

Why Expectations Matter in Pharmacy Reflection: Insights from the 5Es Reflective Framework[®]

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Abstract

Reflective practice is widely recognised in healthcare for fostering critical thinking, communication, clinical judgement and professional identity. In pharmacy, however, its adoption remains uneven and is often perceived as superficial, formulaic or detached from meaningful learning. Recent literature also points to reflective fatigue, avoidance of psychologically challenging experiences, and limited psychologically safe spaces for learners and practitioners. This paper argues that one underexplored aspect of reflective practice in pharmacy is the role of expectations and prior beliefs formed before events occur. Traditional reflective models focus primarily on retrospective analysis and may therefore overlook the predictive thinking that shapes perception, communication and decision-making in everyday practice. The 5Es Reflective Framework[®], Expectation, Experience, Evaluation, Explore and Execute, is presented as an extension of existing models, offering a structured way to examine prevent cognitive framing and its influence on practice. The 5Es is not intended to replace established reflective models, but to deepen reflection by encouraging pharmacy students and practitioners to examine the expectations and prior beliefs that shape their actions and interpretations. Further empirical research is needed to assess its impact across educational and practice settings. Nevertheless, expectation-centred reflection may support more self-aware, psychologically informed and context-sensitive pharmacy practice in increasingly complex healthcare systems.

Keywords

Reflective Practice, Pharmacy Education, Pharmacy Practice, Professional Development, Reflective Learning, 5Es Reflective Framework[®]

1. Introduction

Across medicine, nursing and the allied health professions, structured reflection has been associated with stronger critical thinking, communication, professional identity, self-awareness and lifelong learning (Mann, Gordon, & MacLeod, 2009; Sandars, Allan, & Price, 2024). As a result, it has been embedded in undergraduate curricula, clinical placements, postgraduate training and continuing professional development across many healthcare systems worldwide (Wald & Reis, 2010).

Pharmacy education and training have not progressed in such an integrated and cohesive manner. Tsingos, Bosnic-Anticevich, & Smith (2014) argued that the profession has been less enthusiastic than medicine, nursing and the allied health professions in adopting reflection within healthcare training, despite its recognised value for practitioner growth and patient-centred care. They proposed that reflection can encourage critical thinking, strengthen problem-solving, improve communication, promote self-directed learning and help pharmacy students connect classroom learning with the realities of practice (Tsingos, Bosnic-Anticevich, & Smith, 2014).

More recently, literature has continued to identify challenges within reflective practice in pharmacy education. Nazar, Rathbone, & Husband (2021) reported that structured reflective activities, including reflective conferences and written reflective exercises, encouraged deeper metacognition, strengthened resilience and promoted transformational learning within evolving pharmacy curricula. Hokanson et al. (2022) similarly demonstrated that co-designed reflective activities enhanced professional identity, critical thinking and reflective capability when learners actively participated in designing the reflective process. A later systematic review by Teo, Koh, & Zhen (2022) suggested that structured reflective writing could strengthen patient-centred communication, shared decision-making and cultural competence within pharmacy education.

These developments are particularly relevant within the changing landscape of pharmacy practice over the past decade, where pharmacists have assumed increasing responsibilities in prescribing, medicines optimisation, vaccination services, chronic disease management, public health, multidisciplinary working and digital healthcare (Mantzourani et al., 2019).

At the same time, recent literature has continued to call for higher-quality reflection within pharmacy. Din (2025) highlighted concerns regarding the inconsistent development of reflective practice within pharmacy compared with other healthcare professions and emphasised the challenging nature of pharmacists' everyday working lives.

Ida et al. (2025) explored the depth of pharmacy students' reflective writing and reported considerable variation in quality. While some students demonstrated thoughtful personal engagement with their experiences, others merely described events or intentionally omitted personally distressing aspects. Similar concerns have also been raised more broadly within healthcare education. Lim et al. (2023) suggested that reflective writing can become a ritualistic activity disconnected

from authentic learning, while Wald & Reis (2010) warned that reflection may sometimes become little more than a performance designed to satisfy institutional requirements.

These concerns raise important questions. If reflection is widely accepted as an essential component of practitioner development, why do many learners and practitioners continue to experience it as superficial, formulaic or simply another educational requirement? Likewise, if reflection has genuine transformative potential, why is that potential not consistently realised within pharmacy education and practice?

The usual reflective starting point is: “*What happened?*”.

In this paper, *expectations* are understood as the anticipated outcomes, predictions or mental models individuals hold before an event occurs. *Prior beliefs* refer to the existing knowledge, experiences and interpretations that shape how situations are perceived. Together, these concepts underpin *expectation-centred reflection*, an approach that deliberately examines pre-event thinking before evaluating what subsequently occurred. Although related to assumptions and emotions, expectation-centred reflection focuses specifically on the anticipatory cognitive processes that influence interpretation before reflective analysis begins.

Every day, pharmacists and pharmacy students develop implicit expectations about patients, colleagues, prescribing systems, workflow, organisational culture, likely outcomes and expected interactions. These preconceptions influence communication, reasoning, interpretation and personal responses.

This paper presents a conceptual discussion informed by literature from reflective practice, pharmacy education, healthcare communication, human factors and educational theory. References were selected purposively to include influential theoretical models together with contemporary literature relevant to reflective practice in pharmacy rather than through a formal systematic review. Accordingly, this paper does not provide empirical validation of the framework but proposes a theoretical extension to existing reflective approaches.

2. Reflective Practice in Healthcare and Professional Education

Reflection is understood differently across educational and healthcare settings. Although terms differ and theoretical perspectives vary, the general concept of reflection is an intentional engagement with one’s experience, thoughts, feelings and actions to encourage deeper understanding and improve future practice. Dewey (1910) is generally acknowledged as having introduced the concept of reflection as “the active and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends.” For Dewey, it represented a form of deliberate inquiry that was distinct from merely recalling past events or relying on habitual ways of thinking; it involved consciously interrogating assumptions and beliefs in support of one’s actions and decisions.

Later, Schön (1983) greatly advanced the concepts and practical applications of reflection with his work on the reflective practitioner, introducing the distinction between reflection-in-action and reflection-on-action. Reflection-in-action is the process of “thinking on your feet” during actual professional practice, in ambiguous or fast-changing circumstances, whereas reflection-on-action involves the retrospective analysis of an experience. Schön (1983) maintained that professional practice inherently involves ambiguity, uncertainty and complex problems encountered in practice that cannot be simply addressed by recourse to technical knowledge.

Kolb (1984) further developed these ideas about reflection within the context of experiential learning theory by framing it as an ongoing cycle that involved concrete experience, reflective observation, abstract conceptualisation and active experimentation. Later, Mezirow (1991) developed reflection as a critical component of transformative learning theory, focusing on how reflection might trigger the questioning and alteration of deeply ingrained beliefs and assumptions that frame how individuals perceive their practice experiences. Others such as Boud, Keogh, & Walker (1985) have emphasised the inclusion of the learner’s emotions, past experience and personally held meaning as integral elements of reflection. Together, these perspectives broadened understanding of reflective learning beyond technical skill acquisition (Dewey, 1910; Schön, 1983; Kolb, 1984; Mezirow, 1991; Boud, Keogh, & Walke, 1985).

Recent literature continues to identify reflection as central to university teaching and professional learning. Ryan (2021) argues that reflection “will always be the central activity of teaching and learning in university” because it helps people interpret experience rather than simply accumulate knowledge. Similarly, Thompson & Pascal (2021) describe reflection as essential to education and life-long learning, especially for those making complex, high-stakes decisions in challenging social contexts. At the same time, teacher education literature warns that reflection can become descriptive, compliance-driven, or detached from genuine professional development (Nazir, Ishaq, & Saleem, 2022).

Recent work has also called for clearer concepts and stronger teaching strategies to support deeper reflective learning in higher education (Bailie, Gebre, & Chinery, 2025). Similar findings appear in teacher education, where reflective engagement is influenced by the quality of supervision, the learning environment, and the broader professional culture (Körkkö, Kyrö-Ämmälä, & Turunen, 2016).

However, implementation of effective reflection in educational institutions, including pharmacy, is known to be challenging. While reflecting can promote learning and enhance practice, reflections are prone to being superficial, formulaic and primarily driven by assessment needs (Moon, 2007). Moon (2007) noted that the quality of reflective writing varied widely, ranging from a basic description to sophisticated forms of critical self-examination. These concerns are certainly present within pharmacy.

3. Reflective Practice in Pharmacy: Historical Underdevelopment and Contemporary Challenges

Throughout most of pharmacy's history, the profession had a stronger focus on scientific knowledge, technical accuracy and the dispensing of medicines than on reflection (Tsingos, Bosnic-Anticevich, & Smith, 2014). This emphasis naturally followed from the historical position of the pharmacist as an expert in medicines, pharmaceutical science and safety. As pharmacists' roles expanded, with increased responsibility for patient-centred activities, the educational emphasis gradually shifted from scientific to more clinical dimensions of practice (Tsingos, Bosnic-Anticevich, & Smith, 2014; Droege, 2003).

Tsingos, Bosnic-Anticevich, & Smith (2014) maintained that reflection in pharmacy education could help pharmacy students in making connections between their knowledge gained from formal learning and the uncertainties inherent in real-world practice. They explored the barriers that limited effective reflection in pharmacy education, citing insufficient structured frameworks, ambiguity around the place of assessment, limited teaching support to educators and inconsistent integration of reflection into the pharmacy curriculum. In particular, they posed the question as to why pharmacy had lagged behind medicine, nursing and the allied health professions in developing and incorporating reflection into their educational and clinical training programmes (Tsingos, Bosnic-Anticevich, & Smith, 2014).

Since Tsingos, Bosnic-Anticevich, & Smith (2014), the debate surrounding pharmacy reflection has continued. Black & Plowright (2007) revealed that pharmacists believed reflective learning was important to their growth and evolving practice; however, engagement with reflection varied, with factors such as workplace culture, demands of their job and access to education influencing their willingness to reflect. Wallman, Lindblad, Gustavsson, & Ring (2009) demonstrated that pharmacy students' capacity and willingness to engage deeply with reflection varied and were influenced by supervision, the nature of the learning environment and their attitudes to ongoing learning.

In more contemporary research, structured reflection intervention has been seen as having positive effects on communication and patient care. Reflection could also improve cultural awareness and sensitivity in pharmacy education contexts when properly applied (Teo, Koh, & Zhen, 2022).

However, current literature highlights ongoing challenges in the effective use of reflection in pharmacy. Ida et al. (2025) stated that some participants showed reflective emotional involvement with their experiences, critically evaluated what was happening and wrote thoughtful interpretations of events, whereas others were more likely to engage in simply describing events or avoidance of disturbing themes. Their research demonstrated that those students who found it difficult to articulate or describe feelings, critically examine their own interpretation or reflect critically often wrote much more superficial reflective responses (Ida et al., 2025).

Similar concerns have also been identified as limiting reflective practice throughout healthcare education, where the process can drift into administrative paper-

work rather than authentic learning. This issue is particularly relevant in contemporary pharmacy settings, where pharmacists are increasingly pressured to work in environments characterized by high workload, staff shortages, constant workflow disruptions and administrative demands, alongside the growing realities of drug shortages and the psychologically demanding nature of patient interactions (Din, 2025; Durham, Bush, & Ball, 2018).

These authors reported that pharmacists often worked through distress associated with difficult cases alone and privately, despite considerable anecdotal and some empirical reporting of burnout, emotional exhaustion and workload pressure throughout the pharmacy profession (Din, 2025).

4. Reflection, Emotional Labour and Professional Identity in Pharmacy

Pharmacy practice involves substantial emotional and interpersonal labour, a characteristic that may receive insufficient attention in the typical descriptions of pharmacy practice. Pharmacists are faced daily with distressed, frustrated, confused, insecure, unhappy or demanding patients.

In many healthcare systems worldwide, pharmacists have been given increasing levels of responsibility for delivering clinical services and managing workflows efficiently and safely while ensuring patient access. These expanding demands place increasing psychological pressure on pharmacists (Durham, Bush, & Ball, 2018).

The widespread literature on burnout within healthcare disciplines (especially physicians and nurses, but increasingly pharmacists too) has consistently linked workload pressure, exhaustion, administrative burden and burnout (Durham, Bush, & Ball, 2018).

Pharmacists may also rely on reflection to manage interpersonal demands within pharmacy and strengthen critical thinking and decision-making, especially when facing difficult situations such as those described by O'Neill, Johnson, & Mandela (2019), who used reflection and structured support to facilitate coping, learning, communication and wellbeing amongst a multidisciplinary team working in intensive care.

In fact, Ida et al. (2025) were concerned about pharmacy students intentionally not discussing negative feelings, believing that doing so appeared weak or inappropriate. The performative nature of reflection has also been a frequent criticism levelled elsewhere in healthcare education (Wald & Reis, 2010; Lim et al., 2023).

5. Critiques and Limitations of Reflective Practice

Although widely advocated in healthcare education, reflective practice has also attracted important criticism. Questions surrounding authenticity remain central, with the belief that mandatory reflection drives the generation of narratives that meet expectations rather than genuine and rigorous critical self-examination (Wald & Reis, 2010).

An associated challenge arises from the subjectivity of reflection, which makes

consistent assessment problematic. Related criticism concerns bureaucratisation. The concern is that reflection, portfolio construction and continuing professional development paperwork have become institutional requirements that may have become detached from authentic learning (Driessen et al., 2005; Plaza et al., 2007). Another concern is emotional disclosure: requiring students to share personally difficult experiences may blur the boundaries between education, supervision and personal life (Wald & Reis, 2010).

Critics of reflection are not, of course, arguing for the complete removal of it but that it must be performed appropriately with relevant training, facilitation and educational expectations.

6. Expectations, Assumptions and Human Factors in Pharmacy Work

It is believed that one aspect missing from current pharmacy reflection is the focus on assumptions and expectations. Pharmacists frequently rely on predictive thinking. These anticipations are shaped by multiple factors. Examples include expectations surrounding workload patterns, interprofessional communication, drug availability (e.g., medicine shortages), the functioning of pharmacy IT systems, a patient's likely behaviour or knowledge, staffing availability and the workplace responsibilities that have been assigned to them or others.

The human factors literature demonstrates that, through familiarity, cognitive shortcuts, normalisation and confirmation bias are likely to be encouraged within healthcare work (Reason, 2000; Catchpole, 2013). Within pharmacy this may be something like:

- The assumption that a prescription has been thoroughly and properly checked,
- The belief that the patient knows what to do with a medicine due to having been counselled on it previously,
- That a busy, multi-talented pharmacist colleague has relayed crucial information to others,
- The knowledge that a patient's record is fully and currently up to date.

Retrospective reflection usually focuses on actions and outcomes after events have occurred. An alternative question is, "What did I expect to happen before this situation occurred and how did that expectation shape my perception or behaviour?" Instead of simply reflecting on what happened, we reflect on the prior beliefs and expectations we brought into the situation.

For example, a pharmacist may assume a patient already knows how to use a medicine because they took it last year. A student may believe they should feel fully confident by placement and interpret any uncertainty as failure.

Expectations and prior beliefs shape reflection because people rarely enter clinical situations as neutral observers. Knowledge, past experience and assumptions about what is likely to happen influence how events are interpreted before reflection even begins. This aligns with literature on cognitive framing, confirmation bias and human factors, which suggests that people often rely on pre-existing

mental models rather than fully objective observation (Reason, 2000; Catchpole, 2013). Recognising these anticipatory beliefs may make reflection more psychologically informed and interpretive.

7. The 5Es Reflective Framework®

The 5Es Reflective Framework® was developed to initiate reflection through the exploration of prior beliefs and expectations. The framework consists of the following five stages: Expectation, Experience, Evaluation, Explore, and Execute. It was recently proposed within reflective practice literature (Agomo, 2025a) and is also a registered trademark in the UK with the Intellectual Property Office (Agomo, 2025a, 2025b).

Although anticipatory reflection, metacognition and cognitive framing are established concepts in education and healthcare, they are usually treated as separate cognitive processes or learning strategies rather than as the starting point of a structured reflective model. The 5Es Reflective Framework® contributes by placing expectation at the beginning of reflection, prompting systematic examination of anticipatory thinking before experience, evaluation and future action are considered (Nazar, Rathbone, & Husband, 2021; Ryan, 2021; Reason, 2000; Catchpole, 2013).

It differs from many reflective models by initiating reflection by considering what assumptions we had or what we expected to occur or how we had perceived situations before analysing the event itself.

From there, the process moves into Experience (describing the event), Evaluation (what was good, bad, why it mattered; any difference between expectation and experience), Explore (emotions, values, other contexts that played a part and other ways that a person could have reacted) and Execute (future planning, adaptation, evidence-informed learning and implementation).

This framework is not intended to replace existing well-established models of reflection developed by Schön, Gibbs, Kolb and Boud, but an add-on layer to enable assumptions and pre-event cognitive framing to be illuminated more fully within reflective learning. It is presented in this way because so much of what causes problems for pharmacists arises incrementally, over a period of time, due to the assumptions built up through the normal flow of work, beliefs about how others would act and respond to events and the way workplace communication often happens, rather than through isolated dramatic events.

By examining expectations, interpretations and prior beliefs, it complements existing reflective models instead of replacing them.

The structure and cyclical nature of the 5Es Reflective Framework® are illustrated in **Figure 1**.

Box 1 illustrates how the 5Es Reflective Framework® can be applied to a common pharmacy scenario.

Table 1 compares selected reflective frameworks with the 5Es Reflective Framework®, highlighting their starting points, main emphases, and interpretive focus.

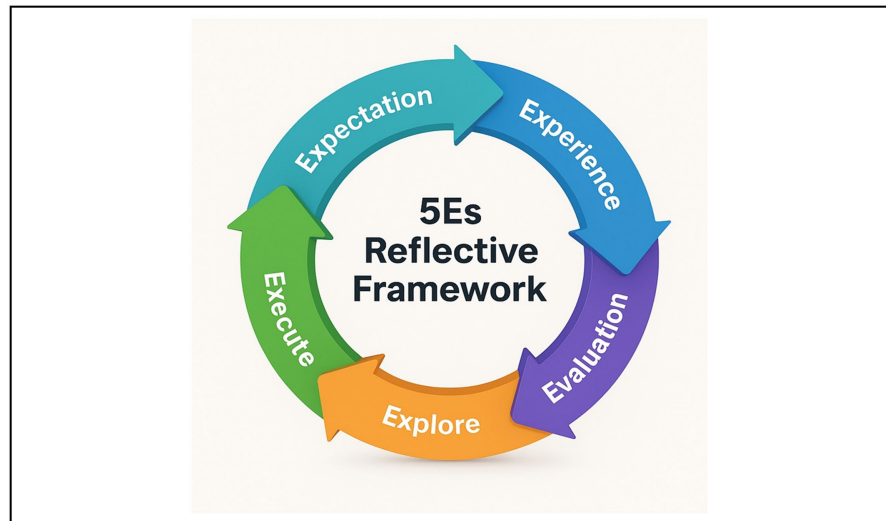


Figure 1. The 5Es Reflective Framework® illustrating the cyclical relationship between Expectation, Experience, Evaluation, Explore and Execute.

Box 1. Illustrative application of the 5Es Reflective Framework®.

A pharmacy student is asked to counsel a patient who has recently started using an inhaler. Before the consultation, the student assumes the patient understands the medicine because it was previously prescribed by another healthcare professional.

Expectation: The student expects that only brief reinforcement of inhaler technique will be required.

Experience: During the consultation, the patient demonstrates poor inhaler technique and explains that they have been unsure how to use the device since receiving it.

Evaluation: The student recognises that the consultation was less effective than anticipated because assumptions about the patient's prior knowledge shaped the approach taken.

Explore: The student identifies that this expectation was influenced by previous placement experiences and the belief that earlier counselling had been sufficient. The student also considers how confidence, communication style and time pressure affected the interaction.

Execute: The student plans to check patients' understanding rather than assume prior knowledge, use teach-back techniques where appropriate and seek supervisor feedback in future consultations. The action plan is informed by evidence-based communication strategies and will be reviewed in later patient encounters.

Table 1. Comparison of selected reflective frameworks and the 5Es Reflective Framework®.

Framework	Starting point	Main emphasis	Strengths	Potential limitation	Distinctive contribution of the 5Es
Gibbs' Reflective Cycle	Description of events	Structured retrospective reflection	Clear and widely used	Primarily event-focused	Begins reflection with expectations before the event
Kolb's Experiential Learning Cycle	Concrete experience	Learning through experience	Strong educational foundation	Limited focus on anticipatory thinking	Incorporates expectation-centred inquiry

Continued

Schön's Reflection-in-Action/on-Action	Professional action	Reflection during and after practice	Captures complexity of practice	Less explicit focus on pre-event beliefs	Explicitly examines prior expectations and interpretations
Boud, Keogh and Walker	Experience and emotions	Emotional processing and meaning-making	Strong affective dimension	Limited emphasis on predictive cognition	Integrates expectations alongside emotional exploration
5Es Reflective Framework[®]	Expectation	Expectations, experience, evaluation, exploration and future action	Illuminates anticipatory thinking and cognitive framing	Requires further empirical validation	Introduces expectation-first reflective inquiry

8. Implications for Pharmacy Education

Expectation-centred reflection could influence pharmacy education in a variety of ways internationally. First, it could move the learner away from descriptive reflection and towards interpretation. Pharmacy students currently often provide a description of what happened during a clinical interaction or experience, with perhaps a limited reflection on their interpretation or learning.

Second, it may play a role in the development of the professional identity of the student. Entering clinical practice can be fraught with anxiety about their practice capabilities, the confidence required to be a pharmacist and workplace expectations.

Pharmacy students learn the various approaches to patient consultation in a practical way. Prior beliefs influence many aspects of communication, for example, how the pharmacist listens and perceives the patient's non-verbal communication and how the pharmacist chooses to respond personally to what is said and observed.

9. Implications for Pharmacy Practice and Continuing Professional Development

The expectation-centred reflection does not stop at undergraduate education and may be pertinent for all pharmacists. Prescribing pharmacists who are writing referrals, a pharmacist optimising medication regimens in collaboration with medical teams or the pharmacist speaking to patients on the telephone about their medicines are all examples of individuals for whom expectation and interpretation are major aspects of their interaction.

Continuous Professional Development (CPD) continues to require reflection in many jurisdictions. However, its value varies considerably between professions, institutions, and individuals.

Pharmacy teams work within a particular context, and many patterns of expectation gradually develop over time through working together. How team members communicate, expect others to do things and delegate is often built on habit and experience. This could provide an opportunity to identify those patterns of think-

ing before they contribute to misunderstandings, conflict or patient safety concerns.

Expectation-centred reflection is most useful when practitioners encounter uncertainty, interpersonal complexity, communication difficulties or unexpected outcomes that require both interpretation and technical judgement. It may be less relevant for routine procedural tasks governed by established protocols, where interpretive decision-making is limited. Reflection should also avoid excessive retrospective self-analysis, recognising that unexpected outcomes do not always arise from inaccurate expectations or flawed reasoning (Wald & Reis, 2010; Moon, 2007).

Nevertheless, caution remains necessary, and reflection must never become administrative work in itself; neither must it become overbearing or lead to significant personal stress.

10. Future Directions

Empirical studies assessing the value of expectation-centred reflection within pharmacy education are currently limited. Future research could examine whether initiating reflection by exploring assumptions (the 5Es) and what was expected to happen changes the reflective depth of the pharmacy student or practitioner.

Comparative studies alongside existing reflective frameworks such as Gibbs' Reflective Cycle or Boud and colleagues' model may provide further insight. Research investigating supportive reflective practice within the profession should continue, especially in relation to emotional labour, burnout and the overall health and wellbeing of pharmacists.

Such work could assess whether expectation-centred reflection deepens reflective practice by promoting fuller exploration of prior beliefs, better integration of emotional and contextual factors, clearer links between reflection and action, and more critical reinterpretation beyond simple description (Ida et al., 2025; Moon, 2007).

11. Limitations

This paper is a conceptual exploration and offers no validation from empirical data related to this specific reflection within pharmacy. Discussion is based on existing reflection literature, theoretical interpretation, and the recent discourse surrounding reflective practice. The paper should be considered as an attempt to suggest another perspective in reflective practice, rather than a definitive solution to reflective practice.

12. Conclusion

Reflective practice remains central to pharmacy education and practice worldwide, but it is still applied inconsistently across institutions and settings. Although linked to professional growth, critical thinking and lifelong learning, meaningful reflection is often limited by educational, organisational and cultural barriers.

Recent literature suggests that reflection can become superficial, performative or reduced to a tick-box task, especially when psychologically safe and educationally sound reflective environments are lacking. At the same time, pharmacy practice is becoming more complex, requiring not only technical competence but also emotional resilience, communication and judgement under uncertainty.

This paper argues that prior beliefs and expectations deserve greater attention in pharmacy reflection, as students and practitioners routinely enter practice situations with assumptions that shape interpretation and response.

The 5Es Reflective Framework[®] begins with expectation, then moves through experience, evaluation, exploration and action. Rather than replacing established models, it adds a layer that helps learners and practitioners examine the assumptions influencing their decisions and interactions. Whether this approach improves reflective depth in pharmacy requires further empirical study.

By focusing on expectations and prior beliefs, the framework may support more thoughtful and self-aware pharmacy practice in increasingly demanding healthcare systems.

AI Disclosure

AI tools assisted with editing, accuracy check and refinement. All ideas, analysis and final content are the author's own.

Conflicts of Interest

The author developed the 5Es Reflective Framework[®] and is the owner of its registered UK trademark. The framework is discussed as the subject of this conceptual paper.

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