Empowering Reflection and Reflective Writing in Medical Education

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Reflection and reflective writing serve as integral components in medical education. They enable students to delve deeper into their experiences, fostering a profound understanding of clinical scenarios and patient interactions, nurturing self-awareness, critical thinking, and empathy. The term “reflection” carries multiple interpretations, all encapsulating the concept of understanding oneself and the surrounding environment to inform future behavior. In the realm of medical education, both students and medical teachers encounter challenges in navigating reflective practices, necessitating guidance and support throughout the process. Effective reflection between students and medical teachers in clinical settings requires adept navigation through potential difficulties in open discussions and managing the emotional impact. To address these challenges, medical teachers must possess heightened self-awareness and adaptability to cater to the diverse needs of individual students. Various models have offered frameworks to organize the reflective process, categorizing them into ‘iterative’ and ‘vertical’ approaches. Successful application involves a selective combination of elements from different models to customize reflective practices. Comprehending reflection and reflective writing is paramount for medical teachers as it empowers them to mentor students effectively, nurturing a culture of reflective practitioners. This fosters continual learning, ethical practice, and professional development among future healthcare professionals.

Keywords: Reflection, Reflective writing, Reflective model, Medical education

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Introduction

Reflection and reflective writing are crucial in medical education for several reasons. They enable students to analyze and understand their experiences, fostering deeper comprehension of clinical scenarios, and interactions with patients. This process allows for personal growth, enhancing self-awareness, critical thinking, and empathy, which are essential attributes for competent healthcare professionals.

Additionally, reflective practices encourage continuous learning and improvement. By revisiting experiences and critically assessing their actions and decisions, medical students can identify strengths, weaknesses, and areas for development. This self-assessment helps in refining clinical skills and enhancing patient care. Moreover, reflective writing cultivates professionalism and ethical decision-making. It prompts students to consider the ethical implications of their actions, promoting a sense of responsibility and moral reasoning in medical practice. Ultimately, integrating reflection and reflective writing into medical education nurtures a mindset of lifelong learning, promoting adaptability, resilience, and the ability to respond effectively to the evolving landscape of healthcare.

What is Reflection?

The fundamental ideas that form the basis of reflection and its application date back to preceding philosophers. John Dewey, a philosopher and psychologist, was one of the first to explore the relationship between experiences, interaction, and reflection. Later, in their theories of human learning and development, Kurt Lewin, Jean Piaget, and others extended similar ideas. An increasing number of literatures have been produced since the 1970s, with a special emphasis on “experiential learning” and its applicability in the real world.

There are many meanings that have been proposed for the term “reflection”, all of which summarize the process of gaining a better understanding of oneself and the environment in order to guide one’s behavior in the future. Beyond this, “critical reflection” entails a deeper examination of actions, ideas, and feelings in order to understand attitudes, beliefs, assumptions, and motivations. Its objective is to gain a new perspective on circumstances, question deeply rooted beliefs, and investigate other strategies in order to facilitate “reflective practice”.

For the majority of individuals, reflecting comes naturally to varied degrees. It comes up when people ask something like, ‘What succeeded/failed there?’, or ‘What’s the logic in my thinking?’ People reflect on their feelings about things and try to figure out where they came from. In addition, seeing how trainees, students, or coworkers react to situations raises further queries like ‘Why did they respond that way?’ Finding the final answers is difficult, so reflection becomes a practice in posing challenging queries and making well-informed assumptions.

Reflection happens in a variety of methodological and temporal contexts. It occurs either during a scenario (known as ‘reflection-in-action’) or following an incident
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Reflection offers various advantages, such as gaining insights from experiences or situations and fostering a more profound understanding instead of surface-level comprehension.\(^\text{13}\) It helps to better understand one’s own views, attitudes, and values while also making one more aware of one’s strengths, weaknesses, and educational needs. It also makes it easier to monitor oneself better and reduces harmful impulsive actions. Reflection also helps to strengthen clinical or personal competence and confidence, as well as self-directed learning and feedback seeking. As for evidence, the UK General Medical Council strongly advocates for doctors to actively engage in reflective practice, emphasizing the importance for educators in medical settings to aid students and trainees in developing their reflective skills.\(^\text{14}\,\text{15}\)

Reasons for Reflection

Moon\(^\text{16}\) proposes 6 reasons for reflection, as listed below.

1) Evaluating our behaviors, the behavior of others, or the outcomes of our actions (eg, our work).
2) Formulating general principles from observations or involvement in real-world situations.
3) Solving problems or coming to judgments in the face of uncertainty.
4) Reflecting on the process of our own learning, essentially delving into ‘thinking about our thinking’ (also recognized as ‘metacognition’).
5) Pursuing personal growth and self-improvement.
6) Empowering oneself or contributing to the emancipation of others within our community.

Challenges of Reflection

While reflection holds significant potential, it is important to acknowledge potential limitations and challenges to reflective practice.\(^\text{17}\,\text{18}\) Despite this, there is a paucity of research reporting negative effects thus far. One notable challenge emerges when individual clinicians harbor varying interpretations of reflection and its underlying processes. This disparity in understanding may lead to the application of different models in a fragmented manner, potentially rendering reflective practice ineffective or utilized as a means to justify existing practices.

In medical education, the challenge with reflection extends to both students and medical teachers, often requiring guidance throughout the reflective journey, whether done independently or collaboratively. When reflection involves multiple individuals, such as between a student and their supervisor in clinical supervision sessions, addressing immediate challenges becomes critical. This might involve difficulties in openly
discussing specific topics, necessitating supportive guidance. Furthermore, considering the likelihood of emotional issues reflecting for the supervisor or the student after reflection, it is crucial to deal with the potentially broader impact of reflective practice. Consequently, medical teachers or educators need a heightened level of self-awareness to assess and meet the unique developmental needs of individual students. Recognizing that each person might require tailored support and might favor certain types of reflective practice over others is pivotal in medical education contexts.

Many medical professionals experience discomfort when handling their thoughts and emotions and scrutinizing their methods of practice. This unease arises from a combination of personal and systemic factors. Even those comfortable with introspection on a personal level may harbor professional anxieties when openly reflecting on perceived failure or mistakes, especially when put into writing. Acknowledging these concerns, the UK Academy of Medical Royal Colleges and the UK General Medical Council have issued guidance to relieve these worries. Moreover, challenges in the realm of reflection include its potential to consume substantial time without directly resolving clinical issues. When reflection feels more like a forced self-analysis, it might even become counterproductive. Consequently, many in the field of medical education advocate for a measurable and selective approach to reflective practice, emphasizing its cautious application, thoughtful instruction, and sensitive incorporation into medical training.

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Stages of Reflection

In the field of medical education, reflection usually takes place in 3 main stages: identification, exploration, and implications; although, there are no rigid rules governing this process (Figure 1). Through these stages, individuals select meaningful events or ideas, examine them in depth, and evaluate their implications for personal and professional development.

<table>
<thead>
<tr>
<th>1) IDENTIFICATION</th>
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<tr>
<td>Starting with a personally meaningful event or idea, highlighting its key features, and providing a succinct or concise description.</td>
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<tr>
<th>2) EXPLORATION</th>
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<tr>
<td>Examining the selected event or idea in depth while taking into account other viewpoints in order to improve understanding. Self-inquiry is essential to this stage and is frequently supported by various reflective models.</td>
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<th>3) IMPLICATIONS</th>
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<tr>
<td>Thoroughly evaluating the implications of the event or idea on one’s progression and growth as a healthcare professional and learner, fostering thoughtful consideration regarding ongoing development.</td>
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Models of Reflection

There are many models available to help organize the reflective process; while each paradigm provides a different conceptualization and focuses on different facts. These models are divided into 2 main categories by Mann and colleagues: those that exhibit an ‘iterative’ approach and those that are more ‘vertical’ in nature.\(^\text{20}\) It is important to keep in mind that these models are not exclusive of one another. Therefore, a successful approach usually entails selecting and combining components from several models that suit the preferences in order to provide a thorough and in-depth reflection that is customized to the needs.

1) Iterative Models

The iterative model of reflection revolves around a cyclical or repetitive process where individuals engage in reflection through multiple cycles or iterations. This model emphasizes on revisiting experiences, analyzing feelings and reactions, reevaluating those experiences, and considering outcomes. It involves moving through stages of reflection repeatedly, gaining deeper insights with each iteration. The iterative model typically consists of phases such as description, analysis, evaluation, and action, with each iteration refining understanding and informing subsequent reflections. The focus is on an ongoing, evolving process rather than a one-time event.

Models that approach reflection in this manner include those proposed by Boud et al,\(^\text{6}\) Gibbs,\(^\text{7}\) Schon,\(^\text{9}\) and Driscoll.\(^\text{21}\) According to Boud et al,\(^\text{6}\) there are several steps in this process: returning back to a past experience, recognizing any feelings that come up, reassessing the experience, and reaching to an outcome. Driscoll’s model integrates Borton’s stem questions of ‘What?’, ‘So What?’, and ‘Now What?’\(^\text{22}\) Schon’s model is founded on the concepts of ‘reflection in action’ and ‘reflection on action,’ yet it does not provide extensive guidance on how to apply them.\(^\text{9}\) Among these, Gibbs’ and Driscoll’s models are widely favored and thus elaborated upon below.

Gibbs introduced a highly utilized reflective model known as the ‘Reflective Cycle,’ presenting a structured debriefing process with 6 sequential stages initiated by an experience.\(^\text{7}\) Each stage comprises a series of questions to progress through, culminating in an action plan. These stages function in a cyclical manner as the ‘action plan’ is applied to subsequent occurrences of the experience. Gibbs drew inspiration from Kolb’s ‘Experiential Learning Cycle’ (1984), which consisted of 4 stages.\(^\text{5}\)

1.1) Gibbs’ Reflective Model

Gibbs’ reflective model, created by Gibbs,\(^\text{7}\) is a structured approach to reflection commonly used in education and professional development. It consists of 6 stages, each designed to guide individuals through a reflective process after an experience (Table 1).

This model encourages a thorough exploration of experiences, emotions, and actions taken, facilitating a deeper understanding and learning from past situations.

1.2) Driscoll’s Reflective Model

Driscoll’s reflective model, developed by Driscoll,\(^\text{21}\) is a structured framework designed to guide individuals through the reflective process. It typically involves 3 key questions, often known as the ‘What? So What? Now What?’ model, adapted from Borton’s developmental model of reflection (Figure 2).

Driscoll’s model aims to facilitate a structured and comprehensive reflection process, promoting deeper understanding and application of learnings to future actions or situations.

Benefits of utilizing Gibbs’ and Driscoll’s models include the structured nature of distinct stages and questions, allowing for a relatively straightforward
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progression. These models hold broad applicability and serve as an excellent entry point for newcomers to reflection due to their ease of use and time efficiency, which has proven advantageous in various scenarios. However, potential drawbacks exist. Gibbs’ model might foster superficial reflection, limiting the potential for robust personal or professional growth. This is because it does not explicitly encourage exploring underlying assumptions or values behind actions, nor does it facilitate connections between the current event and other experiences. Moreover, Gibbs’ model predominantly reflects the perspective of a single person: the reflector. As for Driscoll’s model, if the 3 stem questions are only superficially engaged with, it might result in minimal meaningful reflection.

2) Vertical Models

The vertical model of reflection refers to a categorization or grouping of reflective models based on their approach or structure. In this categorization, models are distinguished by their depth of reflection and the way they encourage exploration of underlying assumptions, values, and broader contexts. The vertical dimension represents the depth or extent to which a reflective model prompts individuals to examine critical aspects of their experiences, actions, and beliefs.

In this context, the vertical dimension often contrasts with the iterative or horizontal dimension, which focuses more on cyclical or repeated stages of reflection, revisiting experiences without necessarily examining deeply into underlying aspects. The vertical models

<table>
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<tr>
<th>Table 1. Stages of Gibbs’ Reflective Model</th>
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<tr>
<td><strong>Stage</strong></td>
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<td>Description</td>
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<td>Action Plan</td>
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Various authors, such as Mezirow, Hatton et al., Johns, Moon and Brookfield, present reflection models focusing on a vertical dimension devoid of cyclical elements. These models distinguish between surface-level and deeper (more critical) levels of analysis within reflective practices. Surface levels involve descriptive elements, while deeper levels entail analytical aspects. The most profound reflections aim to integrate past, present, and future experiences, merge cognitive and emotional aspects, consider multiple perspectives, and reframe the experience.


Moon recommends commencing with a series of inquiries akin to those in Gibbs’ reflective cycle and subsequently supplementing additional self-inquiries to enhance depth. Certain questions might serve as useful guiding points during reflection, not mandatorily requiring explicit declaration.

Moon’s reflective writing questions offer a way to examine deeper into personal experiences. Here are 10 examples (Table 2).

Additionally, herein the author presents 10 examples of reflective writing questions tailored to undergraduate medical education, inspired by Moon’s reflective approach (Table 3).

**Figure 2. Stages of Reflection**

<table>
<thead>
<tr>
<th>1) What?</th>
<th>This stage involves a description of the experience or event, outlining the factual details and what occurred.</th>
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<tr>
<td>2) So What?</td>
<td>The reflection examines the significance of the experience, focusing on personal thoughts, feelings, and the impact of the event. It encourages the individual to explore why the experience matters and its relevance.</td>
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<tr>
<td>3) Now What?</td>
<td>This final stage revolves around considering the implications and actions resulting from the reflection. It prompts individuals to identify changes or actions that can be implemented based on the insights gained.</td>
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Table 2. Examples of Moon’s Reflective Writing Questions

1) How did this experience challenge my assumptions or preconceived notions?
2) What emotions did I experience during this situation, and how did they influence my actions?
3) How does this experience relate to my past knowledge or personal beliefs?
4) What did I learn about myself through this experience?
5) How might others perceive or interpret this situation differently?
6) What connections can I make between this experience and theories I’ve learned?
7) What aspects of this experience would I change if given the chance, and why?
8) How did this experience shape my understanding of a particular subject or situation?
9) In what ways did this experience impact my future goals or actions?
10) What critical insights did this experience provide about my professional or personal growth?

Table 3. Examples of Reflective Writing Questions in Undergraduate Medical Education

1) How did my interaction with patients during this clinical rotation challenge my perceptions of medical practice?
2) What emotions did I experience when faced with ethical dilemmas in patient care, and how did they shape my decisions?
3) How do my cultural background and beliefs influence my approach to understanding diverse patient experiences?
4) What connections can I draw between the theoretical knowledge gained in lectures and its application in real clinical scenarios?
5) How did working in a team impact my understanding of effective communication in healthcare settings?
6) What insights have I gained regarding the importance of empathy and bedside manner in patient-doctor relationships?
7) In what ways has my understanding of medical ethics evolved through practical experiences and case studies?
8) How did feedback from supervisors and peers influence my approach to improving clinical skills?
9) What challenges did I encounter in balancing academic study with clinical practice, and how did I manage them?
10) How does this particular experience contribute to my professional development as a future healthcare provider?

Implementing these ‘vertical’ reflection models into practice poses a challenge. Some authors offer suggestions, such as cue or prompt questions, to aid in this transition. The similarity between some of these prompts and Driscoll’s model, particularly the ‘extension’ questions, suggest that Driscoll’s model potentially encompasses both cyclical and vertical dimensions in reflective practice.29

Using one or a blend of these ‘vertical’ models to structure reflection among undergraduate medical students offer distinct advantages. These models foster self-inquiry, gently challenge habitual thought patterns, and enhance self-awareness. Such approaches can significantly contribute to learning, self-development, and potentially catalyze broader positive changes, even impacting workplace culture positively.

However, employing these reflective methods poses challenges for medical students. The unfamiliarity with the types of questions may evoke discomfort or confusion, leading to uncertainty in their application. The less structured nature of these reflective models might be bewildering for those unaccustomed to reflection practices. The number of questions could seem overwhelming, demanding considerable time to address comprehensively. Moreover, effective reflection of this nature often necessitates supervision...
by experienced mentors, which might pose a challenge due to a shortage of qualified supervisors. Consequently, these vertical models might be better suited for individuals who are already familiar with simpler cyclical models like Gibbs’ and are keen to explore deeper reflections.

**Structuring Reflective Writing**

Early attempts at reflective writing often tend to be highly descriptive, which is expected since description is a skill that many individuals have cultivated extensively. Hatton and Smith’s levels of reflective writing encompass a progression from superficial to deeper levels of reflection. The are 4 levels (Table 4).

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<thead>
<tr>
<th>Level of Reflective Writing</th>
<th>Description and Example</th>
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<tbody>
<tr>
<td>1) Descriptive Writing</td>
<td>This level involves a simple recounting or description of events without much analysis or deeper exploration.</td>
</tr>
<tr>
<td>2) Descriptive Reflection</td>
<td>Moving slightly deeper, this level adds a layer of personal thoughts or feelings related to the experience, but lacks critical analysis or deeper exploration of underlying assumptions.</td>
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<tr>
<td>3) Dialogic Reflection</td>
<td>This level involves deeper reflection, where individuals start to question their assumptions, beliefs, or perspectives by engaging in a dialogue with themselves. It often involves exploring why certain events occurred or how they felt about them.</td>
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<tr>
<td>4) Critical Reflection</td>
<td>At the deepest level, critical reflection involves challenging assumptions, exploring various perspectives, and considering the broader implications of experiences. It goes beyond personal feelings and thoughts to analyze underlying assumptions and societal or cultural influences.</td>
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Avoiding absolute certainty or passing judgments is essential as it might inhibit critical thinking. Certain questions posed may lack definite answers. The writer’s ‘self’, which is seen as a significant source of evidence on equal with objective evidence, should be the main focus of the inquiry. Despite the unfamiliarity, incorporating personal thoughts and feelings are appropriate. A well-round approach that acknowledges subjective experiences while incorporating other perspectives is suggested, with relevant literature, cited appropriately.

It is important to remember that although the finished reflective essay is the result of reflection, the writing process itself frequently yields actual learning. Every time a piece of writing is edited or revised; different learning outcomes are frequently observed.
Concluding Remarks

Key points regarding reflection and reflective writing are outlined as follows.

- Reflective practice is advantageous for both personal and professional learning.
- Reflection is a process that improves one’s understanding of oneself and guides one’s future actions, because it has no one single definition.
- Reflection typically involves 3 stages: description, analysis, and conclusion.
- Various models of reflection, either ‘iterative’ (cyclical) or ‘vertical’, can be blended to suit individuals and situations.

Recommendations

Here are some recommendations that could help improve reflective writing.

- At the beginning, it is advised to use an iterative model like that of Gibbs, which promotes deeper thought by posing difficult questions, taking into account different viewpoints, and making connections. Vertical models such as Moon and Brookfield may offer a variety of question types and approaches for combining different viewpoints.
- When writing, aim for at least the ‘Descriptive Reflective’ level, offering concise details about ‘what’ happened and examining deeper into ‘how’ and ‘why’ incidents occurred without identifying specific individuals or events.
- Use appropriate language, style, and tone while writing reflections. Maintain honesty, thoughtfulness, and a formal structure. Aim for a balance between the subjective and objective, avoiding absolute certainty or judgmental tones.
- Share the reflective writings with peers or colleagues for constructive feedback and diverse perspectives. Actively listen to feedback from mentors, or peers to gain insights into the reflective process and areas for improvement.
- Cultivate a habit of regular reflection, whether through group discussions, informal self-reflection or structured reflection exercises.

Understanding reflection and reflective writing is crucial for medical teachers to effectively mentor their students for several reasons. In essence, medical teachers who understand and use reflective techniques effectively mentor their students toward becoming reflective practitioners, encouraging lifelong learning, ethical practice, and professional growth in the medical profession.

References

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เพิ่มพันธุ์ ธิรรมสโรช
โรงเรียนแพทย์รามาธิบดี สถาบันการแพทย์จัดรีบูน อุบลราชธานี คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล สมุทรปราการ ประเทศไทย

การสะท้อนการเรียนรู้และการเขียนการสะท้อนการเรียนรู้เป็นองค์ประกอบสำคัญในการศึกษาทางแพทย์ ช่วยให้นักศึกษาเรียนรู้อย่างลึกซึ้งในการรับรู้และสัมผัสกับสถานการณ์ทางคลินิกและปฏิสัมพันธ์ของผู้ป่วยยังเป็นการระดมสมองของนักเรียนอย่างมีวิจารณญาณและความเห็นแก่เหตุทางใหม่ ด้วย "การสะท้อนการเรียนรู้" มีการเคลื่อนไหวหลายแบบ ซึ่งสรุปเป็นแนวคิดของการสะท้อนเรียนรู้ดังนี้: การเขียนการทำความเข้าใจด้วยสมองสร้างข้อมูลเพื่อให้เป็นแนวทางในการแสดงพฤติกรรมในอนาคต ด้านแพทยศาสตร์ศึกษา

การเขียนการทำความเข้าใจด้วยสมองเป็นองค์ประกอบสำคัญในการผลิตและรับรู้ความรู้และประสบการณ์ทางคลินิก ที่มีความสำคัญต่อการพัฒนาการเรียนรู้และการมีวิจารณญาณ การสะท้อนการเรียนรู้เป็นองค์ประกอบสำคัญในการสร้างและพัฒนาการเรียนรู้ การสะท้อนการเรียนรู้เป็นองค์ประกอบสำคัญในการสร้างและพัฒนาการเรียนรู้

คำสำคัญ: การสะท้อนการเรียนรู้ การเขียนการสะท้อนการเรียนรู้ ผลของการสะท้อนการเรียนรู้ แพทยศาสตรศึกษา

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