

Perceptions of Medical Students and Faculty on Writing 'Reflection' in the Log Book

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Abstract

Background: "Reflection" is a meta-cognitive process that can build professional expertise in students and prepare them for the complex attributes of medical practice. A physician must adhere to professional and ethical values at his workplace and these must be taught to him right from the first year of MBBS program. Hence, we conducted the present study, to evaluate perceptions of undergraduate medical students and teaching faculty on writing "Reflection" in the log book.

Methods: The study included first year MBBS students and teaching faculty using convenient sampling technique. The study questionnaire comprised two sections and was developed and distributed using SurveyMonkey®. The students were approached and recruited through social networking websites (Facebook, Twitter and WhatsApp) and the password-protected survey links were posted on the same.

Results: 70.0% of teachers replied that all four components (writing about recently learned material, latest change in personal attitude, acquisition of new behaviors and learn to use new knowledge) constitute reflection. Two fifth of teachers (40.0%) replied that they are asking student to write the reflection, before a class starts (as soon as you tell them the competency/specific learning objectives). Among 42.5% of students believed that feelings / thoughts (fear of revealing your thoughts to teachers, fear of revealing your thoughts to other students, and I dislike writing in the logbook) are stopping us from writing "Reflection" in the logbook. Only 50.6% of students believed that reflection writing in the logbook should be continued in medical colleges.

Conclusion: In our study we collected relevant views, perceptions and suggestions on the use of log books which will enable us to develop strategies to engage more students in reflection and to guide future reflective programs within medical education.

Keywords: Reflection, Log Book, Medical Students, Perception, Communication

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Background

Medical profession is interplay of Knowledge, Clinical skills, behaviour, Acumen, Attitude, Ethical values and communication expertise. The framework of medical curriculum for the under graduate students got a make-over by National Medical Commission (NMC) after an incredibly long span of two decades. To acquire, locally relevant and globally adaptable professional attributes, the revised curriculum mandates that the students must be encouraged to “reflect” upon what have they learnt, identify the correct learning strategy, point out lacunae in their learning and improve upon it appropriately [1,2].

“Reflection” is a meta-cognitive process that can build professional expertise in students and prepare them for the complex attributes of medical practice. A physician must adhere to professional and ethical values at his workplace and these must be taught to him right from the first year of MBBS program. Reflection can occur at all stages of an encounter: before, during and after a session [3]. However, Reflection done before the beginning of the class has the advantage of identifying a particular learning goal or perception in advance so that the medical student will have better pre-conditions to learn facts and develop technical skills, communicative expertise to become a proficient physician. On-going regular formative assessment with comprehensive summative assessment is essential to follow the students' progress, identify their strengths and weaknesses, to rank the students or to motivate them, make a judgment about mastery of skills, to ensure improvement over time. Here comes the role of the log books [4].

Based on Competency Based Curriculum by National Medical Commission (NMC), a Reflective logbook was designed and presented to 100 undergraduate students. At the beginning of the Foundation course, a faculty member explained the specific

objectives of the revised curriculum and instructed the students how to fill in their log books. They were encouraged to write their experiences and feelings honestly in “Reflection” boxes [5].

There are record sheets for daily assessment to “reflect” what the student has learnt from the sessions held during foundation course in the first month after admission. NMC has devoted 175 hours to the foundation course - 30 hours for Orientation of the students to college, campus & to revised MBBS curriculum, 35 hours for Skill module, 8 hours for Field visit, 40 hours for Language & computer skills and 22 hours for Sports & Extra-curricular activity. The log book also encloses details of Elective capsule, sheets for Attendance record, assessment of entire 8 Terms during the entire MBBS course [6].

As the students and the teachers are the main stake holders to use a reflective practice in Medical Education, this study is designed to gain insight from both of them regarding the advantages and limitations of logbooks, and what improvements they thought are necessary to make the use of logbooks worthwhile as a Reflective tool [7,8]. Hence, we conducted the present study, to evaluate perceptions of undergraduate medical students and teaching faculty on writing “Reflection” in the log book.

Materials and Methods

Study setting and design

This web-based cross-sectional study was conducted at the Department of Physiology, GIMS, Greater Noida after obtaining the approval of GIMS Scientific Research Committee & GIMS Institute Ethics Committee (GIEC).

Study population and sample size

The study included first year MBBS students and teaching faculty of GIMS, Greater Noida as subjects. The sample size

was calculated as 100 (90 students and 10 faculty), based on the availability of students and faculty in GIMS, Greater Noida and taking dropout rate as 20%. The subjects were enrolled in the study using convenient sampling technique. The students and teachers were informed about the need for this project with the help of a participant information sheet. They were assured of anonymity, safety and confidentiality, and were told that they had the power to withdraw at any time.

Study tool

Two set of structured questionnaires (one for students and other for faculty) with close ended responses was developed to collect the participant's characteristics, and perceptions related to logbook. The questionnaire was piloted among a small number ($n = 20$) of undergraduate students and the average time taken to complete the survey was 10 minutes. The presentation and validity of the questionnaire were undertaken by 15 randomly selected faculty members for clarity, relevance, and acceptability. Refinements were made as required to facilitate better comprehension and to organize the questions before the final survey was distributed to the study population. The study questionnaire comprised two sections. Section 1 had six items that explored the demographic information of respondents including age and gender. Section 2 comprised of multiple-choice questions (MCQ's) ten questions and aimed to evaluate students' or faculty perceptions on writing "Reflection" in the logbook. The questionnaire was developed and distributed using SurveyMonkey®.

Data collection

The participation in this survey was voluntary. The informed consent was obtained from each participant prior to participation. The students were approached and recruited through social networking websites (Facebook, Twitter and Whatsapp) and the password-protected survey links were posted on the same. An

introductory paragraph outlining the aims and objectives of the study as well as instructions to complete the questionnaire was posted along with the survey especially mentioning that all questions were mandatory. Sufficient time was given to the participants to read, comprehend, and answer all the questions and the participants could not change the answers after submission of questionnaire. The participants were given a week's time to voluntarily complete the questionnaire and those does not respond back to the questionnaire within defined time and reminders were declared as dropouts and were not included in the data analysis. The study was performed following the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) guidelines.

Data Analysis

The collected data was tabulated and analyzed using SPSS Statistics for Windows, version 22.0. All the tests were performed at significance level of 5%. Categorical variables were presented as percentage (%). The variables with quantitative data were presented as mean and standard deviation.

Results

In our study we evaluated the perceptions of teachers ($n=10$) regarding writing "Reflection" in the logbook. 70.0% of teachers replied that all four components (writing about recently learned material, latest change in personal attitude, acquisition of new behaviors and learn to use new knowledge) constitute reflection. Two fifth of teachers (40.0%) replied that they are asking student to write the reflection, before a class starts (as soon as you tell them the competency/ specific learning objectives). Writing reflection in the logbook (60.0%), writing on a paper (40.0%), and discussion with teacher (30.0%) were the common methods suggested by the teachers to encourage the practice of Reflection in the students. 10.0% of teachers felt that the students liked writing Reflection in the logbook.

90.0% of teachers said that the students were provided adequate time to write reflection in the logbook. 50.0% of teachers replied that as per students, writing reflection in the logbook was not

easy nor difficult. 90.0% of teachers believed that Reflection writing in the logbook should be continued in medical colleges.

Table 1: Perception of teaching faculty on writing "Reflection" in the logbook (N=10).

Questions	Number	%
Which of the following is a part of "Reflection"?		
Writing about recently learned material	3	30.0%
Latest change in personal attitude	0	0.0%
Acquisition of new behaviours	0	0.0%
Learn to use new knowledge	0	0.0%
All of the above	7	70.0%
When do you ask the student to "Reflect"?		
Before a class starts (As soon as you tell them the Competency/ Specific Learning Objectives)	4	40.0%
During the class	1	10.0%
After the class	7	70.0%
Never	0	0.0%
Which methods do you employ to encourage the practice of "Reflection" in the students?		
Writing in Log book	6	60.0%
Writing on a paper	1	10.0%
Self- Analysis	4	40.0%
Peer group	0	0.0%
Discussion With teacher	3	30.0%
Why did the students "Reflect"?		
The teacher asked them to fill "Reflection" in the log book	4	40.0%
The students have developed the habit of Reflection	5	50.0%
They like writing "Reflection" in the log book	1	10.0%
Was the students provided adequate time to write reflection in the log book?		
Yes	9	90.0%
No	1	10.0%
What feelings / thoughts stopped them from writing "Reflection" in the log book?		
Fear of revealing thoughts to teachers	4	40.0%
Fear of revealing thoughts to other students	1	10.0%
They dislike writing in the log book.	1	10.0%
All of the above	4	40.0%
What factors helped the students "Reflect" honestly?		
A good learning environment	1	10.0%
Teacher's support	2	20.0%
Privacy	1	10.0%
All of the above	6	60.0%
Do you agree mastering "Reflective skills" will develop thought process		

and critical analysis of the students and would make them a better physician?		
Strongly disagree	0	0.0%
Disagree	0	0.0%
Neutral	2	20.0%
Agree	3	30.0%
Strongly agree	5	50.0%
Were the students given instructions “How to write Reflection in the log book” ?		
Yes	8	80.0%
No	2	20.0%
How easy the students find to write Reflection in the log book?		
Very easy	0	0.0%
Easy	0	0.0%
Not easy nor difficult	5	50.0%
Difficult	4	40.0%
Very difficult	1	10.0%
Should writing Reflection in the log book be continued in medical colleges?		
Yes	9	90.0%
No	1	10.0%

In our study we evaluated the perceptions of first year MBBS students (n=90) regarding writing “Reflection” in the logbook. More than four fifth of students (84.4%) replied that they would prefer to write the reflection, after the class. Writing in logbook (31.1%), self-analysis (33.3%), and peer group discussion (32.2%) were the common methods used by students to reflect. 53.3% of students cited reason “why did you reflect” as my teacher asked to fill "Reflection" in the logbook. 68.9% of students replied that they were provided with adequate time to write reflection in the logbook. Among 42.5% of students believed that feelings / thoughts (fear of revealing your thoughts to teachers, fear of revealing your thoughts to other students, and I dislike writing in the logbook) are stopping us from writing "Reflection" in the logbook. Only 19.5% of students replied that writing reflection in the logbook was neither easy nor difficult. Only 50.6% of students believed that reflection writing in the logbook should be continued in medical colleges.

Table 2: Perception of MBBS students on writing “Reflection” in the logbook (N=90).

Questions	Number	%
When do you prefer to "Reflect"?		
Before a class starts (As soon as you tell them the Competency/ Specific Learning Objectives)	5	5.6%
During the class	6	6.7%
After the class	76	84.4%
Never	6	6.7%
What methods did you use to "Reflect"?		
Writing in Log book	28	31.1%
Writing on a paper	20	22.2%
Self- Analysis	30	33.3%
Peer group discussion	29	32.2%

Discussion With teacher	23	25.6%
Why did you "Reflect"?		
My teacher asked them to fill "Reflection" in the log book	48	53.3%
I have developed the habit of Reflection	29	32.2%
I like writing "Reflection" in the log book	13	14.4%
Were you provided adequate time to write reflection in log book?		
Yes	62	68.9%
No	28	31.1%
What feelings / thoughts stopped you from writing "Reflection" in the log book?*		
Fear of revealing your thoughts to teachers	19	21.8%
Fear of revealing your thoughts to other students	6	6.9%
I dislike writing in the log book.	25	28.7%
All of the above	37	42.5%
What helped you "Reflect" honestly in the log book?*		
A good learning environment	15	17.2%
Teacher's support	9	10.3%
Privacy	6	6.9%
All of the above	57	65.5%
Do you agree that there is need of mastering Reflective skills to become a better physician?*		
Strongly disagree	2	2.3%
Disagree	3	3.4%
Neutral	17	19.5%
Agree	33	37.9%
Strongly agree	32	36.8%
Did you attend the class in which you were taught " How to fill in the log book"?*		
Yes	77	87.5%
No	11	12.5%
How do you rate ease of writing "Reflection" in the log book?***		
Very easy	6	6.8%
Easy	19	21.6%
Not easy nor difficult	26	29.5%
Difficult	26	29.5%
Very difficult	11	12.5%
Should writing Reflection in the log book be continued in medical colleges?*		
Yes	44	50.6%
No	43	49.4%

*87 responses, **88 responses

Discussion

Reflection in medical education is a means to prepare the students for the complexity of medical practice. Though it is gaining increasing support, yet, little is known on how to best employ the reflective programs in medical education. The most widely used learning theory is Kolb's experiential learning cycle [9].

In our study 53.3% of students cited reason "why did you reflect" as my teacher asked to fill "Reflection" in the log book, and only 10.0% of teachers cited reason "why students write reflection" as they like writing "Reflection" in the log book. In Netherlands at University Medical Centre, a logbook was used as a part of novel approach to an introductory clerkship with limited success in terms of participation [10]. Within dental education at the Karolinska institute in Sweden, a logbook was used in paediatric dentistry for one year. By handing out a questionnaire on learning styles before and after the intervention with the logbook, concluded that the logbook stimulated self-reflection and learning from experience [11]. These examples of logbook projects suggest that logbooks may bear the potential of enhancing students' learning experience, but that it is difficult to achieve a high student engagement.

In our study, 42.5% of students believed that feelings / thoughts (fear of revealing your thoughts to teachers, fear of revealing your thoughts to other students, and I dislike writing in the log book) are stopping us from writing "Reflection" in the log book. In several studies it was observed that students show less interest for engagement in reflection. This may be attributed to different factors like lack of motivation, lack of awareness of students of the importance of reflection. Importantly, some educational supervisors are also not aware of the importance of reflection for the learning process of the students. Due to the increase in pressure on medical students to complete portfolio

some students may elect to engage in other portfolios activities assuming it's more important than reflection [15,16]. This can be attributed to the fact that reflection is a formative assessment that can enhance or increase learning and experience.

Koole *et al* have summarised four factors to be associated with difficulties in providing a comprehensive assessment for the reflection as the lack of standards in defining the reflection and the gap between theory and practice; currently, there is no national or international agreed standard to evaluate the current tools for assessment of reflection; lack of validity of current methods of assessment of reflection; and internal and external contextual factors like appraisal, reward and revalidation process [17,18].

In most of medical schools around the world, portfolio is now popular platform for reflection. Several studies showed that portfolio can enhance engagement of reflection not only in medical students but also among dental and nurse students. Reflection can also enhance academic performance in social, community medicine, increase self-awareness and relationship between students and supervisors [16,19]. Beside the fact that reflection in portfolio will help student to be confident in postgraduate studies, portfolio was shown to be a valuable method of assessing and developing reflective skills for undergraduate [20,21].

Conclusion

In our study we collected relevant views, perceptions and suggestions on the use of log books which will enable us to develop strategies to engage more students in reflection and to guide future reflective programs within medical education. The reflective practice is a cyclical process, because once we start to implement changes, then the reflective and evaluative cycle begins again. As a result of reflection, the teacher may decide to do

something in a different way, or may just decide if what she/he had been doing was the right way. Reflecting on their daily teaching/ learning activities would benefit their professional growth

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