the Des Moines Branch Campus of the University of Iowa Carver College of Medicine, Des Moines, Iowa.

Hayden Smith, PhD, MPH is a Senior Research Scientist at UnityPoint Health-Des Moines, Des Moines, Iowa, ORCID: <https://orcid.org/0000-0002-2354-3468>.

Marcy Rosenbaum, PhD is a Faculty Development Consultant for the Office of Consultation and Research in Medical Education and Professor in the Department of Family Medicine at the University of Iowa, Iowa City, Iowa.

Corresponding author: Steven R. Craig, MD, Assistant Dean (Des Moines Branch Campus), 1415 Woodland Avenue, Suite 130, Des Moines, Iowa 50309; telephone; 515-241-4455; email: steven.craig@unitypoint.org



teaching hospitals, a children's hospital, a county hospital, and a Veterans Affairs hospital, all located in the same metropolitan area 110 miles from the main medical school campus. The regional medical campus is recognized and accredited by the Liaison Committee for Medical Education. There is an Assistant Dean overseeing the regional campus who reports to the Senior Associate Dean for Medical Education at the main campus.

The 5 teaching hospitals on the regional medical campus are active in both undergraduate and graduate medical education. Between the facilities, the 5 hospitals sponsor 8 ACGME-accredited residency programs including 2 transitional year residency programs, 2 family medicine residency programs, 1 internal medicine residency program, 1 pediatric residency program, 1 psychiatry residency program, and 1 general surgery residency program. These programs train over 140 residents annually. In addition, residents in several specialty areas from the main campus rotate to the regional campus to complete part of their clinical training. In a typical year, 35 to 40 resident physicians from the main campus complete some training at the regional campus. Medical students from the main campus complete basic and advanced clinical training at the regional campus. Over 1/3 of third and fourth-year medical students from the main campus complete part of their clinical training at the regional campus. This includes 24 students (16% of the class) who complete all of their core clinical clerkship training at the campus. In a typical year, this represents more than 100 medical students from the main campus completing at least part of their clinical training at the regional campus.

Prior to 2017, faculty development at the regional campus was limited to twice yearly workshops provided by educational experts from the main campus. In early 2017, the regional medical campus Assistant Dean and other educational leaders at the campus approached leaders at the medical school main campus about the need for additional faculty development at the regional campus. There was a desire to expand programming for all regional medical campus faculty beyond the 2 annual programs. In addition, there was a desire to provide more intensive training for faculty interested in taking on leadership duties in undergraduate and/or graduate medical education at the regional campus.

The Senior Associate Dean for Medical Education of the medical school directed the regional campus dean to work closely with a senior educator in the medical education office on the main campus to address these 2 needs. Together, they developed a plan to expand faculty development opportunities for all volunteer faculty at the regional campus from 2 workshops annually, to quarterly faculty development workshops throughout the year. Regional medical campus faculty were surveyed to help determine what topics should be covered in these programs. An email survey was sent to all faculty involved in resident and medical student education at the regional campus with a list of 25 possible faculty

development workshop topics. Respondents were asked to list their top 3 choices and they were also able to write in additional topics they would like to see addressed. The 8 topics presented in the 2-year program were from the top 10 nominated by the faculty respondents. See supplemental files for a copy of the survey instrument (Supplemental Digital Appendix 1).

The regional campus dean and senior faculty development expert also developed plans to provide more intensive faculty development to key faculty educators at the regional campus. These 2 individuals co-directed a new 2-year Teaching Scholars certificate program, which was initiated in the fall of 2017. Plans for the new Teaching Scholars program were developed during the first half of 2017 and included intensive faculty development for educators at the regional medical campus looking to take on future medical education leadership roles. Over the summer, information was distributed to all faculty educators at the regional campus and they were invited to apply for one of 12 positions in the first Teaching Scholars cohort.

Curriculum

Applicants to the Teaching Scholars program were informed that the program would build and expand on the quarterly faculty development programming planned to be implemented at the regional campus. Specifically, participants were asked to make a 2-year commitment to attend all of the quarterly faculty development workshops with additional work assignments before and after each workshop. These quarterly workshops were offered to all regional campus faculty regardless of participation in the cohort and were 90-minute interactive sessions on key topics requested by regional campus faculty (Table 1; list of provided faculty development workshops). Speakers for 6 of the 8 workshops were experts from the medical education office on the main campus and 2 speakers were senior educators from the regional campus.

Directly after each workshop, participants in the Teaching Scholars intensive faculty development program were asked to email the course directors on how they planned to apply information and methods taught in the quarterly workshops into their teaching activities over the next quarter.

Approximately 2 weeks prior to the next quarterly workshop, Teaching Scholars were then asked to submit a one to 2-page reflection on lessons learned from applying the information during the prior quarter. They were asked to address 3 questions in these reflections: 1) What Happened: when you tried out the new teaching methods learned from the session; 2) So What: what did you observe about the effectiveness of the new methods you tried; 3) What Now: how did this experience guide your use of the new methods going forward.

Immediately prior to each quarterly workshop, the course co-directors facilitated a 75-minute discussion with the Teaching Scholars participants. An open discussion was conducted to

focus on the participants' reflections and experience applying the new methods taught at the prior workshop. Robust discussions were solicited from the entire group addressing what had worked and what had not worked, and why, when applying the new methods. Discussions also focused on overcoming barriers that participants had identified in effectively implementing specific skills into their teaching practices. At the end of these discussions, each Teaching Scholar self-reported how they planned to apply these teaching methods going forward.

Since the Teaching Scholars program was developed for faculty members interested in taking on future medical education leadership duties, another component of this training was leadership training. Each participant completed a DISC® Personality Inventory Profile. These individual profile reports allowed them to reflect on their leadership style. One of the group meetings was then devoted to discussing how educators with different leadership styles can best work with learners with the same, similar, or very different styles.

Program Assessment

Several measures were used to assess the impact of the Teaching Scholars program on the cohort. These measures were consistent with the first 3 levels of the Kirkpatrick model used to assess the effectiveness of faculty development efforts. First proposed by Donald Kirkpatrick in the 1950's, the 4 stage model includes assessing: 1) learner satisfaction, 2) new learning (knowledge, attitudes, and skills), 3) behavior changes, and 4) subsequent impact on trainees.¹³ Regional campus faculty in the Teaching Scholars cohort were surveyed at baseline, and on completion of the 2-year program. See supplemental files for a copy of these program instruments (Supplemental Digital Appendices 2-5). Participants were asked to self-assess their competence in performing 17 different common teaching activities before and after completing the 2-year program using a 4-point Likert scale: 1 = generally not able to perform; 2 = somewhat able to perform; 3 = quite competent performing; 4 = highly competent performing, N/A = Not Applicable, do not engage in this teaching activity.

Cohort participants were also asked at baseline and at the end of the program to list the 3 most common settings in which they taught and to describe their perceived strengths and areas for improvement when teaching in these 3 settings. After completing this assessment at the end of the 2-year program, participants were provided assessments of the strengths and needed improvements they had originally reported on their entry into the program. They were given a worksheet allowing them to compare these pre and post assessments which asked if they observed changes in what they would now list as strengths and areas for improvement in the 3 teaching settings to assess for new learning. They were also asked to set goals for how they would approach making these needed improvements.

On the completion of the 2-year program, the cohort was also asked to complete an evaluation survey that included a series of questions about the intensive faculty development program. The survey instrument included what the cohort considered highlights and what improvements they recommended to the program. The survey also queried participants about program logistics (e.g., frequency and length of the meetings) and the value of different components of the program. The study of the Teaching Scholars program was classified as Exempt by the Institutional Review Board at the regional medical campus (#EX2019-077).

RESULTS

A primary goal of the new faculty development program was to increase the number of faculty development workshops for all regional campus faculty from 2 to 4 programs per year. For the 2 years prior to this expansion (2015-2017), a total of 129 teaching faculty (representing 72 unique faculty) attended the faculty development programs at the regional campus. During the first 2 years of quarterly workshops (2017-2019), a total of 273 teaching faculty (representing 111 unique faculty) attended the faculty development programs at the regional campus.

The second change was the implementation of an intensive 2-year Teaching Scholars program. The program was successful in attracting 12 faculty members, with at least one faculty member from each of the 5 regional campus-affiliated teaching hospitals and an equal number of men and women. Four participants had been teaching for less than 5 years, three for 5-10 years, and five had been teaching for 11-16 years. All of these participants were volunteer faculty and they received no compensation for their participation in the Teaching Scholars program. Hospital and practice group leaders were supportive and provided protected time so these faculty members could participate in the activities. Although 12 faculty members were accepted into the Teaching Scholars program, one dropped out of the program after 2 meetings due to practice relocation. Of the remaining 11 participants, 9 maintained 100% attendance and the other 2 attended 7 of the 8 workshops and Teaching Scholars meetings. Every participant completed the reflection assignments for the workshops they attended.

Participants were asked to self-assess knowledge and skills in completing 17 common teaching activities before and after the 2-year program. The number of faculty indicating they were not able (1), somewhat able (2), quite competent (3) and highly competent (4) to perform each of these activities before (Pre) and after (Post) completing the Teaching Scholars program is presented in Table 2. Participants' self-assessment of competency performing the 17 teaching activities tended to improve for all activities across the program. Improvement in 6 of the teaching activities was statistically significant ($p < .05$). Although improvement was not significantly improved for the other 11 activities, in all but

one activity 7 or more participants rated themselves as quite competent or highly competent performing these activities at the end of the 2-year program. The activity with the lowest post-program ratings was an area not specifically addressed during the 2-year program (i.e. writing effective test questions). This activity was included as a control item to see if improvement in skills occurred even if the activity was not addressed in the program.

Participants were also asked at baseline and program completion to list the strengths and areas for improvement in teaching for the 3 most common settings in which they taught. At the end of the program, when comparing their pre and post descriptions of strengths and areas for improvement in common teaching settings, participants noted positive changes in both strengths and in areas they had identified as needing improvement on entry into the program.

Participants were asked to identify 2 to 3 goals to further improve their teaching skills in those settings in which they most commonly taught. Table 3 summarizes the goals the 11 Teaching Scholars identified to further enhance their teaching skills after completing the 2-year program. There was considerable overlap in responses resulting in a total of 12 unique goals/areas for further improvement identified by the 11 program participants.

Table 4 summarizes the anonymous program evaluation data provided by the 11 participants in this first Teaching Scholars cohort. As shown, when participants were asked to assess the value of the Teaching Scholars Program, 82% rated it as excellent and 18% good. All participants indicated they would definitely recommend the program to colleagues.

Finally, participants were asked to list what aspects of the program they found most valuable and what aspects of the program could be improved. Table 5 summarizes all unique free text response categories received. Networking with other Teaching Scholars was cited as the most valuable aspect of the program. The 75-minute Teaching Scholars interactive sessions were also noted by all participants to be of value. Learning from others' experience trying to implement the teaching methods taught at the workshops was considered valuable, including learning what worked and did not work for others. Completing the leadership style surveys and the session devoted to reviewing how faculty with different leadership styles can work with learners who have similar or different styles were also seen as valuable. Participant suggestions for improving the program included reducing occasional redundancy of content, incorporating instruction on use of new teaching technologies, and developing a way for Teaching Scholars to electronically submit their critical analysis reflections to an online site that would allow all scholars to review the reflections from each other prior to each meeting.

DISCUSSION

This study describes a program that provided expanded faculty development at a regional medical campus. In particular, the program focused on providing more intense instruction to a cohort of faculty Teaching Scholars participating in a 2-year certificate program. The program addresses an area of great importance to all regional medical campuses, given there are few reports in the literature describing such types of training without major expenditures, such as hiring a new faculty development expert at the branch campus.⁸⁻¹²

The program also increased the number of overall faculty development workshops for regional campus faculty from 2 to 4 workshops per year. This change increased the number of general faculty at the regional campus participating in these development sessions. The total attendance at these workshops more than doubled and the number of unique faculty members participating in workshops increased by more than 50% during the first 2 years of the program. As for the 2-year Teaching Scholars program, it was successful in attracting at least one faculty member from each of the 5 regional campus-affiliated teaching hospitals. Each of the participants expressed interest in taking on future medical education leadership roles at the regional campus.

A key component of the Teaching Scholars program was having participants commit to applying session information and methods taught in the quarterly workshops into their teaching activities during the next quarter. Immediately prior to the following meeting, each participant submitted a written reflection discussing lessons learned from applying the new teaching methods. These assignments were action-oriented reflections, similar to the Rolfe et al. model, which have been demonstrated to help learners incorporate new knowledge and skills into their practice.¹⁴

Another key component of the program was having each participant complete a DISC® Personality Inventory Profile. This instrument identifies an individual's behavioral style based on their personality. It has been used in the corporate sector since the 1960s to assist with hiring and advancement decisions.¹⁵⁻¹⁶ It is being used more extensively in healthcare in a variety of ways.¹⁷⁻¹⁹ One newer application is to help educational leaders better understand their leadership priorities and preferences and how to best connect with people whose priorities and preferences may be different. Participants in the Teaching Scholars program agreed that reviewing their individual profile report provided them great insight into their particular leadership style and how they can work with learners with the same, similar, or very different behavioral styles.

Evaluation of the Teaching Scholars program by participants was positive. The number of Teaching Scholars meetings and the length of these meetings was assessed as appropriate by the majority of participants. Networking with other Teaching Scholars and learning from their experience applying the information and new methods taught at the quarterly workshops were cited as the most valuable aspects of the

program. At the end of the 2-year program, the majority of participants rated it excellent, with the rest rating it as good. All participants indicated they would definitely recommend the program to colleagues.

Feedback from the first cohort of Teaching Scholars is being used to make improvements to the program for the next cohort that is being recruited. The 2 key components cited above will be continued: having participants complete leadership surveys and getting a commitment from each participant about how they will apply new methods taught at the workshops and then asking them to write an action-oriented reflection for discussion at the next Teaching Scholars meeting. Efforts are also in place to create a method for scholars to submit their required reflection papers to a secure electronic site and to provide access to these reflections to all Teaching Scholars participants.

There is broad support for continuing the 2-year intensive Teaching Scholars program. Participants from the first cohort have helped recruit the next cohort of 12 Teaching Scholars by reaching out to colleagues who teach in the same discipline and/or at the same institution where they teach. All regional campus faculty and the first cohort of Teaching Scholars have been resurveyed to determine what topics will be addressed at the quarterly faculty development workshops for the next 2 years. This included reviewing the list of teaching activities that the first cohort of Teaching Scholars rated the lowest competence in performing at the end of the 2-year program.

Limitations

The described program represents the outcomes from one main medical school campus with a single regional campus. The degree of trust and support between the 2 campuses was strong. It is unknown how well the program may work when the main campus has multiple regional campus sites and/or the degree of trust and support between the 2 campus sites is not as strong.

This study reports on only one cohort of 12 Teaching Scholars and thus may be limited in generalizability. We chose to limit the program to 12 participants to allow for a large enough group to share different perspectives, but small enough to get to know each other well and to interact in an efficient manner. Future research could assess the program's success across several cohorts.

There were initial plans to have each cohort participant video record themselves in educational settings of their choosing. They would have then reviewed the video recordings with a senior faculty development expert to provide feedback. This task proved difficult to arrange for a variety of reasons and a new method of observing participants in teaching settings with feedback is planned for the next cohort. Objective structured teaching exercises (OSTEs) are planned for the second cohort as well. These participants will be videotaped interacting with simulated learners in the settings where they normally teach. They will then review the video recordings

with a senior faculty development expert and receive feedback.

Finally, data used in this study was based solely on participant self-report and self-assessment. Future studies could include assessment questions focused on knowledge acquisition. Additionally, we were unable to determine if self-reported changes in teaching behaviors reflected actual behavioral changes. Future research could collect observational data on teaching behaviors through pre-post video review, OSTEs and/or direct observations to determine the impact of the program on actual behaviors. To address Kirkpatrick's level 4, pre-post data could also be collected on trainee perceptions and evaluations of faculty teaching.

Conclusion

This report describes a successful model for providing needed faculty development to regional campus faculty with the assistance of educators from the faculty development office of the main medical school campus. The program was simple in structure and successful in advancing the self-reported teaching abilities of busy clinical teachers at the regional campus. There were no additional costs incurred by the regional campus. The program achieved its stated goals of increasing faculty development opportunities for all volunteer faculty at the regional campus and providing more intensive training for a small cohort of faculty interested in taking on medical education leadership duties at the regional campus.

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Table 1: Faculty Development Workshop Topics for 2-Year Teaching Scholars Cohort

Workshop Topic*	Workshop Date
Clinical Observation: An Essential Educational Tool	December 2017
Effective, Efficient Clinical Teaching	March 2018
Effective Small Group Teaching	June 2018
Teaching in the Presence of the Patient	September 2018
Autonomy and Matching Learner Needs	December 2018
Leadership and How to Develop These Skills	March 2019
Efficient Clinical Teaching: It Can Be Done!	June 2019
Challenging Learner-Teacher Relationships	September 2019

* Regional campus faculty were surveyed to determine what workshop topics should be covered in the 2-year program.

Table 2: Teaching Scholars Pre- and Post- Program Questionnaire Responses, n=11

Please rate your knowledge and skill in the following teaching activities. Please use the following scale:

1 = generally not able to do this

2 = somewhat able to do this

3 = quite competent in doing this

4 = highly competent in doing this

N/A = Not Applicable (do not engage in this activity)

Teaching Activity	Response Counts: Pre Post					p-value* ≤ .05
	1	2	3	4	N/A	
1. Interactive lecturing	0 0	3 2	6 7	2 2	0	0.13
2. Small-group classroom teaching	0 0	3 0	5 5	3 6	0	0.07
3. Large-group classroom teaching (e.g. Grand Rounds presentation)	0 0	5 2	6 7	0 2	0	0.12
4. Small-group teaching on the ward or other clinical setting	0 0	3 0	5 4	2 6	1	0.05
5. Asking effective questions to promote discussion and learning	0 0	8 1	1 7	2 3	0	0.07
6. Teaching in the outpatient clinic	0 0	1 0	6 4	1 4	3	0.10
7. Teaching in the patient's presence	0 0	6 2	5 7	0 2	0	0.10
8. Teaching procedures or psychomotor skills	0 0	1 2	5 5	3 2	2	0.10
9. Orienting learners	0 0	2 1	9 3	0 7	0	0.01
10. Observing learners for assessment and feedback	0 0	3 0	7 6	1 5	0	0.01
11. Evaluating learners (using rating forms)	0 0	3 0	8 7	0 4	0	0.05
12. Giving feedback to learners	0 0	4 0	7 9	0 2	0	0.24
13. Writing effective test questions	0 0	6 3	1 4	0 0	4	0.15
14. Mentoring a trainee or colleague	0 0	2 2	8 7	1 2	0	0.77
15. Leading others in teams	0 0	2 1	9 4	0 6	0	0.04
16. Conducting literature searches on educational topics	0 0	6 2	3 5	2 4	0	0.02
17. Formulate a research question about teaching and design a study	0 0	1 1	7 3	2 6	1	0.13

*Based on Wilcoxon signed rank tests with continuity correction to examine for non-null differences between Pre- and Post- Survey responses.

Table 3: Future Goals Identified by Teaching Scholars on Completed Program Survey

1. Improve teaching in the presence of the patient / bedside teaching
2. Improve teaching of office procedures
3. Improve feedback skills, including how to better provide feedback to difficult learners
4. Learn new ways to making teaching / lecturing more interactive and engaging
5. Work on establishing learner goals at start of rotation & target teaching to learner needs
6. Learn new technology and how to incorporate it into teaching
7. Learn more about and better apply principles of adult learning theory to teaching
8. Incorporate more teaching of physical exam skills
9. Work on teaching more efficiently
10. Learn how to better teach multiple levels of learners simultaneously
11. Seek out new teaching methods / styles
12. Develop leadership skills

Table 4: Anonymous Evaluations of Teaching Scholars Program at Conclusion of 2-Year Training Program (n = 11 Scholars Completed Survey)

Evaluation Survey Question	Scale Responses – Number (Percentage) of Respondents		
	Neutral	Useful	Very Useful
How useful were the:			
Teaching Scholars Meetings	N=0	N=4 (36%)	N=7 (64%)
Faculty Development Workshops	N=0	N=8 (73%)	N=3 (27%)
Critical Analysis Reflection Assignments	N=3 (27%)	N=6 (54%)	N=2 (18%)
Number of Teaching Scholars Meetings	Too Few	Appropriate	Too Many
	N=0	N=11 (100%)	N=0
Length of Teaching Scholars Meetings	Too Short	Appropriate	Too Long
	N=0	N=9 (82%)	N=2 (18%)
Overall, How Would You Rate the Program	Poor/Fair	Good	Excellent
	N=0	N=2 (18%)	N=9 (82%)
Would You Recommend the Program to Colleagues?	No	Maybe	Yes
	N=0	N=0	N=11 (100%)

Table 5: Anonymous Evaluation of Teaching Scholars Program at Conclusion of 2-Year Training Program – All Free Text Responses (n = 11 Scholars Completed Survey)

What Aspects of the Program Did You Find Most Valuable?

- The quarterly meetings.
- Discussion prior to workshops was always of high value.
- The interactive sessions promoted critical thinking and participation from everyone in the group.
- Excellent selection of topics, with knowledgeable discussants that provided good insights and perspectives. But perhaps the most valuable component was the great selection and variety of colleagues enrolled in the program, who provided much teaching through discussion, sharing insights and experience.
- Networking with other teaching scholars and learning from their experience- having protected time to focus on improving my teaching.
- I thought the workshops and hearing colleagues' reflections on things that have worked/not worked were the most useful.
- Finding out how others complete tasks: evaluation, teaching variety of learners, etc.
- The interactive discussion with colleagues was very useful.
- Reflective time with a variety of other educators was very useful. Personality and leadership style assessment was eye opening as well.
- The round table discussions where people could share what was working well or elicit advice for areas in which they were struggling were super helpful.

What Aspects of the Program Could Be Improved?

- Occasional redundancy could be reduced.
- Topics on the use of technology for effective teaching, meeting this generation of new physicians where they live, so to speak.
- When you send us the email about the assignment due, add a link in the email to the topic discussed previously and make comments submitted accessible to other scholars.
- Would add more about teaching in a busy environment/time constraints.

Supplemental Digital Appendix 1:

Possible Topics for Future Workshops at Des Moines Branch Campus

Name: _____

From the list below, indicate your top 3 choices for future faculty development workshops

1. Interactive Lecturing: Effective Presentations and Lectures
2. Small Group Teaching
3. Large Group Teaching
4. Efficient Clinical Teaching
5. Communication Issues: Delivering Bad News, End of Life Care Conversations, etc.
6. Teaching in the Patient's Presence
7. Teaching in the Outpatient Clinic Setting
8. Proper Orientation and Priming of Learners
9. Effective Observation of Learners
10. Evaluation of Learners
11. Giving and Receiving Feedback
12. Providing Appropriate Autonomy to Learners
13. Asking Effective Questions to Promote Learning
14. Developing Leadership Skills
15. Team Building
16. Conflict Management
17. Difficult Teacher-Learner Interactions
18. Mentoring (learners, other colleagues)
19. Simulation Learning
20. Teaching Procedures
21. Instructional Design
22. Writing Effective Test Questions
23. Evidence-Based Clinical Practice & Searching the Literature
24. Using On-Line Educational Resources in Teaching
25. Educational Research: Developing Questions & Designing Studies
26. Other: _____

My top 3 choices (in order of preference) are:

1. _____
2. _____
3. _____

Supplemental Digital Appendix 2:

Des Moines Teaching Scholars 2017 – 2019: Pre & Post – Program Questionnaire

Name _____

Please rate your knowledge and skill in the following teaching activities. Please use the following scale:

- 1 = generally not able to do this
- 2 = somewhat able to do this
- 3 = quite competent in doing this
- 4 = highly competent in doing this

If you do not engage in a listed activity (e.g., perhaps you do not write test questions) select NA.

Teaching Activity	1	2	3	4	NA
1. Interactive lecturing	1	2	3	4	NA
2. Small-group classroom teaching	1	2	3	4	NA
3. Large-group classroom teaching (e.g. Grand Rounds presentation)	1	2	3	4	NA
4. <u>Small-group</u> teaching on the ward or other clinical setting	1	2	3	4	NA
5. Asking effective questions to promote discussion and learning	1	2	3	4	NA
6. Teaching in the outpatient clinic	1	2	3	4	NA
7. Teaching in the patient's presence	1	2	3	4	NA
8. Teaching procedures or psychomotor skills	1	2	3	4	NA
9. Orienting learners	1	2	3	4	NA
10. Observing learners for assessment and feedback	1	2	3	4	NA
11. Evaluating learners (using rating forms)	1	2	3	4	NA
12. Giving feedback to learners	1	2	3	4	NA
13. Writing effective test questions	1	2	3	4	NA
14. Mentoring a trainee or colleague	1	2	3	4	NA
15. Leading others in teams	1	2	3	4	NA
16. Conducting literature searches on educational topics	1	2	3	4	NA
17. Formulate a research question about teaching and design a study	1	2	3	4	NA

Supplemental Digital Appendix File 3: Teaching Self-Evaluation

Question:	Identify 3 contexts in which you teach (e.g. lecture, outpatient, inpatient, OR, bedside)		
	1.	2.	3.
List your strengths in teaching in that context.			
List aspects of your teaching in that context upon which you would like to work.			

**Supplemental Digital Appendix 4:
Reflection Worksheet on Teaching Self-Evaluation Form**

Compare your Teaching Self-Evaluation from the beginning of the Teaching Scholars and now. Please answer the following questions:

- Do you see changes in what you consider to be strengths in your teaching? What are they and how have they changed?
- Do you see changes in what you consider to be areas for improvement in your teaching?
- What areas for improvement have remained constant? How could you approach making these improvements (more training, practice, etc)?
- Please identify 2-3 goals for yourself as a teacher (e.g. goals for the next few years including areas to improve, experiences to pursue, etc.)

**Supplemental Digital Appendix 5:
Evaluation of Des Moines Teaching Scholars Program 2017 – 2019**

Please provide your honest assessment of the Teaching Scholars Program so we can make changes to improve the program for the next cohort of scholars who will start the program in 2020.

Name: _____ Number of Years You Have Been Teaching: _____

Feedback about Specific Components of the Program

- Was the number of Teaching Scholar Meetings and Workshops appropriate?
 Too Few Too Many Appropriate
- Was the length of the Teaching Scholars Meetings (4:00 – 5:30 pm) appropriate?
 Too Short Too Long Appropriate
- How useful were the quarterly 90-minute Teaching Scholars Meetings that preceded the workshops?
 Not at All Useful Not Useful Neutral Useful Very Useful
- How useful were the quarterly Faculty Development Workshops?
 Not at All Useful Not Useful Neutral Useful Very Useful
- How useful were the application and reflection (critical analysis) assignments?
 Not at All Useful Not Useful Neutral Useful Very Useful
- Overall, how would you rate this program?
 Poor Fair Good Excellent
- Would you recommend the Des Moines Teaching Scholars program to your colleagues?
 No Maybe / Unsure Yes

General Feedback about the Program

- What aspects of the program did you find most valuable?
- What could be improved or added to the program?
- What are two take-aways from the program that you will use in your teaching practice?
- What goals do you have for continuing to enhance your teaching skills?
- What additional teaching topics would you like to learn about?