

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/155552/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Mantzourani, Efi , Desselle, Shane and Lucas, Cherie 2022. Practising reflection in pharmacy. *Pharmaceutical Journal* 10.1211/PJ.2022.1.157020

Publishers page: <http://dx.doi.org/10.1211/PJ.2022.1.157020>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



**For a final post-production version of this article, please see:**

**Mantzourani E, Desselle S & Lucas C. Practising reflection in pharmacy. *Pharmaceutical Journal* 2022.**

**Doi: [10.1211/PJ.2022.1.157020](https://doi.org/10.1211/PJ.2022.1.157020)**

## **Why and how to practice reflection in pharmacy**

Reflective practice is an essential part of good practice, not to mention revalidation. Find out what strategies you can use in your practice.

Efi Mantzourani, Reader in Pharmacy Practice, Cardiff School of Pharmacy and Pharmaceutical Sciences, Cardiff University, Wales, UK

Shane Desselle, Professor, Associate Dean for Research and Professional Affairs, College of Pharmacy, Touro University, California, USA

Cherie Lucas, Senior Lecturer, Graduate School of Health (Pharmacy), University of Technology Sydney, Sydney, Australia

After reading this article, you should be able to:

- Explain the concept of reflective practice and its importance to pharmacy;
- Describe the five factors that make up a reflective practice model;
- Choose reflective practice strategies to use in your professional life.

Have you ever supervised a student's work experience? Attended a continued professional development (CPD) event? Now consider the requirements for renewing your registration with the General Pharmaceutical Council (GPhC). All three of these experiences have a common thread: reflection.

The term 'reflection' is used everywhere these days. Reflection has been defined as a specific thinking process of "engaging the self in attentive, critical, exploratory and iterative interactions with one's thoughts and actions, and their underlying conceptual frame, with a view to changing them and with a view on the change itself"[1]. It is an integral requirement of all pharmacy courses, from undergraduate to postgraduate level, including CPD training and post-registration qualifications such as independent prescribing. The GPhC has always used the concept of reflection in their CPD expectations, and in recent years it has become an

integral part of the revalidation framework. There is a new focus on reflection, impact and on different styles of reflection involving peers.

## **Why we practice reflection**

Advancements in practice – for example the provision of services such as lifestyle counselling, weight-loss management, smoking cessation, and the management of common ailments – increasingly place pharmacy at the centre of public health initiatives. Expedited by the recent pandemic, pharmacists are an invaluable resource in the multidisciplinary team. Independent pharmacist prescribers are making their mark in the healthcare landscape, managing acute and chronic conditions in primary care settings such as community pharmacies and general practice[2].

Based on this expansion of trust, pharmacists have a duty to continually develop their skills and knowledge[3]. Reflective practice gives practitioners a way to identify their key strengths and weaknesses, which may help to improve future practice[4,5]. Reflective practice can encourage stimulating thought processes and therefore empower practitioners to achieve best practice[6].

Consistent reflection has been shown to improve decision-making and the provision of care[7]. De-briefing sessions have been used as a platform to facilitate discussion amongst healthcare professionals, mainly nurses and physicians, to encourage deep thinking and decision-making[6-10]. One study analysed medical residents using reflective prompts and evaluated their potential influence on clinical judgment for accurate diagnosis, against a control group of medical residents who were not exposed to the reflective prompts[7]. The researchers found that reflection using these prompts was a useful tool for practitioners, particularly when diagnosing rare or complex cases. Accurate diagnoses were more likely and there was a reduction in inaccurate diagnoses[7].

Other studies have also recognised the value of physicians maintaining a reflective portfolio as a lifelong learning tool in practice[11]. A randomized controlled trial exposed a group of interns to routine direct observation with formal feedback sessions for their first 6 weeks[12]. Interns in the intervention group displayed better patient care skills compared with the control group[12], supporting the argument that situation-specific external assessment (such as these formal feedback sessions) is key for safe practice[13,14].

## **A 5-factor model of reflection**

A systematic review of the literature on reflection identified various actions, beliefs, and attitudes that made up a 5-factor model[1]. These included themes of the practitioner being attentive, critical, and exploratory, in addition to employing iterative thinking, and views on change. What practical lessons can be taken from this 5-factor model?

### ***1. Be attentive***

Being attentive means the pharmacist should treat the patient as a 'whole' person, not as a merely as a number with a particular ailment for which medicine is being prescribed and delivered at one point in care. Instead, the pharmacist should be attentive to a patient's health literacy, confounding factors affecting treatment, their entire health and family history, and their need to recover and resume their daily life activities. This attentiveness helps to ensure the best possible outcomes for patients from their medication, often in the presence of real-world situations where the patient may not be adherent to treatment or might encounter barriers to recovery.

### ***2. Be critical***

Being critical means the pharmacist should think critically about the interactions they had when providing care and find ways they could have provided this care more effectively. For example, could they have employed motivational interviewing, or asked more open-ended questions that would have led to a more successful interaction with the patient? Could they have acquired more information from a physician or other health practitioner, that would have helped to optimise care? Could they have better ensured that the patient left the pharmacy equipped with the relevant information required to optimise their medicines?

### ***3. Be exploratory***

Being exploratory refers to pharmacists considering new strategies, services, and novel models of care that could improve on the status quo. This requires the pharmacist to be reflective about their day-to-day practice and reading the current literature in the area of pharmacy practice they are reflecting on to improve care delivery.

### ***4. Employ iterative thinking***

Employing iterative thinking means pharmacists should regularly contemplate their provision of care and interactions with patients, and take incremental steps to improve this process, continuing to do so in a way that brings them closer to their goal of providing optimal care.

### ***5. Have views on change***

Finally, to have views on change means that pharmacists must recognise the constant state of 'flux' of healthcare practice, which is constantly evolving and shifting. The complexities of practice include the evolving needs of patients, the shifting demographics of patients, the rapid evolution of technology, and

other factors that impact care. This can be positive change if taken into account and leveraged effectively, but negative if ignored by the pharmacist. For example, community pharmacists engaging in social media to explain the range of available services to the public can be a powerful tool to support public health and counter misinformation.

As such, reflective practice involves critical thinking with self-evaluation and practice that enables continuous improvement, development and, ultimately, better future practice[15,16,17]. Pharmacy can learn from other professions and the seminal models and literatures that have helped inform practice[18]: for example, Gibbs[19], Schon[4], Atkins and Murphy[20], Kolb [21], Johns [22], and Mezirow's models[23]. Individual pharmacists can then tailor their approach for reflection during and after action, based on the reflective process already described in this section.

### **Ways to overcome difficulties when engaging in reflective practice**

Reflection in action (i.e. during an ongoing situation) can be challenging for practitioners, as it is a complex concept requiring continued input from deep thought processes and from reliable external sources – in settings such as community pharmacy, these external sources may be lacking. For example, when a pharmacist completes a ward round, they have a multi-disciplinary team available on request to bounce ideas off and contribute to the patient's care; a community pharmacist is often isolated when checking a prescription and lacks this valuable resource.

Diverse educational strategies can be used to teach healthcare practitioners about reflection, such as portfolios, creative writing workshops, self-report questionnaires, reflective vignettes, and learning logs[24-27]. A review concluded that, since the purpose of reflection is to improve judgement, personally develop and contextualise practice, each reflective task needs to be clearly articulated to learners[15]. Additionally, leaders in practice need to model effective reflective strategies for other staff at every practical opportunity.

One such strategy is for senior colleagues to use 'thinking aloud' techniques. This allows less senior staff to understand that making a decision is not as easy as it might appear, and that everyone needs to consider their options, what information they have available, and what the risks are. Senior staff often do this so fast that can seem to observers that no in-action reflection is taking place. Take, for example, an experienced pharmacist clinically checking a medication administration chart in a short amount of time: it may seem from the outside that there is nothing to consider. If experienced pharmacists occasionally vocalise their thoughts and show the tremendous amount of reflection that goes on all the time, it can be of enormous benefit for their more junior colleagues.

Finally, reflective practice is most effective when assessed properly. A person engaged in reflective practice should not only reflect on the quality of their own reflection but also seek the guidance and mentoring of others. This is the concept of 'peer review' that the GPhC has introduced in their updated revalidation requirements[28].

### **Reflective practice in healthcare education**

The use of reflection to prepare for the complexities of clinical practice is gaining traction in pharmacy education literature. One study employed Kolb's learning style framework to ascertain pharmacy students' learning styles[29];

- Assimilator – logical and structured learner, prefers didactic approach, input from experts in the field and learning independently;
- Diverger – open-minded learner, prefers to work in groups and learning with brainstorming sessions;
- Converger –relatively unemotional learner, prefers to work independently and learning with technical tasks;
- Accomodator – prefers to work in teams and learning with a 'risk-taking' approach, through gut feeling and actively engaging with situations.

Students who were classified as Assimilators and Divergers were more likely to use reflective processes and observation[30]. A later study adapted Mezirow's reflection model to explore the relationship of reflective writing skills and academic success among undergraduate pharmacy students[30]. There were significant links between the two, indicating the importance of reflection in achieving goals[30].

In another study, students in experiential placements were provided with a stakeholder-informed, structured but flexible reflective template that they could use across their placements, regardless of type or duration [31]. Use of the template was found to increase critical thinking[31]. Strategies that involve social media have also been effective in supporting pharmacy students to reflect[32,33].

### **Reflective practice and prescribing**

In the situations where pharmacists engage in prescribing practices, therapeutic decision-making is of paramount importance. Eight steps have been identified as being involved in pharmacists' current therapeutic decision-making[34]:

1. Use documented information about a patient;
2. Use communication skills to elicit information from a patient;

3. Recognise past experiences with patients and apply these to the current patient;
4. Refer to guidelines or protocols while being aware of their limitations;
5. Generate a list of viable options suitable to meet goals;
6. Weigh up the benefits and risks of the options;
7. Learn to accept uncertainty;
8. Involve other healthcare professionals and the patient in the decision.

The study authors recommended that educators encourage deeper, more holistic reflection on the patient, in addition to reflection on their professional identity as clinicians and prescribers, to improve decision-making[34].

It has been suggested that clinical decision-making remains a critical, missing ingredient that would enable pharmacists to expand their scope beyond merely the dispensing of medications[35]. An alternative model of clinical judgment would be centered around the patient rather than the prescription[35]. Pharmacists can be overly risk averse and lack confidence dealing with ambiguous situations[35]. Basic and continued education and revalidation models should encourage the type of deep thought and reflection that prepare pharmacists to deal with ambiguity and assume further responsibility.

## Conclusions

Reflective practice is a learned skill that can be developed through guided instruction and programmes already available within and outside of pharmacy. While revalidation now includes an element of reflection, pharmacists can take it upon themselves to identify their strengths, further connect with the profession and their identity, and determine their own preferred learning styles to leverage their new reflective practices.

## REFERENCES

1. Nguyen QD, Fernandez N, Karsenti T, et al. What is reflection? A conceptual analysis of major definitions and a proposal of a five-component model. *Med Educ*. 2014;48:1176-1189. doi:10.1111/medu.12583
2. Collins S. A tale of two countries: The path to pharmacist prescribing in the United Kingdom and Canada. *Pharmacy Today*, 2014; 20:6-8. [https://doi.org/10.1016/S1042-0991\(15\)30943-9](https://doi.org/10.1016/S1042-0991(15)30943-9)
3. Walpola R, Lucas C. Reflective practice: the essential competency for health systems and healthcare practitioners during the COVID-19 pandemic. *Reflective Practice*. 2020;22:143–6. <https://doi.org/10.1080/14623943.2020.1860925>



4. Schon D. The Reflective Practitioner: How Professionals Think in Action. Basic Books, 1983.
5. Thompson N, Pascal J. Developing critically reflective practice. *Reflective Pract.* 2012;13:311–25.  
doi:10.1080/14623943.2012.657795
6. Gustafsson C, Fagerberg I. Reflection, the way to professional development? *J Clin Nurs.* 2004;13:271–80.  
DOI: 10.1046/j.1365-2702.2003.00880.x
7. Mamede S, Schmidt HG, Penaforte JC. Effects of reflective practice on the accuracy of medical diagnoses. *Med Educ.* 2008;42:468–75. doi:10.1111/j.1365-2923.2008.03030.x
8. Kim YH, Min J, Kim SH, et al. Effects of a work-based critical reflection program for novice nurses. *BMC Med Educ.* 2018;18(1):30. doi:10.1186/s12909-018-1135-0
9. Lutz G, Roling G, Berger B, et al. Reflective practice and its role in facilitating creative responses to dilemmas within clinical communication – a qualitative analysis. *BMC Med Educ.* 2016;16:301.  
doi:10.1186/s12909-016-0823-x
10. Sedgwick MG, Grigg L, Dersch S. Deepening the quality of clinical reasoning and decision-making in rural hospital nursing practice. *Rural Remote Health.* 2014;14:2858.  
<https://doi.org/10.22605/RRH2858>
11. Koshy K, Limb C, Gundogan B, et al. Reflective practice in health care and how to reflect effectively. *Int J Surg Oncol.* 2017;2:e20. doi:10.1097/IJ9.0000000000000020
12. Shelesky G, D’Amico F, Marfatia R, et al. Does weekly direct observation and formal feedback improve intern patient care skills development? A randomized controlled trial. *Fam Med.* 2012;44:486–92.  
<https://fammedarchives.blob.core.windows.net/imagesandpdfs/pdfs/FamilyMedicineVol44Issue7Shelesky486.pdf>
13. Eva KW, Regehr G. Self-Assessment in the Health Professions: A Reformulation and Research Agenda. *Acad Med.* 2005;80(S):S46–S54. doi:10.1097/00001888-200510001-00015

14. Mantzourani E, Desselle S, Le J, et al. The role of reflective practice in healthcare professions: Next steps for pharmacy education and practice. *Res Social Adm Pharm*. 2019;15:1476-1479. doi: 10.1016/j.sapharm.2019.03.011
15. Tsingos C, Bosnic-Anticevich S, Smith L. Reflective practice and its implications for pharmacy education. *American Journal of Pharmaceutical Education*. 2014;78:18. doi: 10.5688/ajpe78118
16. Le J, Mantzourani E, Desselle SP, et al. Enhancing future pharmacy practice through integration of reflective practice strategies to embed self-development in a medication safety culture. *Res Social Adm Pharm*. 2019;15:E18–E18.
17. Mann K, Gordon J, Macleod A. Reflection and reflective practice in health professions education: a systematic review. *Adv in Health Sci Educ*. 2009;14:595-62. doi:10.1007/s10459-007-9090-2
18. Lucas C, Power T, Kennedy DS, Forrest G, Hemsley B, Freeman-Sanderson A, Courtney-Harris M, Ferguson C, Hayes C. Conceptualisation and development of the RIPE-N model (reflective interprofessional education-network model) to enhance interprofessional collaboration across multiple health professions. *Reflective Practice* 2020;21:712-730.  
<https://doi.org/10.1080/14623943.2020.1784866>
19. Gibbs G. *Learning by Doing: A Guide to Teaching and Learning Methods*. Oxford Polytechnic; 1998.
20. Atkins S, Murphy K. Reflective practice. *Nurs stand*. 1994; 8(39): 49-56. doi: 10.7748/ns.8.39.48.s64
21. Kolb DA. *Experiential Learning: Experience as the Source of Learning and Development*. Prentice-Hall; 1984.
22. Johns C. Framing learning through reflection within Carper's fundamental ways of knowing in nursing. *J Adv Nurs*. 1995;22(2):226-234. doi:10.1046/j.1365-2648.1995.22020226.x
23. Mezirow J. *Fostering Critical Reflection in Adulthood: How Critical Reflection Triggers Learning*. Jossey-Bass; 1990.

24. Mamede S, van Gog T, Moura AS, et al. Reflection as a strategy to foster medical students' acquisition of diagnostic competence. *Med Educ*. 2012;46:464-472. doi:10.1111/j.1365-2923.2012.04217.x
25. Gull SE, O'Flynn R, Hunter JYL. Creative writing workshops for medical education: learning from a pilot study with hospital staff. *Med Humanit*. 2002;28:102-104. doi:10.1136/MH.28.2.102
26. Baernstein A, Fryer-Edwards K. Promoting reflection on professionalism: a comparison trial of educational interventions for medical students. *Acad Med*. 2003;78(7):742-747. doi:10.1097/00001888-200307000-00018
27. Boenink AD, Oderwald AK, de Jonge P, et al. Assessing student reflection in medical practice. The development of an observer-rated instrument: reliability, validity and initial experiences. *Med Educ*. 2004;38:368-77. doi:10.1046/j.1365-2923.2004.01787.x
28. General Pharmaceutical Council. General Pharmaceutical Council Revalidation Framework. General Pharmaceutical Council, 2018.  
[https://www.pharmacyregulation.org/sites/default/files/document/gphc\\_revalidation\\_framework\\_january\\_2018.pdf](https://www.pharmacyregulation.org/sites/default/files/document/gphc_revalidation_framework_january_2018.pdf)
29. Tsingos C, Bosnic-Anticevich S, Smith L. Does a learning style preference for processing information through reflection impact on the academic performance of a cohort of undergraduate pharmacy students? *Pharm Educ*. 2015;15(1):233-240.
30. Tsingos-Lucas C, Bosnic-Anticevich S, Schneider CR, Smith L. Using Reflective Writing as a Predictor of Academic Success in Different Assessment Formats. *Am J Pharm Educ*. 2017;81(1):8. doi:10.5688/ajpe8118
31. Deslandes R, Lucas C, Hughes ML, Mantzourani E. Development of a template to facilitate reflection among student pharmacists. *Res Soc Adm Pharm*. 2018;14(11):1058-1063. doi:10.1016/j.sapharm.2017.11.010
32. Desselle SP. The use of Twitter to facilitate engagement and reflection in a constructionist learning environment. *Curr Pharm Teach Learn*. 2017;9(2):185-194. doi:10.1016/j.cptl.2016.11.016

33. Benetoli A, Chen TF, Aslani P. The use of social media in pharmacy practice and education. *Res Soc Adm Pharm*. 2015;11(1):1-46. doi:10.1016/j.sapharm.2014.04.002
34. Anakin MG, Duffull SB, Wright DFG. Therapeutic decision-making in primary care pharmacy practice. *Res Social Adm Pharm*. 2021;17(2):326-331. doi: 10.1016/j.sapharm.2020.04.005
35. Wright DFG, Anakin MG, Duffull SB. Clinical decision-making: An essential skill for 21st century pharmacy practice. *Res Social Adm Pharm*. 2019;15(5):600-606. doi: 10.1016/j.sapharm.2018.08.001