

“We’re all there to learn”: The experience of novice workplace-based assessors in anaesthesia training

L. Marshall¹ & D. Castanelli^{2, 3}

Abstract

Introduction: Workplace-based assessments (WBAs) are used in competency-based training programs to facilitate learning and inform decisions on trainees’ progression. Competency in assessing WBAs is generally assumed; how assessors develop these skills remains largely unknown. This study explored how novice assessors acquire WBA skills to generate insights to inform future faculty development.

Methods: We conducted seven semi-structured interviews with provisional fellows, who are final-year trainees of the Australian and New Zealand College of Anaesthetists. Provisional fellows assess junior trainees as part of their preparation for consultant practice. We used constructivist grounded theory methods to analyse their experience of learning to perform WBAs.

Results: Participants primarily learned WBA skills through experiential learning and self-reflection on their practice. They developed practical skills to accommodate WBA into clinical practice, including finding time to facilitate WBAs and selecting appropriate cases. Simultaneously, participants developed expertise in the critical aspects of the assessment, particularly learning to determine the standard required of trainees and improving their feedback skills. This learning engendered an increased appreciation of the purpose of WBA, helped participants develop their clinical expertise and prompted them to envision themselves in the consultant role. Participants felt underprepared for their assessor role and appreciated access to the “safety net” ongoing supervision provided.

Conclusion: This study provides valuable insights into what is learned in becoming a WBA assessor and how it is learned. These insights could inform future faculty development initiatives to help improve graduating consultants’ development in this important area of consultant practice.

Keywords: clinical competence; competency-based assessment; medical education; educational measurement; educational standards; anaesthesiology; qualitative research

¹ Department of Anaesthesia & Pain Management, Royal Children’s Hospital, Melbourne, Victoria, Australia

² School of Clinical Sciences at Monash Health, Monash University, Clayton, Victoria, Australia

³ Department of Anaesthesia and Perioperative Medicine, Monash Health, Clayton, Victoria, Australia

Correspondence

Dr. Laura Marshall
laura_marshall@hotmail.com

Introduction

Assessing trainees in competency-based medical education relies on multiple assessors using multiple tools in the workplace to both coach trainees to improve and provide evidence to inform decisions on their progression through training (Ross et al., 2021; van der Vleuten et al., 2012). Workplace-based assessment (WBA) tools such as the mini-Clinical Evaluation Exercise (mini-CEX), Anaesthesia Clinical Evaluation Exercise (A-CEX) and Direct Observation of Procedural Skills (DOPS) have been introduced to anaesthesia training programs for this purpose (ANZCA, 2020; College of Anaesthesiologists of Ireland, 2020; Royal College of Anaesthetists, 2012). Supervising anaesthetists are expected to know the relevant competencies and to have the motivation and skill to assess them. However, assessor competence is generally assumed rather than proven (Lockyer et al., 2017), and how assessors develop expertise remains largely unexamined.

What is expected of workplace-based assessors in competency-based medical education? The primary aim of WBAs is for trainees to use the information from expert judgement of their performance to generate learning goals and then work to improve their practice (Schuwirth & van der Vleuten, 2019). Assessors are required to critically observe trainees, provide them with information on their performance and the required standard and assist them in understanding and using that information to plan how they will improve (Harris et al., 2017). The judgements assessors make are also available for decision makers, such as program directors or competence committees adjudicating trainee progression through training (van der Vleuten et al., 2012). Since expert judges have different yet legitimate interpretations of performance (Gingerich et al., 2014), exposure to multiple assessors enhances both performance feedback and progression decision-making (Harris et al., 2017). Additionally, assessors have a role in readying trainees to manage their own learning as consultants by helping them learn to use the same process unassisted to reflect on their performance and improve their practice (Dannefer, 2013; Torre et al., 2019).

Implementing WBAs in anaesthesia has been both rewarding and challenging. Assessors value their impact on learning, reporting increased direct observation of trainees and increased frequency and quality of feedback provision (Castanelli et al., 2016; Weller et al., 2009). In particular, assessors report the mini-CEX facilitates learning, engages assessors in the teaching process and helps develop relationships between trainees and assessors (Castanelli et al., 2016; Weller et al., 2009). However, problems have also arisen. Assessor fatigue from frequent assessment, and confusion, misunderstanding and lack of engagement have been reported (Castanelli et al., 2016). Selecting appropriate cases and providing timely feedback within the constraints of clinical work has also been reported to be difficult (Bindal et al., 2013; Castanelli et al., 2016; Weller et al., 2009). These issues have been reported even where training in WBA has been provided (Bindal et al., 2013). Greater knowledge of how anaesthetists develop WBA expertise might help address these challenges.

In Australia and New Zealand, anaesthesia trainees spend the last 12 months of their training as provisional fellows. Provisional fellowship bridges trainee and consultant practice, enabling increased independence yet ready access to consultant supervision. As part of their transition to consultant practice, provisional fellows teach and assess more junior trainees (ANZCA, 2020). This affords them a distinct role in anaesthesia training where they can both assess and be assessed in WBAs. In this study, we aimed to explore how novices learn WBA skills by questioning provisional fellows about their initial experience. We postulated that greater understanding of this process would generate insights that could inform targeted faculty development to improve graduating consultants' readiness to assess WBAs and, ultimately, enhance trainee learning.

Methods

Context

Postgraduate anaesthesia training in Australia and New Zealand is overseen by the Australian and New Zealand College of Anaesthetists (ANZCA). Trainees enter specialist anaesthesia training after 2 or more years of general residency experience. The minimum total time for completion is 5 years, and the minimum duration of provisional fellowship training is 52 weeks. ANZCA uses four different WBAs: mini-CEx, DOPS, case-based discussion (CBD) and multisource feedback (MSF) (ANZCA, 2020). A mini-CEx assesses the management of a patient for all or part of an observed case (Weller et al., 2014), while a DOPS assesses an observed technical procedure (Wragg et al., 2003). The CBD requires a trainee to discuss a previous case to assess clinical reasoning. All trainees are required to complete the same minimum number of each WBA. ANZCA maintains an electronic database where assessors and trainees access the forms online using a secure login. Trainees and assessors complete the online forms either at the time of the assessment or afterwards at their discretion. ANZCA trainees are overseen by one or more supervisors of training in each hospital. Supervisors of training have access to all of a trainee's WBAs, and they are available to inform decisions on progression in training. Copies of the WBA forms are available at <https://www.anzca.edu.au/education-training/anaesthesia-training-program/anaesthesia-trainee-toolkit>.

Design

Our aim in this research was to describe and explain how provisional fellows, as novice assessors, learn the skills of WBA. Our goal was to build our understanding upon the base of our participants' perspectives. To align with this intent, for this study, we chose to use constructivist grounded theory methodology, which emphasises the co-construction of data by the researcher and the researched (Charmaz, 2008). As we bring our own beliefs and experience to the research process, our backgrounds are also relevant. LM, the principal investigator, is an anaesthetist with a Master in Medical Education degree. DC is an anaesthetist and medical education researcher, who also has a role as an ANZCA supervisor of training.

Data collection

We used qualitative interviews to generate our data. Our participants were a convenience sample of seven provisional fellows from two large urban public hospitals in Australia who were willing to participate. Interviews were carried out from September to December 2020. Three of the participants were female and four were male; five were Victorian trainees; one was a New South Wales trainee; and one was a Western Australian trainee. They were colleagues of the principal investigator, who worked alongside them as a provisional fellow. We used semi-structured interviews (Kyale & Brinkmann, 2008), with an interview guide that included initial questions (Appendix 1) and available probes informed by our understanding of the WBA process and our methodology (Charmaz, 2014). The principal investigator interviewed participants virtually and transcribed the recordings. The interviews ranged in length from 35 to 47 minutes. Participants were given the opportunity to review their transcripts to confirm their consent and ensure that the content reflected their views. To avoid the possibility of a supervisory relationship influencing participant responses or the analysis, the second author did not access the interview data until it had been de-identified.

Analysis

Analysis progressed concurrently with interviewing. The principal investigator performed the initial open coding and axial coding using constructivist grounded theory methods, including constant comparison and memo writing (Charmaz, 2014). The second author reviewed this coding, and then together, we integrated the axial codes into categories. We then discussed the relationships between these categories to develop the descriptive and explanatory theory presented in our results. We used NVivo (QSR International Pty Ltd, Vic, Australia) to facilitate our analysis.

Ethics approval

The Monash Health Human Research Ethics Committee granted ethical approval for this study (Approval number: RES-20-0000-518L, Date: August 25, 2020).

Results

Our findings describe the process of how provisional fellows learned to assess trainees in WBA. To varying extents, participants perceived their preparation for learning to assess trainees as insufficient. As reported, participants' learning to assess trainees was primarily experiential and facilitated by their reflection on practice. We found that participants developed practical skills to fit WBA into clinical work, in particular, finding time for assessments and selecting appropriate cases. Simultaneously, they developed expertise in assessment, particularly learning the standard and improving their feedback skills. Learning to assess trainees enhanced participants' clinical expertise development and enriched their understanding of the purpose and value of WBA. Participants also recognised this learning made a valuable contribution to their transition from trainee to

consultant. Our results are presented in more detail, below, using illustrative quotes from participants identified by interview sequence (P01 to P07).

Learning by doing

For most participants, learning from their own practice was seen as the most useful way they learned the skills required for their role as WBA assessors:

The only way you learn is through what you're doing. ... You have to actually engage in the process of teaching to actually be a good assessor. (P03)

Participants recognised that learning from practice involved reflection, or “working out ways that I could do it better” (P01). While they did not see themselves as experts, participants generally felt they were learning to satisfactorily complete assessments to the benefit of their trainees:

When you do assessments, you become more skilled at providing feedback ... and also better at making the assessment process a useful experience. (P02)

Role modelling from their own assessors was also thought to have been useful, and some participants drew on their experience as instructors in simulation to transfer skills from debriefing. The structure of the WBA forms also provided prompts that scaffolded their practice:

Every time I do some of the forms, it teaches me a bit more of a structured response in observing and teaching. (P05)

One participant reported an added benefit of learning before they became a consultant was the existence of a “safety net”, since their supervisor of training could review their WBAs and discover if they “completely missed the mark” when assessing a trainee:

Doing it as a provisional fellow ... gives you a bit of a safety net. ... You could receive feedback on your feedback. (P01)

Participants generally discounted the value of formal education in preparing them for the assessor role. Although they had attended teaching sessions on assessment and feedback, they had not necessarily connected this teaching to their practice. They also reported they were aware of online and in-person training provided by ANZCA that they had not accessed. Some participants noted they had used skills from training in simulation debriefing or resuscitation instructor courses.

Fitting WBA into clinical work

Finding time

Clinical work not only provides the material to be learned in WBA, but both learner and assessor are primarily focused on ensuring it gets done. Participants all reported finding the time for WBA during busy clinical work challenging.

A novel strategy used by one participant to deal with the lack of time to observe and provide feedback in a complex case was to delegate the clinical task so they could concentrate on the WBA:

It was a basic trainee who needed to have a central line placement observed. I think it was a DOPS [in a] sick patient, septic urology patient. ... I supervised that and got the consultant in charge to watch the patient. (P06)

More generally, participants learned to sequester time for WBA, though they reported varying levels of success. One participant gave an account of how they had changed their practice to ensure they had adequate time to concentrate on the WBA:

I learned that it's important to dedicate some time to talk about [the mini-CEx] so then I started giving feedback in between the cases, actually pause theatre for 5 minutes just to talk about the case. ... I find the process of giving feedback much more valuable when your mind isn't wandering. (P07)

Recognising the value of WBA for trainees and the work it involved for the assessor was important in justifying carving out time from clinical work:

I think it should cause workflow disruption; it should slow your list down because you're taking time. You know, observing and critiquing and thinking of ways to improve this trainee's technique or knowledge. (P03)

Selecting cases

Participants learned that selecting an appropriate case when the trainee was ready for an assessment could be difficult. They needed to take the complexity of the case and the available time into consideration when deciding if the trainee could independently manage the case or procedure whilst being assessed.

They found this easier with forewarning:

It is more helpful if, at the start of the shift, they say "I would like to do an assessment", because then you can pick a good case and make sure that you've got enough time. (P02)

The experience of the trainee not only influenced the selection of the case or procedure but also what the aim of the assessment might be. Participants were conscious of the need for trainees to demonstrate competence in WBA, or "sign off" procedures, but also that they might choose to do WBA in an area of inexperience to enhance their learning. One participant reported how they dealt with a request for a DOPS on a procedure where the trainee had little experience:

Doing the assessment is more appropriate if you've done the skill a few times before. ... [I] warn the trainee that it's an assessment that they should do twice, which you're allowed to do ... use the first one as a feedback foundation session, and then encourage them to do a second one. (P01)

Developing assessment expertise

Learning the standard

Participants generally found learning the standard and scoring trainees challenging. They used words such as “subjective”, “gestalt” and “gut feeling” to describe making a judgement. They reported various benchmarks they had learned to use to judge the performance of trainees. These included using their interpretation of the WBA entrustment scale, their recall of their own performance at that level of training or the performance of other trainees at a similar level, for example:

The benchmark is myself, or perhaps the few assessments I've done or the few times I've observed other people at a similar level. (P02)

While the WBA entrustment scale allows scoring from requiring full supervision to relative independence with distant supervision, regardless of trainee level, participants sometimes found this difficult to use and preferred to modify their score to account for the trainee's expected performance:

It's a bit hard. I guess the benchmark you use has to be specific to the student and the case and the level of training, so I'm not benchmarking them against a consultant, because that would be unfair. I guess my benchmark I use would be the perfect trainee at that level. (P03)

Participants also talked about learning to judge a specific case when they had an existing opinion of the trainee's competence. This was seen as both an unwanted bias to avoid or minimise and as a legitimate modifier of their judgement in a single case:

I think of how much guidance they need from me in that case, but it is influenced by how much guidance they need with other things at other times ... how competent they are more globally. (P04)

Another aspect of learning the standard to apply to judging trainees was learning which aspects of performance were most salient in determining their judgement:

I think you get better at becoming an assessor. ... You identify the key issues that trainees have, do well in, have pitfalls in or lack knowledge in and so you can then tailor the experience to help you with the next trainee. (P03)

Improving feedback conversations

Participants were conscious that the feedback conversation was integral to the WBA and a skill they needed to work on. They generally said providing feedback to early learners or on technical skills was easier, as areas to improve were more obvious. However, as inexperienced practitioners, participants reported that providing feedback to senior trainees was harder, as the differences in practice were more nuanced and might be regarded more as preferences, for example:

I think of my inexperience and my personal likes, or maybe I'm not even saying the right thing, and then they challenge you, and then you aren't so sure whether the feedback that you're giving ... maybe that's not right. (P01)

Participants emphasised that they saw the focus of feedback conversations as helping the trainee to improve their performance and that achieving that required care in delivery so as not to threaten the trainee, for example:

I'm conscious of how you frame feedback when it's with the purpose of trying to improve the trainee's performance. If you deliver that poorly, then that has an impact on the trainee and their wellbeing. (P02)

Participants described various ways they tried to make their feedback more productive. This included techniques they had learned in other situations, for example, advocacy inquiry and more idiosyncratic techniques:

I try my best to do it in a constructive way ... not to spoon feed. I've come up with my own approach to doing this, and I try to get trainees to think of their own challenges. (P06)

One participant described why they had come to embrace a dialogic feedback approach tailored to the trainee's perceived needs:

I think it's more engaging. They can ask questions and clarify things straight away. You can often pick up on a lot of the nonverbal clues. ... If they don't look like they understand ... you can ask follow-up questions and get an immediate response. It's more dynamic and flexible. ... What people need is so different. (P05)

Learning from assessing

Enhancing clinical expertise

Participants reported that learning to assess trainees led them to extend their clinical expertise. They were conscious that they needed to ensure their knowledge was sufficient to enable them to assess performance and have feedback conversations:

I definitely learn. ... I refresh my specific knowledge on a specific topic through preparing or through being challenged by the trainee in their questioning. (P01)

Completing WBA exposed participants to a variety of anaesthetic techniques, and the ensuing discussions prompted them to reflect on their own clinical practice, deepening their understanding:

Makes me think about my anaesthetic technique. ... You will see someone [give] a different anaesthetic. ... The main value I've found in being an assessor is actually seeing more variety of ways and seeing the justification and the thinking. (P07)

Valuing workplace-based assessment

Generally, participants reported they had thought WBAs of minimal value and had focused on ensuring they completed the required numbers as trainees:

I was quite critical of their utility. ... It often felt like an obligatory tick box. ... It felt more like a task that I had to do rather than an opportunity. (P05)

However, many noted they now saw WBAs as important learning opportunities and had developed a new respect for their value since becoming assessors:

As a trainee, I took them more as a hurdle requirement than a learning opportunity. My view as an assessor is they actually can be very good learning opportunities, if you make it. (P03)

Transitioning to consultant practice

Acting as a WBA assessor brought home to provisional fellows that they were transitioning to consultant practice, taking a “step up” to a “more formal position of being a supervisor rather than just a level colleague” (P04). Participants spoke of the ensuing responsibility or obligation they felt to provide useful feedback and facilitate trainee learning:

When you become an assessor, and you're on the other side of the fence, ... I find it more stressful because I have to say something sensible and actually try and help them improve. I feel like it's my obligation. ... There's a shift of that perspective. (P07)

Some participants reported that they risked seeming arrogant when providing feedback to someone who had been a peer only months before. This risk made giving honest feedback challenging, requiring a “delicate balance” to maintain a relationship while ensuring patient safety and helping trainees learn. While sometimes awkward and uncomfortable, participants reported this balancing could lead to these assessments being more collaborative. There was some evidence that in navigating this “delicate balance”, participants started to recognise they were adapting their skills as assessors to the needs of the trainee.

As an example of a more collaborative assessment, one participant reported:

With a fourth-year registrar, I ask them what they do and how they like to manage it. ... Just let them do it and observe more. (P04)

In comparison, they reported another episode with a junior trainee who had recently completed their basic sciences exam:

I was doing a clot retrieval [with] one of the post first-part trainees ... and I asked him more of a clinical problem ... and he kind of talked through it and ... I just encouraged him. (P06)

Discussion

By exploring the experiences of provisional fellows, we have gained insight into how novice assessors learn WBA skills in anaesthesia. Our participants described learning to select appropriate cases and find time to perform assessments while developing skills in defining the standard required and managing feedback conversations. They also reported benefiting from the process of assessing trainees; they gained a better appreciation of the use and value of WBA and noted that acting as assessors enhanced their clinical learning. Most of their learning as assessors was experiential and based upon reflection on their practice rather than formal teaching.

Learning to assess WBAs has previously been described as learning the assessed competencies and the “observational and recording tasks” of assessment (Lockyer et al., 2017). Participants reported learning the assessable clinical work and the expected standard, which is in accord with this view. However, their view of the assessor role extended beyond observing and recording. Participants emphasised how they sought to improve their skills in providing performance information and facilitating feedback discussions to influence future trainee behaviour. This focus on feedback in their learning aligns with their underlying conceptualisation of WBAs as assessments to enhance the trainee’s learning and future performance, which has been reported elsewhere as a positive influence on the use of WBAs for learning (Schut et al., 2020).

The recognition of WBAs as assessments for learning may help explain why we did not see evidence in our participants’ accounts of a lack of engagement or confusion over the purpose of assessment as previously reported among anaesthesia assessors (Castanelli et al., 2016). Provisional fellows did report facing some of the same difficulties previously reported by WBA assessors, particularly selecting appropriate cases and finding time to provide feedback within the constraints of clinical work (Bindal et al., 2013; Castanelli et al., 2016; Weller et al., 2009). However, they were actively working to mitigate or overcome these difficulties. Previous research suggests that assessors focused on trainee learning are more motivated to overcome barriers to WBA (Castanelli et al., 2016). The perceived value to trainees of subsequent observation and feedback may then encourage further assessor efforts in a positive feedback loop (Castanelli et al., 2016). Our results support this postulated positively reinforcing cycle of perceived trainee learning from WBA, encouraging assessors to facilitate future WBAs as further opportunities for trainee learning. It follows that the principles and conceptualisation of assessment for learning ought to be a focus of faculty development for WBAs (Schut et al., 2020).

Our results are consistent with the broader literature on assessment literacy. For instance, “fitting WBA into clinical work” and “developing assessment expertise” approximate the four domains of opportunities, analysis, feedback and next steps identified in pre-service and novice teacher assessment literacy (Rogers et al., 2020). Additionally, assessment literacy frameworks emphasise the role of reflective practice in developing assessment literacy and the influence this has on teacher identity formation (Xu & Brown, 2016),

which accord with the prominence of “learning by doing” and “learning from assessing” in our results. Assessment literacy has been recognised as an underdeveloped aspect of the theorising of programmatic assessment in health professional education (Torre et al., 2020). Our analysis arises from empirical data from practitioners actively negotiating this process of developing assessment literacy while establishing their practitioner identity. We think this empirical base and alignment with existing assessment literacy frameworks support our use of our results to suggest measures to help novice practitioners develop assessor expertise.

A striking feature of our results is that multiple participants remarked on the evolution of their attitude to WBAs from tokenism as trainees to valuable learning opportunities as assessors. The implication is that they missed valuable learning opportunities as trainees. In seeking to explain the importance of learning from assessing in our participants’ experience, we think the concept of legitimate peripheral participation may be valuable (Lave & Wenger, 1991). Legitimate peripheral participation describes the way increasing participation in practice allows a learner to progress along a trajectory from novice to expert. The impact of a learning experience comes both from what it currently affords and what it leads to (Wenger, 1998). In our study, assessing WBAs assumes significance as an aspect of consultant practice that provisional fellows can legitimately fully participate in. Provisional fellows could see they are contributing to the trainee’s learning, and their assessments are recorded in the trainee’s official assessment portfolio just as a consultant’s would be recorded. The implication is that we could enhance trainee engagement with WBA if we could replicate this earlier in their training. Could teaching trainees to assess medical students, for example, lead to an earlier acceptance by trainees of the value of WBAs for learning? Legitimate peripheral participation would suggest that it would be necessary to imbue the practice with current and future meaning for it to work. Trainees would need to be given real responsibility for another’s learning and have the assessment “count” so that it is seen as an accessible part of future consultant practice and part of their learning trajectory. Future research could explore if learning from assessing can help overcome persistent summative assessment beliefs amongst trainees (Castanelli et al., 2016) that are known to impair engagement in WBAs (Harrison et al., 2017).

Participants generally felt that their training to take on the assessor role had been insufficient and they were underprepared. Yet, participants did report attending teaching sessions on assessment and feedback while also reporting that they had not accessed electronic and in-person resources on WBAs and feedback provided by ANZCA. One possible explanation is that this feeling of unpreparedness is somewhat inevitable as it is only when called upon to perform a task that it becomes apparent what learning is really required (Cleland et al., 2014). The link between the sessions on feedback and subsequently performing WBAs may not have become obvious until participants were faced with the complexity of the task in real life. Trainees had benefited from training in other instructor roles and recognised they had learned from their experience as

learners and the structure of the WBA forms. Many learners are conditioned to view didactic teaching as more important than practice-based learning (Billett, 2014), and our participants may have the same prejudice, even though most learning in anaesthesia occurs in the operating theatre. Given learning to be a workplace-based assessor is a valued outcome, ANZCA could consider making the available training compulsory.

Time spent assessing trainees has been recognised as the most important factor in improving assessor performance (Lee et al., 2017), and the provisional fellow role provides this. However, since our participants do report feeling underprepared, what improvements might we suggest? Learning in practice works best when experiences are sequenced so the challenge of the task is matched to the readiness of the learner (Billett & Sweet, 2018). Rather than more preparation, our participants might have benefited from moderation of the difficulty of the task. Provisional fellows still have access to direct consultant supervision when clinically indicated, and we did have one example where the participant used their supervisor to offload their clinical duty to free them to perform the WBA. Perhaps this supervision could also be utilised to support their early assessor practice. The initial difficulty of assessing trainees might be graduated by consultants modelling or sharing assessment practice, and consultants could observe provisional fellows' assessor performance and provide feedback. Provisional fellows also complete case-based discussions and supervisory meetings with their supervisors of training. Some of these interactions could be used to facilitate the reflective learning already demonstrated by our participants. Faculty development using these methods would better fit the way anaesthetists learn in the workplace than further didactic teaching. However, these interventions would represent novel changes to the local educational culture and would require a supportive workplace to implement. Given the beneficial nature of our participants' experiences learning the skills of WBA, we think further support for their learning would ultimately enhance future trainee learning.

Limitations

Our convenience sample was limited to the number of willing participants we could access. Although we generated a substantial amount of data, a larger sample may have provided further insights. However, our results do make a substantive contribution to addressing the gap in the literature we identified. We sourced our data from two hospitals in Australia where the provisional fellow role provides a particular transitional phase between trainee and consultant practice. Anaesthesia training does vary across hospitals and countries, and a different sample or method of analysis might have yielded different insights. Future research could helpfully move on from interview to observation (Dornan, 2012), however the resources required would increase. WBAs are ubiquitous now in anaesthesia training, and all training programs have senior trainees who are preparing for consultant practice and learning to be WBA assessors. Therefore, we think our results provide insights that could help training programs support these learners and prompt consideration of how practitioners transition from assessed to assessor in WBA.

Conclusion

Learning to assess trainees in WBA is an important part of transitioning to consultant practice, and novices need to learn the skills required. Our findings indicate this learning is predominantly experiential and reliant on self-reflection. We think learning WBA skills could be enhanced by using the supervisory resources in the workplace to moderate the initial difficulty that novices encounter. Having senior trainees begin this learning before entering consultant practice provides a safety net and may make it easier to provide support.

Acknowledgements

We would like to thank Dr Qabirul Abdullah for critically revising the project design and our participants for their time.

Conflicts of interest and funding

The authors declare no conflicts of interest. This work used no specific funding and was supported from departmental resources.

References

- Australian and New Zealand College of Anaesthetists (ANZCA). (2020). *Anaesthesia training program curriculum 2020*. <http://www.anzca.edu.au/documents/anaesthesia-training-program-curriculum.pdf>
- Billett, S. (2014). *Mimetic learning at work: Learning in the circumstances of practice*. Springer. <https://doi.org/10.1007/978-3-319-09277-5>
- Billett, S., & Sweet, L. (2018). Understanding and appraising medical students' learning through clinical experiences: Participatory practices at work. In S. Loo (Ed.), *Dimensions of teaching and learning for occupational practice* (pp. 201–216). Routledge.
- Bindal, N., Goodyear, H., Bindal, T., & Wall, D. (2013). DOPS assessment: A study to evaluate the experience and opinions of trainees and assessors. *Medical Teacher*, 35(6), e1230–e1234. <https://doi.org/10.3109/0142159x.2012.746447>
- Castanelli, D. J., Jowsey, T., Chen, Y., & Weller, J. M. (2016). Perceptions of purpose, value, and process of the mini-Clinical Evaluation Exercise in anesthesia training. *Canadian Journal of Anesthesia/Journal Canadien D'anesthésie*, 63(12), 1345–1356. <https://doi.org/10.1007/s12630-016-0740-9>
- Charmaz, K. (2008). Constructionism and the grounded theory method. In J. A. Holstein & J. F. Gubrium (Eds.), *Handbook of constructionist research* (pp. 397–412). Guilford.
- Charmaz, K. (2014). *Constructing grounded theory* (2nd ed.). Sage.
- Cleland, J., Leaman, J., & Billett, S. (2014). Developing medical capacities and dispositions through practice-based experiences. In C. Harteis, A., Rausch, & J. Seifried (Eds.), *Discourses on professional learning* (pp. 211–230). Springer.
- College of Anaesthesiologists of Ireland. (2020). *Curriculum for the national specialist anaesthesiology training programme*. <https://www.anaesthesia.ie/wp-content/uploads/2020/07/CAI-Curriculum-2020.pdf>

- Dannefer, E. F. (2013). Beyond assessment of learning toward assessment for learning: Educating tomorrow's physicians. *Medical Teacher*, 35(7), 560–563. <https://doi.org/10.3109/0142159x.2013.787141>
- Dornan, T. (2012). Workplace learning. *Perspectives on Medical Education*, 1(1), 15–23. <https://doi.org/10.1007/s40037-012-0005-4>
- Gingerich, A., Kogan, J., Yeates, P., Govaerts, M., & Holmboe, E. (2014). Seeing the “black box” differently: Assessor cognition from three research perspectives. *Medical Education*, 48(11), 1055–1068. <https://doi.org/10.1111/medu.12546>
- Harris, P., Bhanji, F., Topps, M., Ross, S., Lieberman, S., Frank, J. R., Snell, L., & Sherbino, J. (2017). Evolving concepts of assessment in a competency-based world. *Medical Teacher*, 39(6), 603–608. <https://doi.org/10.1080/0142159x.2017.1315071>
- Harrison, C. J., Könings, K. D., Schuwirth, L. W. T., Wass, V., & van der Vleuten, C. P. M. (2017). Changing the culture of assessment: The dominance of the summative assessment paradigm. *BMC Medical Education*, 17(1), Article 73. <https://doi.org/10.1186/s12909-017-0912-5>
- Kvale, S., & Brinkmann, S. (2008). *InterViews: Learning the craft of qualitative research interviewing* (2nd ed.). Sage.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511815355>
- Lee, V., Brain, K., & Martin, J. (2017). Factors influencing mini-CEX rater judgments and their practical implications: A systematic literature review. *Academic Medicine*, 92(6), 880–887. <https://doi.org/10.1097/acm.0000000000001537>
- Lockyer, J., Carraccio, C., Chan, M. K., Hart, D., Smee, S., Touchie, C., Holmboe, E. S., & Frank, J. R. (2017). Core principles of assessment in competency-based medical education. *Medical Teacher*, 39(6), 609–616. <https://doi.org/10.1080/0142159x.2017.1315082>
- Rogers, A. P., Reagan, E. M., & Ward, C. (2020). Preservice teacher performance assessment and novice teacher assessment literacy. *Teaching Education*, 33(2), 175–193. <https://doi.org/10.1080/10476210.2020.1840544>
- Ross, S., Hauer, K. E., Wycliffe-Jones, K., Hall, A. K., Molgaard, L., Richardson, D., Oswald, A., & Bhanji, F. (2021). Key considerations in planning and designing programmatic assessment in competency-based medical education [Special issue]. *Medical Teacher*, 43(7), 758–764. <https://doi.org/10.1080/0142159x.2021.1925099>
- Royal College of Anaesthetists. (2010). *Curriculum for a CCT in anaesthetics* (2nd ed.). <https://rcoa.ac.uk/sites/default/files/documents/2019-08/TRG-CU-CCT-ANAES2010.pdf>
- Schut, S., Heeneman, S., Bierer, B., Driessen, E., Tartwijk, J., & van der Vleuten, C. (2020). Between trust and control: Teachers' assessment conceptualisations within programmatic assessment. *Medical Education*, 54(6), 528–537. <https://doi.org/10.1111/medu.14075>
- Schuwirth, L. W., & van der Vleuten, C. P. M. (2019). How “testing” has become “programmatic assessment for learning.” *Health Professions Education*, 5(3), 177–184. <https://doi.org/10.1016/j.hpe.2018.06.005>
- Torre, D. M., Schuwirth, L. W. T., & van der Vleuten, C. P. M. (2019). Theoretical considerations on programmatic assessment. *Medical Teacher*, 42(2), 213–220. <https://doi.org/10.1080/0142159x.2019.1672863>

- van der Vleuten, C. P. M., Schuwirth, L. W. T., Driessen, E. W., Dijkstra, J., Tigelaar, D., Baartman, L. K. J., & van Tartwijk, J. (2012). A model for programmatic assessment fit for purpose. *Medical Teacher*, 34(3), 205–214. <https://doi.org/10.3109/0142159x.2012.652239>
- Weller, J., Jones, A., Merry, A., Jolly, B., & Saunders, D. (2009). Investigation of trainee and specialist reactions to the mini-Clinical Evaluation Exercise in anaesthesia: Implications for implementation. *British Journal of Anaesthesia*, 103(4), 524–530. <https://doi.org/10.1093/bja/aep211>
- Weller, J., Misur, M., Nicolson, S., Morris, J., Ure, S., Crossley, J., & Jolly, B. (2014). Can I leave the theatre? A key to more reliable workplace-based assessment. *British Journal of Anaesthesia*, 112(6), 1083–1091. <https://doi.org/10.1093/bja/aeu052>
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511803932>
- Wragg, A., Wade, W., Fuller, G., Cowan, G., & Mills, P. (2003). Assessing the performance of specialist registrars. *Clinical Medicine*, 3(2), 131–134. <https://doi.org/10.7861/clinmedicine.3-2-131>
- Xu, Y., & Brown, G. T. L. (2016). Teacher assessment literacy in practice: A reconceptualization. *Teaching and Teacher Education*, 58(1), 149–162. <https://doi.org/10.1016/j.tate.2016.05.010>

Appendix 1

Interview Schedule

1. I would like you to think about an example of a workplace-based assessment (WBA) that you did with a trainee. Briefly talk me through it.
2. Now, I'd like you to think about your role as an assessor of WBAs and tell me how you prepared yourself for this role.
3. As a trainee you would have been assessed using WBAs. How have your views of WBAs changed (if at all) since becoming an assessor of WBAs?
4. Reflecting on what we have discussed and your role as an assessor of WBAs, how might this influence your involvement in training and medical education as you progress in your career?
5. And lastly, is there anything else that you might not have said so far that you think I should know about?