

# Reflective writing skills workshop for undergraduate medical students: assessment of effectiveness

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## Abstract

Reflection writing practices among MBBS students are limited and the challenges with respect to students have not been explored in Indian context. This quasi-experimental study was conducted among MBBS students based on ADDIE Framework through convenience sampling. Reflective writing skills were evaluated using a pre-validated rubric scale before and after a workshop and a performance review with feedback was given in-person to the students in the subsequent weeks. About 66% of the participants preferred to reflect immediately after the class and 34% of them

strongly agreed that mastering the reflective writing skills will develop thought process, critical analysis skills and eventually make them a better physician. About 99% reported that they used the inputs of the workshop and performance review for writing reflection. This study demonstrates the importance of constructive feedback and workshop in the effective reflective writing skills of medical students.

**Keywords:** Undergraduate medical education, Reflective writing, Logbook, Clinical decision-making skills

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## Project description:

This study was based on the ADDIE (Analyze, Design, Develop, Implement, Evaluate) model of instructional design. Initial assessment showed very poor reflective practices among students. A module was developed with the inputs from the members of the Medical Education Unit and validated. The developed module was validated for content validity and pilot-tested in a different undergraduate students' sample. Then, it was implemented in a fully-fledged program comprising of workshops, follow-ups and feedbacks. The workshop comprised of pre-post-test questionnaire, interactive lectures, hands-on training on how to write reflections under given different clinical encounters, and assessment. The evaluation was performed using Kirkpatrick model, level 1 (Did the learner enjoy the workshop?) and level 2 (Did learning transfer occur at the end?) and level 3 (Did the training change the reflection writing practices?). Reflective writing skills were evaluated with a rubric based on four levels such as non-reflective (either habitual action or thoughtful action); reflective; critically reflective; and criteria such as writing spectrum, sense of writer, conflict

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description, attending to emotions and meaning making which were adopted from Wald et al.<sup>5</sup> A performance review with constructive non-judgmental feedback was given in-person in the subsequent week based on what went well in the reflection, what needed to be improved especially in terms of clarity, critical evaluation, emotional depth and future actions. The short-term key outcomes were improved reflective writing practices in the context of structure, insightfulness, analysis of action, and sustainability in terms of continuation of writing reflection on daily basis.

## Project evaluation:

• **Project evaluation design:** This was a quasi-experimental study conducted among Phase II MBBS students of Bharath Medical College & Hospital, Chennai, India through convenience sampling with a sample size of 131. A total of 150 students of phase II MBBS were invited and 131 gave consent to participate in this program (87% response rate).

• **Evaluation question/s:** This study was conducted to assess the perceptions and attitude of students on

reflective writing before and after the workshop, and to find out the quality of reflective writing in their logbook using rubrics, both before and after performance review and feedback.

- **Sources of data:** E-portfolio of the students before and after workshops, rubrics scoring of the portfolio reflection by faculty, quality (via scoring rubric) of documented written reflections in e-portfolio based on four levels and criteria, before and after workshops after performance review and feedback.

- **Data collection:** Groningen Reflection Ability Scale Questionnaire through Google forms for assessment of student's knowledge, practices and attitude towards reflective writing, observations on reflective writing using pre-validated rubric scale adapted from Wald et al were utilized.<sup>5,6</sup>

- **Data analysis:** A comparison of their reflective writing skills before and after performance review were assessed. SPSS Software 23 version was used for analysis. Chi-square test and Fisher's exact test were used to analyze the association between variables depending on the observations. P value of less than 0.05 was considered as statistically significant results.

### **Results:**

About 66% of the participants preferred to reflect immediately after the class, 17% during the class and 15% would like to write some days later. About 34% strongly agreed that mastering reflective writing skills will develop skills in critical analysis and eventually make them a better physician. The satisfaction survey mentioned that about 41% felt that the reflective writing training was very relevant to their learning. About 99% reported that they will use the inputs of the workshop for writing reflection in the future. Their reaction after writing reflection was good for 44% and very good for 42% of the participants. About 21% reported lack of adequate time in writing reflection and 15% felt that they don't want their inner feelings to be exposed for others to read. There was a significant difference in writing reflection on rubric scoring before and after performance review and one-on-one feedback. There was also a significant difference between the rating of participants on the ease of writing reflection, perception of medical students on reflective writing before and after workshop,

understanding of reflection writing, and the rating of participants on prioritizing reflection writing before and after workshop (Table 1).

### **Discussion**

This current study assessed the effect of workshop and review on reflective writing skills. Liu GZ et al's study found that 39% of the students had positive perceptions after the workshop which supports our study finding that 42% reported very good perceptions after the workshop.<sup>7</sup> This similarity may be attributed to comparable workshop designs, populations, or evaluation methods.

A systematic review by Lim JY et al and Singh et al recommended the need for training in impactful reflections.<sup>1,8</sup> Our study reported that there was a significant difference in writing reflections before and after performance review, which reinstates the previous findings on the recommendations of training. This similarity might be due to the fact that any hands-on workshop will have an impact on the participants.

Our study reported that almost all of the participants felt that reflective writing had a positive impact on their learning. But Kamarudin et al found that reflective writing helped the students personally more than academically.<sup>9</sup> The difference may stem from varying geographical locations, cultural influences on participants' perceptions, and differing methods of measuring impact.

Workshop and performance review brought changes in reflective writing in terms of the description of the event, under 'so what' and 'what next' components, rather than concentrating on the 'what' component. This study demonstrates the importance of constructive feedback in the effective teaching of reflective writing skills. However, long term studies are essential to study the impact of feedback on students' clinical decision-making skills. Our study's limitation was a small sample size coming from a single center, potentially limiting the generalizability of findings.

*Institute ethical committee approval was obtained (BIEC – 077 – 23) dated 31<sup>st</sup> August, 2023. Confidentiality was maintained throughout the period of the research*

**Table 1: Analysis of various parameters before and after workshop (n-131)**

Parameter	Variables	Before workshop	After workshop & performance review	P-Value
Rating of participants on the ease of writing reflection	Very easy	4(3.05%)	23(17.56%)	<b>&lt;0.001*</b>
	Easy	42(32.06%)	58(44.27%)	
	Not easy nor difficult	77(58.78%)	34(25.95%)	
	Difficult	4(3.05%)	15(11.45%)	
	Very difficult	3(2.29%)	0(0.00%)	
	Cannot rate	1(0.76%)	1(0.76%)	
Perception of medical students on reflective writing before and after workshop <sup>#</sup>	Regular reflection writing practices enhances learning	64(48.85%)	84(64.12%)	<b>&lt;0.001*</b>
	Will develop therapeutic relationship with the patient/care givers	47(35.87%)	57(43.51%)	
	Will develop professionalism	42(32.06%)	61(46.56%)	
	Don't know	30(22.90%)	5(3.82%)	
Understanding of reflective writing	Very unaware	8(6.11%)	1(0.76%)	<b>&lt;0.001*</b>
	Unaware	65(49.62%)	1(0.76%)	
	Aware	56(42.75%)	78(59.54%)	
	Very aware	2(1.53%)	51(38.93%)	
Rating participants on prioritizing reflective writing	Not a priority	0%	0%	<b>&lt;0.001*</b>
	Low priority	0%	0%	
	Somewhat priority	2(1.53%)	0%	
	Neutral	19(14.50%)	5(3.82%)	
	Moderate priority	39(29.77%)	48(36.64%)	
	High priority	32(24.43%)	33(25.19%)	
	Essential priority	39(29.77%)	45(34.35%)	
Rubric scoring on reflective writing	<b>Scoring</b>	<b>Before performance review</b>	<b>After performance review</b>	<b>&lt;0.001*</b>
	1 (Habitual action)	50 (38.17%)	2(1.53%)	
	2 (Thoughtful action)	55(41.98%)	42(32.06%)	
	3 (Reflective)	24(18.32%)	61(46.56%)	
	4 (Critically reflective)	2(1.53%)	26(19.85%)	

<sup>#</sup> The percentage may not add up to 100 as there were multiple options chosen by the participants

\* P value of less than 0.05 was considered as statistically significant results.

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