PAEDIATRICIANS' ENGAGEMENT WITH REFLECTIVE PRACTICE: A SCOPING REVIEW

Sarah Joyce*
Edinburgh Medical School – Medical Education, The University of Edinburgh, GU315 Chancellor's Building, Edinburgh Bioquarter, 49 Little France Crescent, Edinburgh, EH16 4SB, United Kingdom; Oxleas NHS Foundation Trust, Pinewood House, Pinewood Place, Dartford, Kent, DA2 7WG, United Kingdom

Brian Carlin
Edinburgh Medical School – Medical Education, The University of Edinburgh, GU315 Chancellor's Building, Edinburgh Bioquarter, 49 Little France Crescent, Edinburgh, EH16 4SB, United Kingdom

ABSTRACT

Introduction: This scoping review identified literature describing reflective practice amongst paediatricians and then aligned the reflective concepts with Wellington and Austin's Orientations to Reflection: Immediate, Technical, Deliberative, Dialectical and Transpersonal. These distinctions present concepts for paediatricians to contemplate in their reflective practice.

Methods: OVID MEDLINE and APA PsycInfo databases were searched for English language articles in peer-reviewed journals using the terms "paediatric*" AND "pediatric*" AND "doctor*" and "physician*" AND "reflect*". A data capture form was created and populated.

Results: Twenty-one articles describing reflective practice amongst paediatricians were identified. Most articles (43%; *n* = 9) described the immediate orientation to reflection. One article, a personal perspective from a late-career stage paediatrician, aligned with a transpersonal orientation to reflection.

Conclusions: Reflective practice of the immediate orientation is accepted by paediatricians during education initiatives. It often takes place accidentally but can be developed through awareness of reflection, role-modelling, goal-setting, and feedback. Enhancing factors include a friendly, flexible learning environment, faculty support, protected time, and sharing significant experiences. Positive effects of promoting reflection include enhancing clinical practice, increasing resilience, and entrustment. Barriers include emphasis on

---

*Corresponding author: e-mail: sjoyce@doctors.org.uk

efficiency, lack of continuity or awareness, negative emotions, and burnout. Reflective practice should be encouraged. One should not assume "it just happens".

Keywords: reflection, reflective practice, scoping review, paediatrician

INTRODUCTION

Reflection is "those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to a new understanding and appreciation" (Boud et al., 1985, p. 19). Reflective practice arose from Schön's focus on the disconnect between theory and practice as a way of bringing the two closer together, striving for excellence in practice (Schön, 1983). The reflective practitioner aims to find a deeper understanding by scrutinising what they know and then adding new knowledge (Moon, 2004). Reflective practice is essential for development of the medical practitioner, and by engaging in this, the individual is established as a lifelong learner (de la Croix and Veen, 2018). It is a highly regarded skill (Mann et al., 2009). Practitioners increase self-awareness and empathy (Zhou et al., 2021). The growing tendency to question professional infallibility has fuelled a professional crisis, also coinciding with increasing requirements to objectively measure practice, sparking increased reflective practice to examine feelings and actions (Fook, 2015).

The importance of reflective practice is recognised by the General Medical Council (GMC); doctors are required to show evidence of reflection in their appraisals (General Medical Council, 2018). The Royal College of Paediatrics and Child Health (RCPCH) emphasises the importance of reflective practice for paediatricians in their curriculum (The Royal College of Paediatrics and Child Health, 2017). Demands on medical practitioners during the COVID-19 pandemic were recognised, and appraisals were deferred and then reintroduced with the importance of reflection emphasised (General Medical Council, 2020; The Royal College of Paediatrics and Child Health, 2020). Under pressure, the neophyte reflective practitioner may struggle to achieve Schön's "reflection-on-action", whereas the skilled reflective practitioner will have the tools of "reflection-in-action" at their disposal (Schön, 1983).

There are different models for reflection. Kolb's experiential learning cycle has four stages, one of which is reflection (Kolb, 1993). Van Manen wrote about three hierarchical levels of reflection (Van Manen, 1977). Wellington and Austin built upon Van Manen's work, describing a "liberating" Transpersonal Orientation at the peak of the hierarchy (Wellington and Austin, 1996). From the lowest to highest, their reflective practice orientations are:

- Immediate orientation: The practitioner drifts along in a state of "pleasant survival" accepting the status quo (Wellington and Austin, 1996). They work within the limits of organised structures with focus on the immediate job. They grasp at any reflective methodology that might help them get by, without deeper consideration. Feelings and thoughts that surface are noted. This orientation is not particularly reflective.
- Technical orientation: The reflective practitioner puts more emphasis on perfecting methodology to better achieve the institution's aims. They ask what is efficient and seek to improve small problematic areas. They are comfortable working within the organisation's structure (Wellington and Austin, 1996).
- Deliberative orientation: Practitioners examine what events mean to them personally, on a voyage of discovery. They consider their role and relevance within an organisation. "How can I make learning meaningful and relevant?" and "How can deeper communication... enhance meaningful learning?" (Wellington and Austin, 1996).
- Dialectic orientation: The reflective practitioner starts to analyse ideas critically, with awareness of organisational constraints. They experience discomfort working in this construct and direct their gaze outwards, at political liberation (Wellington and Austin, 1996). They revise their thoughts with awareness of and responsiveness to the current context and their own responsibility. Their learning is dialectic and may be confrontational. Theoretical aspects are moral and ethical. It aligns with the critical social theory tradition, where reflection drives social change (Fook, 2015).
- Transpersonal orientation: This advocates "universal personal liberation" (Wellington and Austin, 1996). Reflective practitioners may accept an organisation's structure, but they resist impositions and challenge the status quo. They turn their focus inwards, and outwards, and look at the relationship between the two environments, striving to enhance their own development and their environment. Accounts of their reflective process are personal. Literature advocating this approach has roots in psychology and spiritual writings. Practitioners ask, "What is my personal responsibility to myself and others?" and "How can I integrate my personal/spiritual growth with my vocation?" (Wellington and Austin, 1996).

Key characteristics of Wellington and Austin's Orientations to Reflection are illustrated in Table 1.

Table 1. Key characteristics of Wellington and Austin's Orientations to Reflection, adapted from Wellington and Austin, 1996

Wellington and Austin's Orientations to Reflection	
Orientation	**Characteristics**
Immediate	• "Pleasant survival... Ease the practitioner through another day" • "Work within authorised structures... Readily accept the status quo" • Focus on immediate group demands/task at hand • "Pedagogy is often eclectic, but shallow" • "Use any methodology that seems promising" • "Record activities, thoughts and feelings" • "Essentially non-reflective"
Technical	• "Development and perfection of instructional methodologies" • "Faithful execution of preconceived methodology" • "Work comfortably within authorised organisational structures" • "Accept institutionally determined educational content and ends" • "Correctness within a small area of the problematic" • "What are the most efficient and effective teaching techniques I can use to transmit information to my students?" • "Quantitative methodologies predominate"
Deliberative	• "Discovery, assignment and assessment of personal meaning" • "Organisational structures... may feel uncomfortable at times" • "Individuals discover personal relevance within institutional structure" • "Pedagogy is typically humanistic and stresses effective communication" • "Consider fundamental notions of meaning" • "How can I make learning meaningful and relevant?" • Observational research – qualitative
Dialectic	• "Advocates political liberation... Often issue a call to action" • "Reject the limits of authorised organisational structures... uncomfortable working within them" • "Tend to be outer-directed and focus on political and social issues" • "Pedagogy involves continual questioning, revision, internal validation" • "Stresses empowerment and personal responsibility" • "Contextually sensitive and responsive" • Learning: "a dialectic of mutual enquiry and may be confrontational" • How do institutions "replicate the status quo? How can we redesign?"
Transpersonal	• "Universal personal liberation" • "Resist the imposed constraints of authorised organisational structures... however, accept working within them" • "Focus on self-development" and relationship from internal to external • Pedagogy: "individualised and holistic" • "How can I integrate my personal/spiritual growth with my vocation?" • "Knowledge is subjective" • "Validity of research findings relies on resonance with experience" • "Theoretical and research literature underpinned by psychology and spiritual teachings"

RESEARCH QUESTION

The following research question was constructed: 'In the literature, what is written about Paediatricians' engagement with reflective practice?' An adaptation of the PCC approach (Population, Concept, and Context) was used (Peters et al., 2017). The Population was paediatricians, and the Concept was reflective practice. The Context was the population and concept in relation to clinical practice. A scoping review was conducted to map existing literature and identify gaps in knowledge. Finer points of query were constructed around questions from a systematic view of reflective practice (Mann et al., 2009).

- What is the nature of paediatricians' reflective practice?
- What is written about development of reflective practice amongst paediatricians?
- Which contextual influences hinder or enable the development of reflective practice?
- What are potentially positive or negative effects of promoting reflection?

METHODS

Articles selected for inclusion in this study needed to mention reflection or reflective practice amongst paediatricians. OVID MEDLINE and APA PsycInfo databases were searched for English language articles in peer-reviewed journals using the terms "paediatric*" AND "pediatric*" AND "doctor*" and "physician*" AND "reflect*". The literature search was conducted on 26 December, 2020.

Articles were English language, published in peer-reviewed journals, with no limits on year of publication, type of journal article, or career stage of paediatrician (medical school graduates only). Articles were included if they mentioned paediatricians plus other healthcare professionals or doctors from other specialties. Data extracted from selected articles were captured in an Excel spreadsheet (based on 'Data Extraction' in the Joanna Briggs Institute's Manual for Evidence Synthesis) according to the study's questions (Joanna Briggs Institute, 2020a, 2020b). The PRISMA-ScR protocol (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guided this scoping review (Tricco et al., 2018).

RESULTS

A total of 781 articles were identified by literature search *(*765 in OVID MEDLINE and 16 in APA PsycInfo*).* Duplicates were removed, leaving 765 articles. Phase I screened the 765 articles by abstract, identifying 37 full text articles for further consideration. Phase II excluded 16 of the 37 articles (did

not address reflective practice or include paediatricians). Data were extracted from the remaining 21 full text papers (Table 2). Sixteen were original research articles, and five were essays (three personal perspectives, two descriptions of a new programme). Articles were published between 1982 and 2020, with one article in 1982 and 1989 and a steady rate of articles from 2000 onwards. First authors were from institutions in USA (17/21) or Canada (4/21).

DISCUSSION

Twenty-one articles considered reflective practice amongst paediatricians. Seventeen were from USA and four from Canada, therefore, all contributing a Western perspective. Articles were published between 1982 and 2000 with increasing frequency. Nine articles looked at paediatricians alone. Twelve looked at paediatricians amongst other doctors or hospital professionals. Seven articles mentioned a theory relating to reflective practice. Kolb's experiential learning cycle was the only theory mentioned twice. Ten articles considered factors enabling reflection, and six considered factors hindering reflection. Five articles considered whether reflective thinking can be developed.

Table 2. Results of the scoping review

Reflective participants	
Paediatricians	9/21
Paediatricians plus doctors/physicians from other specialties	10/21
Paediatricians plus other multi-disciplinary team members	2/21
Setting for reflective practice	
Structured teaching event	8/21
Clinical practice/planned training rotations	8/21
Mix of semi-structured and structured Interviews	5/21
Reflective theories/Theories with reflection mentioned	
Kolb: experiential learning cycle; Schön: reflection-in/on-action; Epstein and Hundert; Hatano and Inagaki: Adaptive Expertise; Deliberative Practice; Kennedy: Foundational Dimensions of Trustworthiness; Bandura (social learning and self-efficacy theory)	
No theory mentioned	14/21
Reflection mentioned in the Results section	
Survey participants rated repetitive simulation debriefing as higher quality than standard paediatric simulation; self-reported increase in skills and knowledge	(Auerbach et al., 2011)
Participants reported increased skills and preparedness after workshop	(Aiyer et al., 2008)
Collaborative reflective training gives doctors permission to spend time reflecting and alleviates anxiety	(Kim et al., 2016)
No mention/no results section	18/21

Table 2. *(Continued)*

Reflection mentioned in the Conclusions	
Feedback given after simulation debriefings, so participants could think about performance	(Auerbach et al., 2011)
Advocate discovery through experiential learning	(Browning et al., 2007)
Paediatricians appreciated importance of their experience in Paediatric Intensive Care when they reflected	(Ibsen et al., 2009).
Shifts in understanding can support development of adaptive expertise	(Kawamura et al., 2020)
Need to go outside of their comfort zone; reflection strengthens interpersonal skills	(Kim et al., 2016)
Training programme should earmark time for reflection	(Lockspeiser et al., 2016)
Clinical skills refined through two deliberative activities: reflective clinical practice and scholarship, used by excellent doctors to perform at a high level	(Mahant et al., 2012)
Trainees have more success with autonomous practice when they understand behaviours promoting entrustment from seniors	(Pingree et al., 2020)
Mentions multiple facets of reflective practice	(Sarnaik, 2009)
No mention of reflection	9/21
Factors that enable reflection	
Simulation training as a "concrete experience" enables reflection, leading to behavioural change	(Auerbach et al., 2011)
Useful to mix training levels amongst workshop participants; beginners may "offer compelling insights"	(Browning et al., 2007)
Written/oral accounts, de/briefings, pre-/post-course discussion, teaching on strategies for reflection; friendly teaching environment	(Hewson, 2000)
Questionnaire required paediatric residents to think about experiences	(Ibsen et al., 2009)
Flexible learning environment	(Kawamura et al., 2020)
Support for reflective practice from mentors gives more opportunity to self-identify weaknesses and strengths	(Lockspeiser et al., 2016)
Discussing stress and burnout allows encourages others to share personal stories	(Mull et al., 2019)
Clinical practice itself; share insights from more advanced career stages, particularly significant incidents	(Sarnaik, 2009)
Structured interviews	(Sherman et al., 2020)
Role-modelling more effective with awareness of it	(Sternszus et al., 2016)
Factors that hinder reflection	
Anxiety about vulnerability; resistance	(Hewson, 2000)

(Continued)

Table 2. *(Continued)*

Medicine shifting towards efficiency at the expense of educational opportunities	(Kawamura et al., 2020)
Need ongoing support to continue reflective practice	(Lockspeiser et al., 2016)
Burnout, emotional distress, negative emotions	(Mull et al., 2019)
Lack of continuity; too many fleeting encounters	(Stein, 2004)
Residents unaware of engaging in reflective practice	(Sternszus et al., 2016)
Can reflective thinking be developed?	
Debriefing allows a learner to reflect on their performance	(Auerbach et al., 2011)
Strategy for increasing the likelihood achieving goals	(Lockspeiser et al., 2016)
Clinicians reflect on their errors and results of their decisions	(Mahant et al., 2012)
Scope for more effective role models with time devoted to reflecting on role-modelling	(Sternszus et al., 2016)
Advocate development of "capacity for reflective self-awareness" in daily practice	(Browning et al., 2007)
Wellington and Austin's Orientation To Reflective Practice	
Immediate Orientation [surveys/questionnaires (7), interview (2)]	9/21
Technical Orientation [interview (2), survey (1), essay (1)]	4/21
Deliberative Orientation [interview (2), debriefing (1), conversation (1), debrief and conversation (1), survey (1), essay (1)]	7/21
Dialectic Orientation	0
Transpersonal Orientation [essay (1)]	1/21

Wellington and Austin's Orientations To Reflection was used to categorise the quality of reflection described (Wellington and Austin, 1996). Nine articles described reflection of the immediate orientation. This is "essentially non-reflective"; it describes "pleasant survival". In one example, a resident was interviewed to ascertain their thoughts on role modelling; their response was, "It just happens" (Sternszus et al., 2016).

Four papers described reflection of the technical orientation (aligning with needs and aims of an institution, and reflective practitioners are comfortable with this). In a report on knowledge and attitudes of residents after a workshop, residents described improvement in collaborative decision making (Sherman et al., 2005). They reflected on their experiences, indicating they reflect when required as "institutionally determined educational content and ends" (Wellington and Austin, 1996).

Seven papers described a deliberative orientation. These reflective practitioners discover their value and relevance within the institution but do

not always feel comfortable with these limits. A paediatrician examined how life-changing stressors affected their well-being (Mull et al., 2019). After mindfulness and stress-reduction courses, they realised the importance of raising awareness of burnout and maintaining well-being by discussing these topics openly to strengthen resilience and help prevent burnout. Mull et al. caution that negative emotions, emotional distress, and burnout can make practitioners reluctant to share experiences. They are "self-shamed into silence and unneeded suffering" (Mull et al., 2019). Another paper (which asked excellent clinicians how they maintain high performance) cited deliberative activities such as learning from mistakes, reflecting on feedback from peers, and further study, searching within themselves to make this relevant and meaningful (Mahant et al., 2012).

No articles described the dialectic orientation of reflection. These reflective practitioners are so uncomfortable working within institutional limits that they reject them (Wellington and Austin, 1996).

A personal perspective from a late career stage paediatrician described reflective practice of the transpersonal orientation (Sarnaik, 2009). These practitioners are not comfortable with the limits they are handed; they question these parameters, revising their position and their responsibility to others. They consider personal and spiritual growth and integrate this with their vocation, towards "universal personal liberation" (Wellington and Austin, 1996). Sarnaik described seven valuable lessons he learned during his career as a paediatric intensivist to help more junior paediatric intensivists. Sarnaik notes significant incidents have the power to provoke reflection, and the desire to share insights gained also helps to develop reflective practice. Sarnaik's first lesson considers how personal spirituality was integrated into his reflective and clinical practice; he writes, "To serve helpless children is to serve God" (Sarnaik, 2009). He sees his career as a vocation, quoting the poet Rabindranath Tagore: "I served and understood that all service was joy". He urges juniors to keep questioning, noting: "to teach is to touch a life forever".

Four articles describe how reflective practice can be developed, and 10 articles explored factors facilitating reflection. Clinicians maintained high standards by reflecting on peer feedback and their decisions (Mahant et al., 2012). When doctors reflected on their position as role models, this led to more intentional role modelling (Sternszus et al., 2016). Sternszus et al. noted Bandura wrote about this being more effective when done purposefully (Bandura, 1986). One resident fed back, "The more we have a chance to reflect on the fact we are role-modelling, whether we're thinking about it or not, maybe the more we will [role-model]": a potential step towards a higher orientation of reflective practice. Lockspeiser et al. noted how setting learning goals and reflecting on these helped residents improve their experiences in subsequent rotations, but residents needed ongoing faculty support to continue reflecting and they appreciated mentors who helped them. Residents felt they increased the likelihood of satisfaction with their progress by creating and

reviewing their own goals (Lockspeiser et al., 2016). Auerbach et al. explain feedback was given during post-simulation training debriefings, so residents could think about their approach, again indicating the importance of faculty support. The authors note reflection forms part of Schön's reflection-in-action and Kolb's model of adult learning (Auerbach et al., 2011). Paediatric trainees can reflect to understand behaviours that make their seniors more likely to trust them with more advanced activities (Pingree et al., 2020). There is often a lack of continuity in clinical training, and encounters between practitioners are often brief and infrequent (Stein, 2004). A post-rotation questionnaire found that paediatricians valued their experiences once they had time to reflect on them (Ibsen et al., 2009).

To develop expertise in communication, Kawamura et al. advocated a "largely autonomous and flexible learning environment" and "time and space to experiment with novel approaches independently" as a cultural shift towards efficiency within medicine means educational opportunities are often reduced (Kawamura et al., 2020). Hewson described how pre- and post-teaching debriefings, discussions, and writing tasks were useful for getting participants to think about their experiences on a course and stressed the importance of creating an informal, friendly teaching environment, encouraged by participants using first names, so the group could share a "reflective conversation," noting physicians themselves may limit reflective practice opportunities due to feelings of vulnerability and anxiety (Hewson, 2000).

Courses teaching reflective strategies and simulation training scenarios feed into Kolb's experiential learning cycle, where one of the four stages is reflection (Kolb, 1993; Hewson, 2000; Auerbach et al., 2011). The course or simulation is a "concrete experience" for "reflective observation". Practitioners may discuss their ideas with colleagues during "abstract conceptualisation" and modify their behaviour using these ideas in "active experimentation". The cycle begins again. The "concrete experiences" help novice reflective practitioners shift from Schön's "reflection-on-action" to more skilled "reflection-in-action" (Schön, 1983; Auerbach, Kessler and Foltin, 2011).

The insights an individual gains from reflective practice can help others improve; "compelling insights" from beginners were useful for all participants (Browning et al., 2007). Browning et al. wrote about Epstein and Hundert's work on assessment of professional competence (Epstein and Hundert, 2002). Epstein and Hundert described "habits of mind": daily acts of reflection allow practitioners to look at and improve their clinical reasoning. They note attentiveness, critical curiosity, observation of own emotions and techniques, recognition of and response to bias, and willingness to acknowledge and correct errors are hallmarks of professional competence (Epstein and Hundert, 2002). They conclude it is important to "foster habits of learning and self-reflection and drive institutional change". Drawing on Epstein and Hundert, Browning et al. aspire towards a dialectic orientation to reflection. Paediatric

residents improved their adaptive expertise (an individual's ability to perform when faced with a novel challenge) by reflecting on their consultations with patients and their families (Kawamura et al., 2020).

Two meta-analyses and a review suggest debriefing after unsuccessful resuscitation could cause post-traumatic stress disorder (Mull et al., 2019). A Cochrane Review recommends "compulsory debriefing of victims of trauma should cease" (Rose et al., 2002). Mull et al. advocate the choice to opt out and for facilitators to be trained to lead these sessions.

All articles in this scoping review are from Western cultures. Limited material discussing perception of reflective practice of other regions is noted (Zhou et al., 2021). Important insights could have been missed as the literature search only included English language papers; however, non-Western concepts were drawn upon, for example, adaptive expertise: a term first used for the development of children in Japan (Hatano and Inagaki, 1986; Kawamura et al., 2020). The absence of UK articles in the search results could be because articles did not meet the inclusion criteria, they are in different databases, or articles have not been published. No grey literature was searched. There may be a publication bias with positive findings more likely to be published.

While this study specifically focused on paediatricians, articles were included if they mentioned paediatricians plus other healthcare professionals or doctors from other specialties. There is potential for variations in reflective practice amongst different specialties and other healthcare professionals. Future studies could explore experiences and perspectives of healthcare professionals beyond paediatricians, shedding light on the broader landscape of reflective practices in medicine, identifying strategies that can be universally applicable to enhance workplace reflection.

CONCLUSIONS

The aim of this scoping review was to identify literature describing reflective practice amongst paediatricians. A search of OVID MEDLINE and APA PsycInfo databases identified 21 articles published between 1982 and 2020. Wellington and Austin's Orientations to Reflective Practice was used to consider the quality of the reflective practice (Wellington and Austin, 1996).

Most reflective practices carried out by paediatricians aligned with Wellington and Austin's immediate orientation, the shallowest form of reflection, accepted by paediatricians as part of institute or faculty education initiatives. Only one example of a transpersonal orientation to reflection was identified, late-career stage paediatrician, personal perspective, sharing his reflections with more junior colleagues (although the term "reflect" is not mentioned) (Sarnaik, 2009). Collectively, articles suggested improvement in reflective practice can be promoted via awareness of reflection, effective role modelling, goal-setting, and feedback. Reflection forms part of Schön's reflection-in-action and Kolb's model of adult learning. Faculty support was an

enhancing factor for development of reflective practice, with protected time for reflection and a friendly, flexible learning environment. Sharing significant experiences provoked reflection. Barriers to reflective practice included lack of continuity, lack of awareness, negative emotions, burnout, and emphasis on efficiency. Positive effects of promoting reflection were enhancing clinical practice to achieve excellence, increasing resilience, and enabling entrustment. Unrefined reflective practice has the potential to be harmful to practitioners (Rose et al., 2002). Incidences of post-traumatic stress disorder increased following debriefing sessions after unsuccessful resuscitations (Mull et al., 2019).

Reflection needs to be practised for it to be beneficial. Reflection was not the main focus of the selected articles, often included as an afterthought or a means to gather proof of intervention effectiveness. As with other important facets of life as a paediatrician, it is not sufficient to assume that "it just happens" (Sternszus et al., 2016).

NOTES ON CONTRIBUTORS

Sarah Joyce is a Paediatrician. Brian Carlin is an Academic Lecturer in Medical Education at the School of Medicine at The University of Edinburgh.

DECLARATIONS

This work formed the basis of the dissertation submitted for the Clinical Education MSc course at The University of Edinburgh.

REFERENCES

Aiyer, M. Woods, G., Lombard, G., Meyer, L., and Vanka, A. (2008). Change in residents' perceptions of teaching: Following a one day "Residents as Teachers" (RasT) workshop. *Southern Medical Journal 101*(5), 495–502. doi: 10.1097/SMJ.0b013e31816c00e4

Auerbach, M., Kessler, D., and Foltin, J. C. (2011). Repetitive pediatric simulation resuscitation training, *Pediatric Emergency Care 27*(1), 29–31. doi: 10.1097/PEC.0b013e3182043f3b

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.

Boud, D., Keogh, R., and Walker, D. (1985). *Reflection: Turning experience into learning*. London: Kogan Page.

Browning, D. M., Meyer E. C., Truog, R. D., and Solomon, M. Z. (2007). Difficult conversations in health care: Cultivating relational learning to address the hidden curriculum. *Academic Medicine 82*(9), 905–913. doi: 10.1097/ACM.0b013e31812f77b9

Epstein, R. M., and Hundert, E. M. (2002). Professional competence. *JAMA the Journal of the American Medical Association 287*(2), 226–235. doi: 10.1001/jama.287.2.226

Fook, J. (2015). "Reflective practice and critical reflection," in *Handbook for practice learning in social work and social care: Knowledge and theory*, 3rd Edn. ed. J. Lishman (London: Jessica Kingsley Publishers, 440–454. doi: 10.1080/17525098.2018.1550845

General Medical Council (2018). *Outcomes for graduates*. London. Available online at: https://www.gmc-uk.org/-/media/documents/dc11326-outcomes-for-graduates-2018_pdf-75040796.pdf#page=16 (accessed December 29, 2020)

General Medical Council (2020). *Coronavirus (COVID-19) update on revalidation for doctors*. Available online at: https://web.archive.org/web/20220126194216/https://www.gmc-uk.org/registration-and-licensing/managing-your-registration/revalidation/changes-made-to-revalidation-in-response-to-the-coronavirus-covid-19-pandemic (accessed December 29, 2020).

Hatano, G., and Inagaki, K. (1986). "Two courses of expertise," in *A series of books in psychology. Child development and education in Japan*, eds H. W. Stevenson, H. Azuma, and K. Hakuta (W H Freeman/Times Books/ Henry Holt & Co), 262–272.

Hewson, M. G. (2000). A theory-based faculty development program for clinician-educators. *Academic Medicine 75*(5), 498–501. doi: 10.1097/00001888-200005000-00024

Ibsen, L., Moss, L., and Pate, M. F. D. (2009). Learning to be a physician by collaborating with experienced pediatric intensive care unit nurses. *AACN Advanced Critical Care 20*(3), 220–225. doi: 10.1097/NCI.0b013e3181aa8f8a

Joanna Briggs Institute (2020a). *11.2.7 data extraction*, *JBI manual for evidence synthesis*. Available online at: https://jbi-global-wiki.refined.site/space/MANUAL/4687700 (accessed May 31, 2021).

Joanna Briggs Institute (2020b). *Appendix 11.1 JBI template source of evidence details, characteristics and results extraction instrument*, *JBI manual for evidence synthesis*. Available online at: https://jbi-global-wiki.refined.site/space/MANUAL/4687579/Appendix+11.1+JBI+template+source+of+evidence+details(accessed May 31, 2021).

Kawamura, A., Harris, I., Thomas, K., Mema, B., and Mylopoulos, M. (2020). Exploring how pediatric residents develop adaptive expertise in communication: The importance of "shifts" in understanding patient and family perspectives. *Academic Medicine 95*(7), 1066–1072. doi: 10.1097/ACM.0000000000002963

Kim, L., Hernandez, B. C., Lavery, A., and Denmark, T. K. (2016). Stimulating reflective practice using collaborative reflective training in breaking bad news simulations. *Families, Systems, & Health 34*(2), 83–91.

Kolb, D. (1993). *Culture and processes: The process of experiential learning*, ed. H. A. Thorpe, and M. Edwards. London: Routledge.

de la Croix, A., and Veen, M. (2018). The reflective zombie: Problematizing the conceptual framework of reflection in medical education. *Perspectives on Medical Education 7*(6), 394–400. doi: 10.1007/s40037-018-0479-9

Lockspeiser, T. M., Li, S. T., Burke, A. E., Rosenberg, A. A., Dunbar, A. E., III, Gifford, K. A., et al. (2016). In pursuit of meaningful use of learning goals in residency: A qualitative study of pediatric residents. *Academic Medicine 91*(6), 839–846. doi: 10.1097/ACM.0000000000001015

Mahant, S., Jovcevska, V., and Wadhwa, A. (2012). The nature of excellent clinicians at an academic health science center: A qualitative study. *Academic Medicine 87*(12), 1715–1721. doi: 10.1097/ACM.0b013e3182716790

Van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry 6*(3), 205–228. doi: 10.1080/03626784.1977.11075533

Mann, K., Gordon, J., and MacLeod, A. (2009). Reflection and reflective practice in health professions education: A systematic review. *Advances in Health Sciences Education 14*(4), 595–621. doi: 10.1007/s10459-007-9090-2

Moon, J. A. (2004). *A handbook of reflective and experiential learning*. London: Routledge Falmer. doi: 10.4324/9780203416150

Mull, C. C., Thompson, A. D., Selbst, S. M., Miller, E. G., Rappaport, D. I., Gartner, J. C., Jr., et al. (2019). A call to restore your calling: Self-care of the emergency physician in the face of life-changing stress-part 1 of 6. *Pediatric Emergency Care 35*(4), 319–322. doi: 10.1097/PEC.0000000000001807

Peters, M., Godfrey, C., McInerney, P., Baldini Soares, C., Khalil, H., and Parker, D. (2017). "Scoping reviews," in *Joanna Briggs Institute reviewer's manual*, eds E. Aromataris and Z. Munn (Adelaide: The Joanna Briggs Institute). Available online at: https://jbi-global-wiki.refined.site/space/MANUAL/4687342/Chapter+11 (accessed September 19, 2023).

Pingree, E. W., Huth, K., Harper, B. D., Nakamura, M. M., Marcus, C. H., Cheston, C. C., et al. (2020). Encouraging entrustment: A qualitative study of resident behaviors that promote entrustment. *Academic Medicine 95*(11), 1718–1725. doi: 10.1097/ACM.0000000000003487

Rose, S. C., Bisson, J., Churchill, R., and Wessely, S. (2002). Psychological debriefing for preventing post traumatic stress disorder (PTSD). *Cochrane Database of Systematic Reviews*. (2):CD000560. doi: 10.1002/14651858.cd000560

Sarnaik, A. P. (2009). Lessons learned in the life of a pediatric intensivist. *Pediatric Critical Care Medicine 10*(2), 239–241. doi: 10.1097/PCC.0b013e3181956c44

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. London: Temple Smith.

Sherman, H. B., McGaghie, W. C., Unti, S. M., and Thomas, J. X. (2005). Teaching pediatrics residents how to obtain informed consent. *Academic Medicine 80*(10 Suppl), 10–13. doi: 10.1097/00001888-200510001-00006

Sherman, J. M., Chang, T. P., Ziv, N., and Nager, A. L. (2020). Barriers to effective teamwork relating to pediatric resuscitations: Perceptions of pediatric emergency medicine staff. *Pediatric Emergency Care 36*(3), E146–E150. doi: 10.1097/PEC.0000000000001275

Stein, M. T. (2004). The difficult parent: A reflective pediatrician's response. *Pediatrics* 114(Suppl. 6), 1492–1495. doi: 10.1542/peds.2004-1721s

Sternszus, R., MacDonald, M. E., and Steinert, Y. (2016). Resident role modeling: "it just happens". *Academic Medicine 91*(3), 427–432. doi: 10.1097/ACM.0000000000000996

The Royal College of Paediatrics and Child Health (2017). *RCPCH Progress curriculum and generic syllabi.* Available at: https://www.rcpch.ac.uk/education-careers/training/progress/curriculum (accessed March 15, 2020).

The Royal College of Paediatrics and Child Health (2020). *COVID-19 - RCPCH trainee progression in the UK through 2020.* Available online at: https://www.rcpch.ac.uk/resources/covid-19-rcpch-trainee-progression-uk-through-2020 (accessed December 29, 2020).

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., et al. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine 169*(7), 467–473. doi: 10.7326/M18-0850

Wellington, B., and Austin, P. (1996). Orientations to reflective practice. *Educational Research 38*(3), 307–316. doi: 10.1080/0013188960380304

Zhou, Y. C., Tan, S. R., Tan, C. G. H., Ng, M. S. P., Lim, K. H., Tan, L. H. E., et al. (2021). A systematic scoping review of approaches to teaching and assessing empathy in medicine. *BMC Medical Education 21*(1):292.