The Reflective Writing Class Blog: Using Technology to Promote Reflection and Professional Development

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INTRODUCTION: The hidden (informal) curriculum is blamed for its negative effects on students' humanism and professional development. To combat this, educational initiatives employing mentored reflective practice, faculty role-modeling, and feedback have been advocated.

AIM: Promote reflection on professional development using collaborative, web-based technology.

SETTING: Four-week basic medicine clerkship rotation at an academic institution over a one-year period.

PROGRAM DESCRIPTION: Students were asked to contribute two reflective postings to a class web log (blog) during their rotation. They were able to read each other's postings and leave feedback in a comment section. An instructor provided feedback on entries, aimed to stimulate further reflection. Students could choose anonymous names if desired.

PROGRAM EVALUATION: Ninety-one students wrote 177 posts. One-third of students left feedback comments. The majority of students enjoyed the activity and found the instructor's feedback helpful. Assessment of the posts revealed reflections on experience, heavily concerned with behavior and affect. A minority were not reflective. In some cases, the instructor's feedback stimulated additional reflection. Certain posts provided insight to the hidden curriculum.

DISCUSSION: We have discovered that blogs can promote reflection, uncover elements of the hidden curriculum, and provide opportunities to promote professional development.

KEY WORDS: clinical clerkship; undergraduate medical education; humanism; reflective writing; professionalism.
J Gen Intern Med 23(12):2066–70
DOI: 10.1007/s11606-008-0796-5

Presented in part at SGIM 30th Annual Meeting, 2007, Toronto
Received March 4, 2008
Revised August 11, 2008
Accepted September 5, 2008
Published online October 2, 2008

INTRODUCTION

Medical educators are challenged with teaching students humanistic care and professionalism [1,2]. Medical schools have developed programs to address psychosocial aspects of care, however, their overall potency has been questioned [3,4]. Exposure to the hidden (informal) curriculum of the clinical wards is partially to blame [5,6]. The interplay, and often conflict, between the explicit curriculum and hidden curriculum can result in cynicism, erosion of morality, and the adoption of negative professional behavior [7–9]. To combat this, educational initiatives employing mentored reflective practice, faculty role-modeling, and feedback have been advocated [4,7,10,11].

Reflection is a well-accepted practice for helping to integrate theory with experience and is a key to learning [12–14]. There is growing use and appreciation of reflection in medical education in order to promote professional development and encourage humanistic qualities [15–18].

Concurrently, Internet-based tools are creating a revolution in medical education [19,20]. They can contribute to personalized learning, collaborative learning, and transformation of the teacher role [20]. Web-based portfolios [18] and online reflective journaling [21] have facilitated tracking, accessibility, and mentorship of reflective assignments.

This article describes the use of a faculty facilitated web log ("blog") to integrate reflective writing into the clinical clerkship.

AIM

The purpose of this study was to promote reflection on professional development using collaborative, Web-based technology.

SETTING

The study took place in a 4-week medicine clerkship rotation from December 2006 through November 2007 at an academic teaching institution.

PROGRAM DESCRIPTION

A password-protected blog was created on a commercial hosting site. Students "posted" their writing, with posts

Table 1. Student Survey Responses (N=87)*

	Agree or strongly agree (%)	Neutral (%)	Disagree or strongly disagree (%)
I enjoyed writing posts	52 (60.5)	20 (23.2)	14 (16.3)
I enjoyed reading classmates' posts	59 (67.8)	23 (26.4)	5 (5.8)
I found the instructor's comments helpful†	58 (72.5)	19 (23.8)	3 (3.7)
I believe this activity enhanced my educational experience on the rotation	42 (48.3)	34 (39.1)	11 (12.6)
I would choose this activity again on another rotation	45 (51.8)	25 (28.7)	17 (19.5)

*Four students did not complete surveys
† N=80

displayed in reverse chronological order. They shared feedback through a comments section following every posting.

Students were given these instructions:

> Requirement: A minimum of two reflective posts per 4-week rotation, with the first post within the first 2 weeks to ensure classmates have a chance to read and respond to your writing. There is no length or subject requirement, but the posts must be reflective, that is, not just telling a story but reflecting upon how this experience affects you or changes the way you think about something. Commenting on other classmates' posts is encouraged. The facilitator will read every post and give feedback in the form of comments. Participation is required but not graded.

One instructor with formal training in adult learning theory (K.C.) and guided by Mezirow's descriptions of reflectivity served as the blog facilitator [22]. Further reflection was encouraged through directed questioning (i.e., How has this changed the way you approach patients?). Comments were given with a supportive tone, often sharing personal experiences to encourage additional reflection. While students were allowed to use anonymous names in posting, the instructor knew students' identities for tracking purposes.

Students were sent email reminders to post at mid-rotation and near the rotation end.

This study was exempted from IRB oversight.

PROGRAM EVALUATION

Descriptive data, a student satisfaction survey and qualitative analysis of blog themes were used to evaluate the program.

Over the year, 91 students participated, writing 177 posts. Approximately one-third of students (31/91) left comments, either on other students' posts (21/91) and/or responding to feedback on their own (13/91). The majority of students did not respond to instructor feedback in writing. Few students posted more than two posts; half (53%) chose an anonymous username.

Student Feedback

Table 1 summarizes the results of the anonymous survey of students' experience with the blog.

Qualitative Analysis of Blog Posts

The content of the posts was analyzed for common themes. A non-clinical educator (E.G.) as well as the instructor (K.C.) analyzed all posts independently, following a modified version of the Moustakas method [23]. Mezirow's descriptions of reflectivity were used to determine if posts contained reflection at all and whether these were simply on experiences or at a deeper level concerning the student's own awareness of their attitudes or beliefs [22]. The few coding discrepancies were resolved through discussion.

Each reviewer developed a set of 7–12 themes to describe the data. Initially there were three overlapping themes. An additional three were derived through discussion. These are defined in Text Box 1 with representative examples.

Text Box 1. Reflective themes and frequency of reflective blog posts (N = 172) with representative excerpts*

Being Humanistic (41). Reflections concerning the importance of relating to the patient as a person; having empathy. Topics included the need to help patients emotionally; being compassionate; the value of getting to know the patient as a person; treating the patient with dignity; listening to the patient; feeling empathy for certain groups of patients (the homeless, those without visitors, doctor-patients); realizing the anger and frustration of patients, and appreciating what is being learned from patients.

"I find myself in an interesting balancing act daily…As a 'student' I find patient's medical problems 'interesting' but when I think of my patient in context of their families and daily lives my feeling is different. How to balance the excitement about learning from a complicated patient with the compassion for what he/she is going though? I understand that they are not necessarily contradictory but sometimes I feel that they are."

Professional Behavior (37). Reflections concerning the appropriateness of interactions with patients, family, team, and other staff, as well as self-management. Topics included the appropriateness of specific clinicians' behaviors toward difficult patients; perceptions and value judgments used in approaching patients; the value of team cohesion, the work of the nursing staff and good communications skills; and the importance of taking care of oneself, dressing appropriately, not taking things personally, and continuous learning.

"Is it wrong that our team finds this kind of hilarious? Are people talking about my heartlessness…because I find patient's quirks amusing? Is it OK to giggle in the team room as long as it doesn't continue in the hallway?"

Understanding Care-giving Relationships (27). Reflections concerning the relationships between patients and care-givers, including relationships between doctors and patients, doctors and family members, and family members and patients. Topics included awareness of how to bond with and learn from patients, deal with patients' frustrations and deal with family members; frustration over patients' lack of compliance with orders and with unappreciative patients; enjoyment at helping patients emotionally and the realization that these relationships matter.

Text Box 1. continued

"After this encounter, I think I have learned that it's not as easy to talk to patients as I thought it was going to be. Every patient comes from such a different background that you have to take the time to get to know them individually…I used to think the teachings of [practice of medicine class] were so redundant and unnecessary at times, but now I am starting to appreciate the art of medicine as I begin to apply it to real life."

Being a Student (26). Reflections on experiences unique to being a medical student. Topics included appreciating their teachers; recognizing differences in their feelings based on their teachers and team members; understanding the role of a student and what they have learned over the course of a year; awareness of their value in providing personal attention to patients; and recognizing their mistakes and feelings of inadequacy.

"Being a third year can be trying in so many ways…it's having the pressure to have to be on top of my game, every waking moment that I'm surrounded by my team, having to speak eloquently, intelligently. I'm constantly thinking in the back of my head, 'Everyone's judging you, watching you, grading you."

Clinical Learning (26). Reflections on learning related to the delivery of clinical care. Topics included appreciation of learning from patients; the importance of doing your own H&P, involving the patient in the diagnostic process, trusting own instincts and considering non-medical disease etiology; realizing the personal responsibility for patients; the frustration at waiting for the patient's condition to change; and positive feelings after figuring out diagnoses and connecting with patients.

"I guess I just didn't anticipate…that communicating with the predominantly elderly and quite ill patients would pose similar challenges to the ones I faced with some of my pediatric patients."

Dealing with Death and Dying (15). Reflections concerning death and the dying process. Topics included surprise, sadness and acceptance of patients' deaths; appreciating the difficulty of DNR situations; questioning how they would talk to a patient about death or handle decisions about a family member's death; and guilt over not really knowing a patient who died.

"When I had time to think about what had transpired, I was surprised. I was sad she passed away but I did not feel like I was sad *enough*. I wanted to feel more, but I had no experiences from which to draw those emotions…I think I will always remember this experience for what I did not feel, and that *is* sad."

*Three posts were coded with two themes.

Of the 177 posts, eight were identified as not reflective. In some cases, the instructor's feedback stimulated additional reflection, evidenced by subsequent comments by the student or classmates (Text Box 2). The posts almost exclusively concerned reflection on experiences rather than deeper level reflections on awareness [22]. The few reflections on awareness involved changes in assumptions being used in treating patients. For example:

> "…they're making me a better observer and interviewer. I don't find myself jumping to conclusions or making assumptions about my patients' condition or situation only because my mind has no reference to fall back on. So just because my patient is over 75 doesn't mean I don't ask about street-drug use…and just because my patient is homeless doesn't mean we can't compare notes on our favorite playwrights while waiting for a CT scan."

Text Box 2. Example of developing deeper reflection through feedback comment dialogue

Student's post: On a quiet Sunday morning, I walked in to interview a patient to see how his night had been and if he was experiencing any problems. I had met this gentleman only a day ago and he was scheduled to be discharged soon. Although he was a large, grizzled Vietnam veteran, he was jovial and friendly. He had been in good spirits less than 24 hours ago but was now in tears and visibly shaken. He informed me that another patient in his room, who was just moved into that room, had just passed away. The patient's body remained in the bed across from us with the curtains drawn around the bed. Suddenly, the jolly, high-spirited vet had come face to face with his own mortality. It was concerning to see how quickly a tough veteran of war, who had presumably faced dangerous circumstances in combat, was so emotionally affected by the passing of another patient with whom he had shared a few words. All of us must inevitably come to terms with our own mortality and "temporary-ness" of our own existence. To witness this moment for another unfold before my very eyes was unsettling but necessary in the field of medicine. As the adage goes: Life is, at its longest, short.

Instructor's Comment: It's hard to come to terms when you're not prepared for it. How traumatizing for your patient to not only be so proximal to death but to actually witness the actual process of dying itself.

Perhaps it brought back darker memories from combat. Friends dying. Helplessness.

I don't think combat ever leaves you whole again.

Why do you think it is necessary for you to witness this evolution? Has it changed the way you think about your patient or yourself? Does it make us better physicians to have access to the fears and raw emotions of our patients?

Student's Reply Comment: I believe it is necessary to the human condition to witness the evolution through life and come to terms with not only the mortality of others but eventually our own. Speaking on my own behalf, my thoughts and actions are certainly governed by the impact of time: if I have less, I will attempt to do more. Moreover matters of less importance fall at the wayside as issues of more importance take precedence when the limiting factor is time. Addressing mortality is not simply assessing how much time is remaining, but more so that our time on this earth is not indefinite. I feel that if I fail to do so, I am ignoring a basic component of my existence. The way I think about my patients as well as myself is dynamic and continuously changing. In a peculiar way I have started to see elderly patients similar to the patients I worked with on my pediatrics: needy of care for their health. I had presumed that older adult patients would be more pro-active in maintaining their own health, but I have seen that on some occasions they need as much if not more provisions than their infant counterparts. However while the three and four-month old patients have a lifetime ahead of them, many older patients are approaching the end of their time. I feel that if physicians are cognizant of the concerns and fears of their patients, then they will be more adequately aware and prepared to address their patients' needs and hopefully alleviate their worries. I also believe that having access to their patient's fears better enables a physician to manage their patient's health because the physician will be mindful of these issues in their plan of action. It can also facilitate a more open line of communication between the doctor and the patient, and any/every doctor-patient relationship can benefit from improvement.

Professionalism and the Hidden Curriculum

Certain posts provided insight to the hidden curriculum. Three students on one team wrote on matters of professionalism, stemming from their interaction with one highly dissatisfied resident. One student wrote about his changing definition of professionalism:

> We talk a lot about professionalism in medical school; it's usually a tedious talk about "looking

> the part" and being punctual; it's sometimes a talk about professional responsibility and honesty. This man has made me think a lot about attitude—patient attitudes toward health care, doctors' attitudes toward nurses, our own attitudes toward our patients. In such a large group of people working toward the same goal, everyone's attitude matters and affects everything and everyone; I can understand why doctors get frustrated with nurses, I can understand why patients feel discouraged by our health care system, and I can understand that patients themselves are very frustrating. I think this is really what professionalism is all about: a good doctor is one who can acknowledge all those difficult attitudes and can honestly and sincerely negotiate a solution through them without holding grudges.

A second student wrote about the value of listening and trying to understand patient's refusals of tests instead of labeling a patient as "noncompliant":

> Mr T's current admission ended with the abrupt change of mind and refusal of prostate biopsy. This was the last straw for his intern, who threw her hands up with the lack of willingness to follow medical advice, and bid farewell to her pt. As i tried to pry into the mind of a pt refusing such a blatantly necessary procedure, i found a scared man, unwilling to admit he needed support by his side (of which he has little). I learned that he was put off by his intern, who he knew was concerned, but felt to be 'demanding,'

Finally, a third student reflected on the process of becoming more cynical with training:

> I understand that many people have had justified frustrations with the [system] and with patients… Sometimes I wonder if this is what makes an eager med student into a "jaded" physician later on?

The fact that all three students independently decided to write about these issues reflects both the impact a single house officer can have on students' professional development and the potential value of a faculty facilitated discussion to help students put this negative role-modeling into perspective.

DISCUSSION

We have found that blogs when structured with theory driven faculty-facilitation have the potential to promote reflection, uncover elements of the hidden curriculum, and provide opportunities to support student professional development. Other medical student reflective writing studies report themes similar to those we describe but we found a higher incidence of reflectivity in our students' writing than previously reported [17].

Key advantages of the use of computer technology include: the option for anonymity; the ability to receive timely feedback and support from peers and instructors *when critical events occur*; and the dynamic interaction between students and instructor. This interaction has the potential to lead to deeper reflections and is a critical component of the development of expertise. Importantly, we have seen how this technology can efficiently extend the reach of one faculty role-model to many students.

Our study has several limitations. Students choosing anonymity could be de-identified by references to identifiable house officers or patients. True student anonymity might have resulted in more genuine responses, but would sacrifice the ability to follow-up specific concerns. Because students were not required to formally respond to feedback, there is little evidence for the direct impact of the faculty facilitation on the development of students' ability to reflect. And of course, the study occurred at a single institution which may limit generalizability.

We have learned a number of practical lessons through the experience of implementing this blog. Getting each cohort of students signed up with their personal blog accounts took more time than anticipated. Some students tended to put off posting until the end of the rotation, limiting potential for peer interaction. Some students put little effort into writing. Commenting on classmates' posts varied by cohort; some groups were more active than others. Further work needs to be done to identify ways to make this activity meaningful and educational for a larger proportion of students.

After some discussion, the house officer, who was being a poor role model for students, was brought to the attention of the residency program director and anonymous feedback was filed to the house officer's evaluation.

Security of the blog should be considered. The blog was password-protected and by invitation only, yet any Internet-based tool is never completely secure. As additional safeguards, students were prohibited from using identifying patient information. Firewalled in-house servers may afford additional security. Many public medical blogs are currently struggling with similar issues of privacy, anonymity, and reflection upon the profession [24]. This area warrants further exploration.

We believe the supportive, personal nature of faculty feedback was important for encouraging participation. Indeed, students' reflections covered sensitive topics including questioning attendings' bedside manners, negative examples of professionalism, and frank reactions to patient encounters. Instructors need to be educated in the provision of appropriate feedback which facilitates deep reflection.

Future studies of this type of reflective writing should formally assess the level of reflection achieved through blog entries versus other methods of reflection. Longitudinal blogging experiences throughout the four years of medical school may provide us with a deeper understanding of the professional development of medical students and provide insight into how to best structure training to buttress that development in the face of the inevitable challenges of real world medical practice.

Acknowledgements: *We are indebted to the 91 student bloggers. This research was not funded.*

Conflict of Interest: *None disclosed.*

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