



Experiential learning, collaboration and reflection: key ingredients in longitudinal faculty development
Apprentissage par l'expérience, collaboration et réflexion : les ingrédients clés de la formation professorale longitudinale

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Article abstract

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Conclusion: LFD initiatives should include an emphasis on ensuring opportunities for iterative attempts of teaching skills, guided self-reflection, and collaborative group reflection and learning to ensure sustainable change to teaching practices.



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Abstract

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Résumé

Contexte : La formation professorale longitudinale (FPL) peut faciliter l'acquisition d'habiletés pédagogiques, surtout dans le cadre d'un forum où les enseignants peuvent réfléchir individuellement et collectivement à ces nouvelles habiletés. Cependant, les processus exacts qui rendent ces interventions efficaces doivent être explorés davantage.

Méthodes : Cette étude qualitative examine une initiative de FPL qui comprend l'enseignement d'une nouvelle approche de rétroaction à laquelle ont participé cinq médecins de famille. L'initiative a commencé avec la tenue de deux ateliers d'une heure et demie, le premier sur la rétroaction axée sur les objectifs (l'habileté d'enseignement à développer) et le deuxième sur la réflexion narrative (comme outil pour soutenir la réflexion personnelle sur cette habileté en apprentissage). Au cours des six mois suivants, les cinq participants ont appliqué de manière itérative l'approche de la rétroaction dans leur enseignement et se sont livrés à une réflexion narrative lors de quatre séances de groupe d'une heure. Des transcriptions des discussions de groupe et des entretiens de clôture ont fait l'objet d'une analyse thématique.

Résultats : L'expérimentation itérative, la réflexion individuelle et l'exploration collective des efforts de mise en œuvre de la nouvelle approche de rétroaction ont permis de développer une communauté d'apprentissage au sein du groupe. Ce sentiment de communauté a créé un environnement sûr pour la réflexion, tout en motivant les efforts continus pour apprendre l'habileté. La préreflexion individuelle préparait les participants à la co-réflexion de groupe; cependant, les récits écrits n'étaient pas essentiels.

Conclusion : Les initiatives de FPL devraient mettre l'emphase sur les occasions de mise en application itérative des habiletés d'enseignement, d'autoréflexion guidée et de réflexion et d'apprentissage collaboratifs en groupe pour assurer un changement durable des pratiques d'enseignement.

Introduction

There is growing recognition in the medical education literature that single-event faculty development workshops are limited in their ability to support changes in teaching practices.¹ Thus, there is a movement toward longitudinal faculty development (LFD),^{2,3,4} with the goal of achieving more sustainable change to teaching practice.⁵ As with many educational movements, there appear to be multiple purposes and multiple approaches to implementing such longitudinal initiatives, all of which might claim the label of LFD.^{1,6} For example, some programs utilize a content-based, seminar series approach in order to develop a broad set of knowledge in areas such as teaching, scholarship and leadership.⁷ Others have offered “process-oriented” programs in the tradition of narrative medicine, in which “participants actively engaged with written stories as a basis for meaningful conversations around issues related to teaching generally and to the social and behavioral sciences more specifically.”⁸ (p243-244) Still other programs utilize a mixture of methods, some of which include specific feedback to participants based on observed or videotaped performances.⁹

A less frequently utilized purpose for LFD is the development of an enhanced understanding and application of a particular targeted teaching skill (such as providing feedback to students) that is developed over an extended period. Utilizing LFD for this purpose provides participants with the opportunity in practice to refine iteratively what they learned in the educational environment. A key component in this form of LFD is the use of a reflective cycle (experience, reflect, conceptualize, act) to improve the incorporation of the teaching concept into practice.¹⁰ Reflection on practice has been shown to facilitate deeper learning, give meaning to practice, and provide a process that allows personal experiences to inform practice for medical students and practicing clinicians alike.^{11,12,13} However, it is increasingly recognized that reflection without guidance is not necessarily effective for supporting appropriate learning and growth.¹⁴ Thus, attention is being paid to the role of guided reflection as a process to support learning.^{11,15} Targeted-skill LFD programs can provide the opportunity to support this form of guided self-reflection. This would occur through iterative return to the LFD learning group to explore each individual’s experiences of trying to implement the concepts in practice as a process of co-reflection.

From a sociocultural perspective, longitudinal engagement with a group of co-learners in the LFD model also allows for the development of a cohesive learning community or social network of support, sometimes described as an (‘instrumental’¹⁶) community of practice.^{5,17,18} The interactive learning and support that occurs in these networks can further enhance the learning by deepening and refining the meaning that the individual and group apply to their teaching experiences.⁴ In fact, several studies indicate that participants appreciate and benefit from the education networks that develop within LFD^{2,3,4,5} including opportunities to participate in both individual and collaborative reflection.^{5,16} With this in mind, O’Sullivan and Irby¹⁹ have proposed that faculty development research needs to consider further the collaborative learning that occurs within these learning networks. In targeted-skill LFD, this would likely take the form of collaborative reflection,⁴ such that group members can brainstorm together (ideally with guidance from a content and process expert) on their individual experiences of implementation, thereby co-constructing a deeper understanding of relevant concepts and co-developing strategies for more effective implementation in context. Such collaborative reflection on learning might be of greatest value if participants come to group sessions with specific examples and perhaps some structured “pre-reflection,” with the goal of maximizing the value of peer-supported reflections.

Given these findings, it seems likely that targeted-skill LFD initiatives would have enhanced success if they include the intentional implementation of self- and co-reflection in experiential learning cycles involving iterative implementation of new ideas into practice and sharing with others engaged in similar activities. To better understand how to support collaborative learning within these initiatives, we developed a longitudinal peer group faculty development program in which an educational practice, goal-oriented feedback²⁰ was taught to participants initially, then elaborated iteratively through longitudinal group discussions around efforts to implement it into teaching practices. In the spirit of design-based research, we sought, in this first iteration of the program, to: 1) explore the strengths and weaknesses of the program itself in order to improve future iterations, and 2) evolve a deeper theoretical understanding of the process and practice of reflection and group development.

Methods

Our study is an interpretivist study using a qualitative, design-based research (DBR) methodology. DBR allows for both the refinement of theory and the advancement of educational practice through cycles of design, evaluation and redesign.²¹ This paper focuses on our findings around advancing understanding of the practices of LFD. In doing so, we learned not only about faculty development practices, but also about the process of individual reflection and its implications for reflective activities that might support positive practice change. We have reported our efforts to evolve the theoretical understanding of goal-oriented feedback, including an overview of the methods, elsewhere.²²

University of British Columbia, University of Victoria, and the Vancouver Island Health Authority Research Ethics Boards, granted harmonized ethical approval for this study (BC2015-048) prior to the recruitment of participants.

Participants

Physicians teaching medical students and residents at the Island Medical Program (IMP), a University of British Columbia (UBC) distributed site were invited to participate voluntarily via an administrative assistant for faculty development initiatives, and were excluded if they were unable to commit to monthly meetings, or were not teaching during the time of the study. Five clinical educators, who had been in practice between one and 43 years (median 20 years), consented to participate. All participants were family physicians; although, two worked in specialized practices. Participants taught in a range of settings including clinical skills sessions, facilitated reflection groups, case-based learning, and ambulatory clinics. The extent of interactions with any given student varied between a single session to eight months, and included some remedial support.

Intervention and study design

The faculty development initiative included two initial workshops led by LF attended by all five participants. These workshops were developed by the research group (LF, GB, GR, SB) based on findings from a previous work.^{20,23} Following these back-to-back evening workshops, participants were asked to attempt to implement goal-oriented feedback in their own teaching practices and document their reflections of the effort for subsequent group discussions. Over the subsequent six months, the group met face to face on four evenings for one hour to explore their efforts at implementing goal-oriented

feedback in their own educational settings, using what was shared at meetings to modify subsequent approaches to feedback. A meal was provided at the initial workshop and light snacks at the subsequent meetings. An outline of the initiative is provided in Table 1

Table 1. Outline of faculty development initiative

Activity	Participants	Facilitator
Workshops		
1. Goal-Oriented Feedback	P1, P2, P3, P4, P5	LF
2. Narrative Reflection		
Group meeting 1	P2, P3, P5	GB
Group Meeting 2	P1, P2, P3, P4	GB
Group Meeting 3	P2, P3, P5	GB
Group Meeting 4	P1, P2, P3, P4, P5	LF (first 15 min), GB
Exit Interview (1-3 months post meeting 4)	Individual participants	GB

Members of the research group (LF, GB, GR, SB) developed the workshops based on findings from a previous study on goal-oriented feedback by LF, GB and GR.¹³ As background, LF is a general internist and Assistant Dean Undergraduate Education for IMP. GB is an obstetrician/gynecologist and medical educator and GR is an experienced researcher in medical education and has a PhD in cognitive psychology. SB has a PhD in Education Psychology and was the director of faculty development at IMP at the time of the study.

The first workshop focused on the educational practice of interest, goal-oriented feedback. In this workshop, participants were given the basic theory and practices of goal-oriented feedback and subsequently discussed opportunities for its implementation into their individual educational settings.²² The second workshop was to support participant preparation for future meetings by introducing the participants to the theory and practices of personal narrative reflection as a tool to enhance practice. A reflection template was provided to participants to practice and prompt future narrative writing about their subsequent experiences in trying to implement goal-oriented feedback. These narratives could be shared at group meetings.

The four group meetings were facilitated by GB, given her familiarity with goal-oriented feedback (LF did not participate in these sessions because of the research team's concerns regarding her potential power role in relation to participants as the IMP assistant dean undergraduate education). Participants were encouraged to share their narrative reflections, to discuss their

experiences with goal-oriented feedback, and to explore strategies to address encountered difficulties.

Data collection and analysis

Data used for the study included recorded and transcribed conversations at each facilitated meeting (as described above), as well as individual exit interviews with each of the participants. Exit interviews were semi-structured and questions focused on the participants' impressions of using goal-oriented feedback in their teaching practice and their experiences with this type of faculty development (See Appendix A).

Thematic analysis²⁴ was used to analyze facilitated group meeting transcripts as well as transcripts from the semi-structured exit interviews. In keeping with DBR, members of the research team (GR, GB, LF, GS) met between sessions throughout the study period to debrief about the sessions and develop additional probing questions GB could ask the participants about goal-oriented feedback in group meetings. During these team meetings, the research team also began developing codes to organize the data based on recurrent ideas and issues that arose related to the participants' engagement with the reflective exercises and group discussions. Codes were applied to the data with the aid of Dedoose (www.dedoose.com; Sociocultural Research Consultants, Manhattan Beach, California), a cross-platform application that enabled review and collaborative analysis of the data. Using the coded data, the team collectively and iteratively evolved themes that reflected the participants' engagement with and interpretation of the various facets of the longitudinal faculty development initiative.

Results

Through our thematic analysis we identified three key ingredients that impacted participants' experience of this faculty development initiative: the use of iterative implementation cycles, the formation of a contiguous group, and the role and adaptation of individual pre-reflection.

Impact of iterative implementation cycles

Participants recognized that the sustained focus on a particular teaching approach over time, with repeated cycles of implementation and reflection, was important in supporting their adoption and integration of this unfamiliar approach into their teaching practices. Their actions and responses suggested that the single workshop session would have been insufficient for them to feel a sense of

ownership of the approach. The iterative process provided opportunities for participants to more deeply understand the approach and its value, as well as to develop strategies for enacting it regularly in their daily supervisory practices. After the initial workshop, there was some uncertainty voiced about their understanding of the concept. One participant stated that he came away from the initial workshop with three questions:

How do you do it? What are the apparent benefits of it? Is it a powerful tool for CBME? (P2, exit interview).

Further, at the first group meeting following their initial implementation efforts, participants questioned whether they had been "doing it right":

I found it very challenging in my [student] group. I don't think I was doing goal-oriented feedback. Even in my example that I was gonna share I think it was not that, I think it was completely the opposite. (P5, meeting 1)

However, this initial uncertainty about the approach began to resolve as the meetings continued. Participants' felt that their understanding evolved as they iteratively tried then reflected individually and collectively on their use of goal-oriented feedback. In the exit interview, one participant described a conceptual shift from thinking of it as a 'technique to be mimicked' to thinking of it as 'an approach to be adopted':

I think when you are being introduced to a topic, we are trying to imagine 'OK, here's what I do, what does it look like? Oh, I get it.' You got it as soon as you did it, but you weren't sure that's what you were supposed to be 'doing.' But now I understand that there's no 'supposed to', we're just doing it, and we're going to see what it looks like." (P5, exit interview)

Impact of a contiguous group

Although not every participant was able to attend every group session, the contiguous nature of the group was also identified as important to the process. As the sessions progressed, participants recognized a shift in the group dynamic from being a collection of like-minded individuals to being a learning community.

I think as a group we evolved with the depth with which we looked at our individual experiences and probably also the comfort with which we shared our experiences with others. (Exit interview, P4)

This developing coherence as a community seemed to have several positive impacts on participants' individual and collective learning experience: it created a *collective obligation* to make implementation attempts between meetings, it provided *collective encouragement* to keep morale high through the efforts, and it offered *collective brainstorming* to keep new ideas flowing.

First, participants suggested that their collective obligation to each other served as a motivator to attempt the goal-oriented feedback approach in their own practice so that they could come to meetings prepared to participate actively in the group discussions:

I think if we were just given the guideline and told to do it without having had the reinforcement of having the discussions I don't think it would have affected as much change. I think it's very important to have the group. (P3, exit interview)

In fact, when asked goals they wished to work toward after the second meeting, several discussed improving pre-meeting reflections so that they could come to meetings maximally prepared to discuss their attempts:

I think I will try and write my reflection closer to the actual...sometimes I think I leave it too long and then I forget little details that I actually had intended to include. (P4, meeting 2)

In this case, the participant was not referencing the importance of these details for their own reflection, but rather for sharing effectively with the group at the next collaborative reflection session.

In addition to generating a sense of obligation to try, the individuals reported experiencing group support to continue in their struggles to use goal-oriented feedback in their teaching practice through the group sessions: "... it was nice to know you are not alone. But the fact that people were putting effort into it, and thinking about it, I found encouraging." (P3, exit interview)

One example of how this worked in the group occurred when a participant described a "failure" of implementation in a way that sought consensus from the group: "So has everybody had the 'oh, what I should have done was ...' experience once the moment has passed?" (P2, meeting 1)

As a third impact of the group experience, participants expressed value in the collective problem solving afforded by the group as participants offered different experiences and perspectives:

...the biggest gems came out of where you were like, 'Oh yeah, I would do that, or I would think about that.' So, it's almost just creating a space, where normally I wouldn't be sitting in a room with those individuals...I found it immensely helpful. (P1, exit interview)

Because of this process, participants felt they were able to evolve their understanding of both goal-oriented feedback and their reflections together:

I am actually impressed at how uniform everyone's application of it is. You know I don't mean that in a negative way, it's that everybody sort of bought into goal-oriented feedback and are employing it in a meaningful way on a regular basis. (P2, meeting 4)

Finally, more generally, participants indicated in exit interviews how valuable it was to have a supportive space to discuss teaching: "I just think that I have so valued this sharing of space and stories, experiences and cases. It has been really really valuable for me personally." (P4, meeting 4)

Many indicated that they would appreciate having the opportunity to come back to a similar group in the future to discuss other teaching topics: "...having a group to come back to and discuss teaching would be great. Challenges in teaching...like what went well, what didn't go well...like a journal club, with no journal." (P5, exit interview)

The role and adaptation of individual pre-reflection

Participants acknowledged the benefit of their individual pre-reflections on their attempts at goal-oriented feedback and felt that the structured reflection format, specifically the workshop on the narrative writing and the reflection template, encouraged deeper reflection:

LF really pushed the 'why is this happening' and really made me dig, which...was profoundly more deep than any clinical writing that I had done previous... it made me probe into, 'yeah, why am I doing this?' ...it really got down into the root of a lot of the teaching stuff. (P1, exit interview)

Further, they consistently indicated that the formalized structure of the individual reflection template when used in practice enhanced the subsequent group discussions:

In the structured situations people delve deeper and there's a lot more of an advantage to all of us in that setting. That's the part that is fun, because it was structured there was more of an opportunity to

explore the teaching phenomenon. (P2, exit interviews)

However, although the template was designed to promote a written narrative of their reflections, and all participants trialed writing at first, only one participant continued to write narrative reflections consistently throughout the program. For all other participants, the devolution of formal writing was consistent with the following description:

I did it more formally the first time, it got me thinking of some of those questions. I will admit that it was a lot less formal as the sessions went on, but I really appreciated it initially (P1, exit interview).

Participants described feeling guilt over not following through with the writing aspect of the program, with at least one participant stating that he felt he “failed the program” in this regard. (P2, exit interview). Although, time was often cited as a reason the narrative reflections were not done, one participant acknowledged that, “It wasn’t as easy as I thought it would be...” (P3; exit interview). Many participants explicitly acknowledged the usefulness of writing to facilitate the learning of a teaching skill, with one individual stating that reflective writing was “a mechanical way to reinforce your thinking of goal-oriented feedback” (P2, exit interview). Another (P4, exit interview) suggested that having to complete the written reflective exercise with the template encouraged her to more deeply probe her own understanding of the experience. Thus, there was a sense that writing should be of value in principle, and participants offered suggestions for increasing the likelihood of continuing with the formal writing in future programs such as stronger enforcement and requirements:

I started doing it, and I think it was helpful to kind of map out my thinking a bit. But I stopped doing it after. I think if I was required to hand it in I would’ve kept doing it. (P5, exit interview)

Ultimately, however, the majority of our participants stated they quickly began using the reflection template more loosely as a guide to probe thinking and to encourage reflective thought: “I would look at the questions and do it in my head.” (P1; exit interview). Thus, participants recognized the benefits of pre-reflection in some form, but writing was not a sustained component of the initiative.

Discussion

Although the intent of our data collection on this first iteration of the course was not to demonstrate objective

success of the program, the findings show promise for this LDF intervention targeting a specific skill. The iterative attempts at implementation, self-reflection, and guided group discussion appeared to support participants’ development of goal-oriented feedback, consistent with the extensive literature on the importance of experiential learning cycles.¹⁰ Participants progressed from having a surface understanding of goal-oriented feedback as merely a ‘technique to be applied correctly’, toward developing a sophisticated understanding of, appreciation for, and ability to incorporate the skill meaningfully into their teaching practices. In fact, since the sessions, three of the participants have become strong advocates and mentors of goal-oriented feedback among their own clinical colleagues.

Our findings also reinforce the value of having a contiguous group of participants to ensure the development of group cohesion. Consistent with social-cognitive theories of learning,²⁵ the group sessions seemed to support individual and collective learning through reciprocal interactions and observations of others, and consistent with self-regulated learning theories,²⁶ collaborative reflection effectively supplemented self-reflection in the interpretation of experiences and the development of new learning goals. In short, the group was able to leverage the multiple perspectives and experiences to learn together in ways that each member would not have individually, and this was likely further enhanced because of the educational safety²⁷ that was developed through the evolving group cohesiveness. In this sense, our targeted-skill LFD initiative had similarities to the Collaborative Inquiry Learning Communities (CILC), described in teachers’ professional education literature, which also incorporate both social cultural and self-regulated learning theory, bringing faculty together intentionally over a period of time to support both the co-construction of new teaching strategies towards common goals, promoting sustained shifts in practice, and helping to advance knowledge of both faculty and researchers about teaching.^{26,28}

However, the sense of membership in a group appeared to serve other important learning functions beyond the pooling of knowledge. Sociocultural theory suggests that the motivation to learn is enhanced through engaged participation when one’s community also places value in the skill.²⁹ It was evident in our study that all participants continued to be motivated to improve their knowledge and application of goal-oriented feedback, despite their early experiences of ‘failure’ at the skill. What’s more, many

suggested that the ‘community’ was key to supporting this ongoing motivation. The value of learning the skill was reinforced by the group meetings, as participants were motivated to try the skill regularly so they could contribute to the group discussions. Thus, participants may not simply be motivated in the abstract because of the reinforcement of the shared value, but may have been specifically motivated in the moment because of their sense of responsibility to contribute meaningfully to the group’s collective learning. In this sense, meaningful membership in the group seemed to offer both an intrinsic motivation (valuing the learning of this skill) and extrinsic motivation (feeling responsible to the group to try), adding to our understanding of motivators to participate in faculty development including personal and career development, and perceived teaching and education needs.³⁰

Finally, our findings shine an interesting light on the nature of individual reflection in the context of self-regulated learning. The process of narrative writing has been shown to result in a greater understanding of the reasoning and logic behind actions, leading to the desire to do something different the next time.³¹ Yet our participants struggled with maintaining the writing exercise, choosing to use the reflective template to structure their reflections, but not commit the resulting reflections to written form. This has led us to wonder about reflective writing exercises as a whole. While the writing process may offer a (potentially valuable) legacy document of one’s reflections for future review by oneself or another, it may be less the writing process itself and more the process of intentional reflection, aided in this study by the reflection template, that is important. If this is the case, our findings, paired with those of other researchers,³² may have implications for the incorporation of narrative reflections into other aspects of medical education including at the undergraduate and postgraduate level. Further research could examine other alternatives to writing to encourage meaningful reflections on interactions in various educational settings.

We note that our findings and interpretations are necessarily limited by certain methodological considerations embedded in our design. It is possible that LF’s newly acquired role as assistant dean played a part in participant motivation to participate in the study, but feedback suggested they had other reasons for continuing. The workshop was our first effort in this area. Thus, it involved a small number of participants and was limited to one site delivery. As expected, there were time challenges

resulting in participants being unable to attend all meetings. In future iterations, we hope to study this type of faculty development initiative with larger numbers of faculty, in various contexts, and with a view to capture data on the impact our efforts have on the learner. In addition, we note that the exit interviews were completed within 1-3 months of the group sessions. Had we waited longer to do the interviews we may have been able to probe further about the impact goal-oriented feedback has had on individual practices. Moreover, after completion of the study, several participants informally mentioned to members of the research team their efforts to advocate for the implementation of goal-oriented feedback with other colleagues and their offering advice to these colleagues about how to think about it and enact it. This spontaneous evolution of a “fan out” network of diffusion was an unanticipated but promising outcome of this faculty development effort. Likely we did not capture this phenomenon because our time frame allowed us to document only the short term effects.

Conclusion

Our study highlights several lessons for the effective implementation of LFD initiatives, particularly those targeted at supporting the development of a new teaching skill. Such LFD initiatives should ensure opportunities for cyclical attempts at implementing the skill into practice, self-reflection and collaborative reflection. That said, while emphasizing the importance of self-reflection to participants is likely important, including providing tools such as a reflection template, formalizing that reflective process through writing may not be necessary.

LFD initiatives should also work to ensure that the longitudinal sessions become more than simply bringing together a collection of individual educators. Even in training that targets a skill, participants’ engagement will benefit from a sense of accountability to the group to practice that skill, and from a supportive and collaborative environment as they attempt to further understand a concept. Thus, those considering LFD approaches should contemplate and explicitly leverage the benefits of encouraging and supporting the intentional creation of a CILC as a safe space to reflect and learn with peers.

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Appendix A.

Participant Exit Interview Questions (Semi-structured)

Can you share with me what attracted you to participate in this faculty development program?

What were the most powerful benefits of this program over the last 6 months?

Did you notice any benefits for the group as a whole?

What were your most powerful personal learning discoveries over the last 6 months?

What aspects of the program were the most powerful influences for you?

When you think back, how has your understanding of your own feedback interactions with learners changed over the past few months? (alternative wording: Reflecting back over the six months, how do you think your approach to feedback with learners has changed?)

Were there/Which aspects of the program were particularly important in effecting this change?

What were your experiences with the reflective writing aspect of the program?

How did your perceptions/experiences of the reflective writing exercises change over the experience?

What did you learn in the workshop that proved to be the most useful once you started the process of reflective writing?

Was there anything that was not helpful, or that may have led you in a direction that ultimately was not fruitful?

Is there anything that wasn't in the workshop that in retrospect you wish you had known before starting the reflective writing process?"

Would you continue doing this sort of exercise on your own in the future? Why (not)?

What was your experience with the group meetings?

What aspects were particularly helpful or particularly problematic?

(If they don't mention how it helped them develop their own approach to feedback or how it enhanced their reflective practice, then follow up with "How did you feel about the group meetings in terms of developing your own approach to feedback/enhancing your reflective practice?")

In what ways do you think this activity may have impacted your ability to mentor or coach students in their own reflection?

Do you feel this activity has affected other parts of your clinical practice? In what ways?

What were some of the drawbacks for you personally in participating in a faculty development project of this nature? Did you notice any for the group as a whole?

Would you participate in a similar activity in the future? (If they just answer yes or no, ask them to expand on their answer).

If you were to lead a group in a similar type of reflective writing practice to improve another teaching skill, what would you do differently?

Is there any aspect of the program that you would like to address that we haven't covered in this interview?