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From the Editor

Prof Kichu Nair[1]
Editor-in-Chief

Welcome to the 3rd Volume, 2nd Issue of *Health Education in Practice: Journal of Research for Professional Learning.*

It has been a challenging year for all health care professionals. We, at the Journal, extend a happy, safe and COVID –free holiday season to all our readers. We do hope that 2021 will be a better year for us all. To our health care staff, well done for a fantastic job during these difficult times.

This issue continues our mission of better health care professional education and research. Feedback is a vital part of the education process, but it's often poorly done. We all learn from consistent, constructive feedback. In this edition, Duncanson et al. highlight the issue of written feedback for novice researchers. This is a useful learning resource for new researchers and their supervisors. Werner et al., in their article, highlight the issue of feedback in the clinical context as part of dental education. If we have to improve the clinical performance of our trainees, we need to provide high-quality constructive feedback.

As Bell et al. highlight, paramedicine has evolved into a significant discipline on its own and high-quality assessment is essential for this most trusted profession. Students should have confidence in the assessment process to drive good quality learning. As paramedics are the first to arrive at some of the most challenging and demanding medical emergencies, their mental well-being is at risk. Holmes and her colleagues discuss how the novice can learn from the wisdom of their seniors. They highlight the need to stress mental health in the curriculum. I believe all health professions can learn from this.

The final paper in this edition is from Hawley and colleagues. They explain the roadmap for supervisors in clinical placement. This article is a good personal perspective on reflection in education for educators.

I would like to thank David Schmidt and our team for their support.

I do hope you learn from this edition as I have!

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REVIEWER ACKNOWLEDGMENT

On behalf of the *Health Education in Practice: Journal of Research for Professional Learning* editorial team, I would like to extend my sincere thanks to all who have contributed to the journal in 2020. In particular I would like to acknowledge those who contributed as peer reviewers. Your generosity with your time and expertise has been invaluable to the continued high quality of the journal. In short, the Journal cannot function without help from our peer reviewers. We thank all those below for their commitment.

Prof Kichu Nair, Editor-in-chief

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EDITORIAL NOTE

The journal team acknowledges that the journal manager, David Schmidt, is a co-author of the paper 'Giving and receiving written feedback on research reports: A narrative review and guidance for supervisors and students' (Duncanson et al). As outlined in journal policies, Mr Schmidt was not involved in any editorial decisions relating to this manuscript. Blind peer-reviewing was overseen by the Editor-in-chief and the journal manager was excluded from the decision-making process. Handling of this manuscript was in accordance with recommendations by COPE as outlined at https://publicationethics.org/.

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Research & Evaluation article (double blind peer-review)

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Giving and receiving written feedback on research reports: A narrative review and guidance for supervisors and students

Kerith Duncanson[1], David Schmidt[2], Emma Webster[3]

Abstract

Purpose: *Written feedback on research-related writing is an important educational component of novice researcher development. Limited evidence exists to inform effective written feedback, particularly in relation to research reports by novice researchers. The aim of this narrative literature review was to explore supervisor and novice researcher perspectives on the provision of written feedback, particularly in the context of their evolving supervisory relationship.*

Methods: *A systematic search of peer-reviewed journals in educational and health databases was undertaken for the terms 'written feedback' and 'research report', from January 2001 to August 2020. Identified literature was critiqued for methodological quality. Findings were coded, grouped and described as themes. Next, the themes and their parts were applied to the development of a two-part written feedback checklist that includes separate but related recommendations for supervisors and novice researchers.*

Findings: *From 35 included papers, the four main themes that related to written feedback on research reports by novice researchers were: the emotional impact of receiving or giving written feedback; written feedback in the supervisory power dynamic; communicating written feedback; and the content and structure of written feedback. The changing nature and complexity of factors associated with written feedback from research supervisors reflected the transition from a supervisory relationship to a peer relationship. The checklist developed from the synthesised data is intended to provide guidance for supervisors and students about their respective and shared responsibilities within a supervisory relationship.*

Implications: *Increased awareness of the characteristics, roles and impact of written feedback will assist supervisors of novice researchers to provide effective written feedback, and for students to effectively utilise written feedback. Progression of written feedback throughout the supervisory period is proposed as a means of transitioning from a teacher-student to a peer researcher relationship.*

Keywords: written feedback, supervisor, research, report, thesis

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Terminology:

The term 'research report' will be used in this paper to refer to clinician research reports, capstone undergraduate research honours projects and postgraduate master's and doctoral dissertations and theses. The term 'novice researcher' was used to describe postgraduate or research honours students who were conducting research for the first time, and not as part of a subject with a coursework component.

INTRODUCTION

Written feedback from research supervisors is an essential instructional communication method in academic practice (Can and Walker, 2011), particularly when a research report is used to assess a student researchers analytical skills and scientific proficiency (Matthews and Mercer-Mapstone, 2016). The quality of written feedback, and how it is received and used by the student, influence the standard of the resulting written document. Effective application and use of written feedback can enhance a report or thesis to an acceptable standard for the attainment of a research specific qualification or outcome.

Definitions of feedback vary widely, and there is a lack of agreement about what constitutes 'good' feedback (Li and Barnard, 2011). The understanding of the components of feedback vary between professions and between individuals (Bitchener et al., 2010). A useful definition by Archer (2009, p. 101) described effective feedback as 'feedback in which information about previous performance is used to promote positive and desirable development'. In a survey of university graduates, Carless (2006) described written feedback as more than simply 'the annotations and comments on drafts or on finalised assignments' but an active dialogue that encompasses written or verbal conversations that occur in relation to any stage of the body of work.

Written feedback can be formative or summative, with formative feedback intending to guide learning and progress and summative feedback used to reinforce learning and as justification for a report mark or course outcome (Houston and Thompson, 2017). Formative feedback is considered useful for learning when it is timely, provides information about the quality of the contents, offers some guidance and direction, is clear and unambiguous without being autocratic (invites opinion, 'argument' or debate), is clear to the recipient, and favours reflection (Heitink et al., 2016). Appropriate formative feedback can support a student's transition towards self-reflection, reworking and self-regulation of learning. (Hattie, 2012).

A key role of feedback is to encourage growth and learning (Donnelly and Kirk, 2010), with a corresponding performance improvement (Heylings and Tariq, 2001). One of the desired growth areas is in the skill of academic writing (Kumar and Stracke, 2011, Parboteeah and Anwar, 2009). Stracke and Kumar (2010) reported that written feedback can be effective in improving confidence in research and writing abilities. Written feedback can be used to aide reflection, with constructive feedback enabling the learner to reflect on their academic performance (Donnelly and Kirk, 2010). The ability to reflect assists the researcher in assuming a habit of self-directed and self-regulated learning, which is an essential step in moving from a novice to an expert (Kumar and Stracke, 2011). Written feedback can also suit the purposes of the educational institute, with an analysis of feedback for recurrent themes potentially identifying gaps in the teaching curriculum (Archer, 2009).

Written feedback on research-related writing influences the supervisory relationship. The process of providing and receiving written feedback can be challenging for both the supervisor and researcher (Kumar and Stracke, 2011). The high level of personal investment associated with the submission of a report or thesis that represents the culmination of many years of supervised research intensifies the pressure on the supervisory relationship (Kumar and Stracke, 2011), as well as the role of written feedback within the relationship. The evolving nature of the supervisory relationship adds a layer of complexity to the feedback dynamic and process (Li and Seale, 2007). An understanding of the benefits and risks inherent in the feedback process can assist research supervisors and their students in navigating these challenges (Kumar and Stracke, 2007).

Within the tertiary sector, the ability to provide effective written feedback is considered a skill central to the development of effective learning (Donnelly and Kirk, 2010). It is also described as 'an area for concern for universities' (Parboteeah and Anwar, 2009). Despite this recognition of the importance of capability for effective feedback, the skill of providing feedback is relatively under-researched (Callaham et al., 2002, Carless, 2006). A discrepancy exists between the concerns of students about the quality of guidance and feedback on academic writing by supervisors (Cotterall, 2011) and the feedback providers (supervisors) assuming their feedback as being effective (Parboteeah and Anwar, 2009). This may be due to the variability between supervisors and the quality of written feedback to students, and on the professional identities and perceived supervision-related stress experienced by the supervisors themselves (Wisker and Robinson, 2016).

It is reported that supervisors commonly assume that feedback will be embraced and adopted to a greater or lesser extent by the student (Parboteeah and Anwar, 2009), leading to behaviour change and academic growth. This assumption remains equivocal since there is little research into the thought processes and priorities of supervisors or assessors concerning written feedback (Bitchener et al., 2010). A qualitative study by Paltridge (2013) reported that reviewers learn to review manuscripts through their own experience of receiving feedback. Also, 'learning by doing' improved their feedback skills when conducting peer reviews for journals (Paltridge, 2013). Conversely, providing feedback has also been described as challenging, with a higher degree of supervisors reporting struggles to articulate implicit and acquired knowledge (Pare, 2011). While they may have learned by doing, describing this process to others may be challenging.

Using educational philosophies in the context of written feedback also remains relatively unexplored. Written feedback on research reports is almost exclusively reported for higher degree theses, which have historically favoured teacher-student approaches (De Kleijn et al., 2013). Existing literature on adult learners' approaches to written feedback focus primarily on coursework material and written assignments (Bolton, 2006) but does emphasise the need for different styles of feedback, depending on the learners' career and life stage (De Kleijn et al., 2013) and requirements of the course or program of learning.

To date, the role of written feedback on research reports and the associated challenges and risks involved in providing and receiving written feedback have not been fully explored. The features of written feedback that provide a positive teaching and learning experience and optimal outcomes have not been described, particularly concerning novice researchers. Both supervisor and student perspectives on written feedback must be considered, particularly in light of the evolving nature of the student-supervisor relationship over candidature towards near peer status.

This narrative literature review aimed to investigate the context, features and potential impacts associated with the exchange of written feedback on research reports. In particular, the paper examines the role of written feedback in the evolving relationship between novice clinician-researchers and their supervisors. This research is expected to provide academic supervisors of novice researchers with strategies for optimal use and management of written feedback in the supervisory relationship and provide guidance for the supervisor and student to effectively manage the transition from learner to peer.

METHODS

LITERATURE SEARCH

A structured search strategy initially targeted databases containing scientific journals most commonly representing education and health research literature. The selected databases (ERIC, Emerald, Ovid, CINAHL, Science Direct, SAGE Research Online) were searched using the term 'written feedback' combined with 'research report' for a resultant Boolean search string ('written feedback' AND 'research report' OR 'thesis' OR 'theses'). For practical purposes, the literature was confined to publications in English. The search was limited to the period from January 2001 to August 2020 to ensure current literature.

Citations were initially screened for relevance in the title and abstract. Articles were selected for inclusion solely on subject matter relevance, and no research types were excluded (Table 1). Further relevant literature was identified using database linked recommendations and a snowballing strategy of designating key articles as 'citation pearls'. Ovid Pubmed was searched specifically for papers citing these articles.

Table 1: Inclusion and exclusion criteria in systematic search for narrative review on written feedback in research reports

Criteria	Include	Exclude
Study type / paper	Published 2000 or later English language (full text) Primary study/review/PhD thesis/commentary	Before 2000 Language other than English Same data on this topic as a previous study
Study population	Novice researchers (clinician-researcher, master's or PhD candidates)	Postdoctoral researcher Undergraduate coursework (other than research honours)
Study focus	Written feedback on thesis or major research report	Written feedback on assessments (not a research report) Cultural factors or language as the primary focus Supervisory relationships without written feedback component Student perspectives of supervision not related to written feedback on research reports

CRITICAL APPRAISAL

An examination of the retrieved literature used an approach informed by Parboteeah and Anwar (2009) in their systematic review of feedback on written assignments (Parboteeah and Anwar, 2009). All literature was critically appraised: review papers were assessed using the 'Complete Guides' proposed by Crombie (1996); the STROBE guidelines were used for cross-sectional studies (von Elm et al., 2007), the COREQ guidelines for qualitative works (Tong et al., 2007) and the Mixed-Method Appraisal Tool for mixed-methods studies (Hong et al., 2018). A single reviewer (DS) appraised all papers and a subjective rating of reporting quality (high, moderate, low) was allocated based on the completeness of responses to the key and detailed questions in each guide. A second reviewer (KD) checked this appraisal and no discrepancies were identified. Three descriptive or commentary papers (Danby and Lee, 2012, Heylings and Tariq, 2001, Chong, 2018) were papers and were, therefore, not appraised.

DATA COLLATION AND ANALYSIS

Data was consolidated and analysed using the step-wise process for the thematic analysis described by Braun and Clarke (2006). Two of the authors independently familiarised themselves with the data by reading and rereading the papers in the screening and appraisal phase before generating and collating initial codes across the entire dataset. Following this, the authors collated codes into potential themes before collectively reviewing, defining, describing and naming the themes. The authors developed a matrix of the four key themes and who is 'responsible' (supervisor, student or shared) to develop a checklist of points about written feedback for supervisors and students to consider. The matrix was progressively populated from the data, with source citations retained. The draft matrix was discussed, refined and finalised as a checklist by the authorship team.

RESULTS

Forty-nine full-text articles were retrieved for a comprehensive review. Of which, 35 related to written feedback on research reports and were included in this review (Table 2). Eighteen studies rated as 'high' quality, 10 as 'moderate' quality, three as 'low' quality and four were not rated (Table 2). Seventeen studies used a qualitative methodology, six used mixed methods, five were quantitative, three were systematic reviews and four were descriptive/commentary papers. Written feedback is particularly essential in guiding the learning experience in the context of major research reports like theses since the report is often the only assessed task for research students. This narrative review resulted in four main themes being identified in the thematic analysis:

- Emotional impact of receiving or giving written feedback
- Written feedback in the supervisory power dynamic
- Communicating written feedback
- Content and structure of written feedback

Table 2: Research type, reporting quality and description of data collection methods of papers included in written feedback narrative review

Research Type	Authors (Year)	Reporting Quality (Checklist)	Data Collection Method
Systematic review	Inouye & McAlpine (2019)	High (Crombie's)	Systematic review
Systematic review	Silva & Marcuccio (2019)	High (Crombie's)	Systematic review
Systematic review	Parboteeah & Anwar (2009)	High (Crombie's)	Review of 18 papers including two meta-analyses
Quantitative pre-post intervention	Hey-Cunningham, Ward & Miller (2020)	High (SQUIRE)	Pre-post questionnaires with 13 doctoral students and nine supervisors
Quantitative cross-sectional	de Kleijn, Meijer & Brekelmans (2014)	High (STROBE)	Questionnaires (n= 1016) with master's students
Mixed methods	Bastola (2020)	High (Mixed-Methods Appraisal Tool)	Survey with 30 supervisors and 50 master's students. Interviews five supervisors and five students
Mixed methods	Bastola & Hu (2020)	High (Mixed-Methods Appraisal Tool)	Supervisory comments on thesis drafts (n=97). Interviews with 16 supervisors and 16 students
Mixed methods	Can & Walker (2011)	High (STROBE)	Doctoral students, interviews with 15 doctoral students and surveys with 276
Mixed methods	East, Bitchener & Basturkmen (2012)	High (STROBE)	Questionnaires (n= 53) and interviews (n= 22) with research students
Qualitative case study	Adams (2019)	High (COREQ)	Interview with one doctoral graduate
Qualitative	Basturkmen, East & Bitchener (2014)	High (COREQ)	Content analysis of 15 reports
Qualitative	Chamberlain (2016)	High (COREQ)	Interviews with 11 pairs of supervisors and HDR students, text examples of written feedback
Qualitative	Crossouard & Pryor (2009)	High (COREQ)	Interviews with 11 doctoral students
Qualitative	Inouye & McAlpine (2017)	High (COREQ)	Repeat interviews with two doctoral students
Qualitative case study	Li & Seale (2007)	High (COREQ)	Single case study, multiple written and recorded data sources
Qualitative case study	Ridgway (2017)	High (COREQ)	Single PhD candidate and supervisor
Qualitative	Wang & Li (2011)	High (COREQ)	Interviews with ten doctoral students

Quantitative cross-sectional	Gonzales-Ocampo (2017)	Moderate (STROBE)	Surveys with 61 doctoral supervisors
Quantitative cross-sectional	Nurie (2018)	Moderate (STROBE)	Survey with 51 doctoral candidates
Quantitative cross-sectional	Singh (2016)	Moderate (STROBE)	Questionnaire (n= 21) doctoral students
Mixed methods	Bitchener et al. (2010)	Moderate (COREQ)	Questionnaires (n= 35) and interviews (n= 22) with research supervisors
Mixed methods	Carter & Kumar (2017)	Moderate (COREQ)	Questionnaires (n= 266) and interviews (n= 11) with doctoral supervisors
Qualitative cross-sectional	Eyres et al. (2001)	Moderate (COREQ)	Interviews with 15 doctoral students
Qualitative case study	Schulze (2009)	Moderate (COREQ)	Action research examination of two learning modules
Qualitative case study	Zhang (2020)	Moderate (COREQ)	Text assessment of thesis drafts, supervisor feedback, and retrospective one-to-one interviews for 3 master's students
Qualitative	Kumar & Stracke (2011)	Moderate (COREQ)	Thematic analysis of six examiner reports on theses
Qualitative	Sankaran et al. (2005)	Moderate (COREQ)	Thematic analysis of three practitioner stories
Qualitative case series	Cotterell (2011)	Low (COREQ)	Narrative analysis of repeat interviews with two doctoral students
Qualitative descriptive	Kumar & Stracke (2007)	Low (COREQ)	Examination of feedback on a single thesis
Qualitative descriptive	Stracke & Kumar (2010)	Low (COREQ)	Examination of feedback from multiple sources on a single thesis
Discussion paper	Hodgson 2020	Not rated	Synthesis of existing literature
Commentary	Chong (2018)	Not rated	Development of a conceptual framework
Descriptive	Danby & Lee (2012)	Not rated	Described two alternate pedagogical approaches
Descriptive	Heylings & Tariq (2001)	Not rated	Focus groups, number of participants not stated

The student and supervisor perspectives were both described in some studies. Meanwhile, other studies focused specifically on either the student or supervisor perspective. The types of research reports where written feedback was provided were generally doctoral or master's theses, but also included reports from graduate courses in which a research report was the major assessment task. The themes we identified are somewhat consistent with three paradigms of written feedback conceptualised by Chong et al. (2018). They reported that the vast majority of studies on feedback focus on structural, 'product' type feedback. Meanwhile, 'interactive' factors, such as relationship dynamics and 'internal' responses of students, were less represented (Chong, 2018). Here we reflect on the intra- and inter-personal impact of receiving written feedback from the student perspective and the impact on supervisors of delivering written feedback, as well as collating and describing the structural and content components of written feedback on research reports.

EMOTIONAL IMPACT OF RECEIVING OR GIVING WRITTEN FEEDBACK

Carter and Kumar (2017) describe receiving feedback as 'an inherently emotional business' and believe that writing feedback 'must avoid breaking the fragile shell of success'. Feedback has been shown to have an affective influence, with negative feedback having an emotional impact (Can and Walker, 2011, Tuvesson, 2014, Carter and Kumar, 2017) that may lead to a loss of confidence and withdrawal from seeking further feedback (Can and Walker, 2011), thereby influencing future learning (Li and Barnard, 2011, Parboteeah and Anwar, 2009). Carter and Kumar (2017) recommend that all written feedback in research reports contains some praise, particularly early in candidature. Honest feedback is also possible through the balancing of critique and enablement (Carter and Kumar, 2017).

Students receiving feedback on a research report may include experienced clinicians, who are novice researchers, or high achieving undergraduates and graduates. Students who commence a higher degree immediately after their undergraduate studies are likely to have achieved high grades in their undergraduate courses and may mistake critical written feedback as criticism (Wei et al., 2019). Research students who are drawn to the practical aspects of research may need repeated iterations of a report to achieve high academic writing standards, especially if they do not have an aptitude or inclination for crafting text (Wei et al., 2019). There is a high degree of variability concerning skills, confidence and recent experience in academic writing, with more than half of higher degree research students (in Australia) aged over 30 years when they enrol (Hey-Cunningham et al., 2020). Therefore, life experience factors before enrolment have the potential to substantially impact on students' experience in a research course that has a written report as the major assessment item.

In a qualitative case series, Inouye et al. (2017) investigated how feedback interacts with agency (Inouye and McAlpine, 2017). They observed that critically engaging with feedback was linked to confidence in scholarly identity, which perpetuated ownership and agency. The rate and degree to which this forward cycling of confidence and agency progressed were determined by previous experiences of feedback (Inouye and McAlpine, 2017). Conversely, receiving highly critical feedback has been described by students as being a devastating experience (Stracke and Kumar, 2010). The emotional reaction reflected the degree of personal investment in a research report or the extent to which researchers (particularly novice researchers) personalised the critique of their work (Eyres et al., 2001). Receiving negative feedback in a written form is reported by students as preferable to verbal or face-to-face delivery since they can

absorb the feedback and reflect in private, thereby mitigating some of the emotional impact (Crossouard and Pryor, 2009).

In their 2005 paper, Sankaran, Swepson, and Hill reflected on their personal experiences of giving and receiving critical written feedback to emphasise the emotional investment involved in submitting research reports or theses (Sankaran et al., 2005). Many years later and all entrenched in academic careers, the authors still refer emotively to the feedback received, describing examiners who agreed with their report as 'open-minded' and using words like 'scary', 'angry' and 'frustrated' to describe responding to the critical feedback (Sankaran et al., 2005).

There is some evidence that emotional responses to negative feedback decrease with experience (Can and Walker, 2011). Chong (2018) suggests that trust in the student-teacher relationship can facilitate resilience and that self-efficacy and self-regulation are critical at a personal level for the student (Chong, 2018).

However, resilience to feedback may not apply for novice researchers, who are particularly vulnerable to negative feedback and report feeling abused by the experience (Eyres et al., 2001). Therefore, novice researchers, particularly those who enter from a successful academic or work career, must be well prepared for the vulnerability and possibility of 'failure' that research can bring (Carter and Kumar, 2017). Supervisors also report that it is challenging to deliver negative written feedback without risking the student's confidence or supervisory relationship (Li and Seale, 2007). The consequences of negative written feedback are reported to be more pronounced when the supervisor has a directive feedback style (Stracke and Kumar, 2010).

WRITTEN FEEDBACK WITHIN THE SUPERVISORY POWER DYNAMIC

Written feedback is provided within the context of an existing power relationship (Can and Walker, 2011, Crossouard and Pryor, 2009). However, opinions vary about the role of feedback in power dynamics. Bitchener et al. (2010, p 10) describe the relationship as being 'more consistent with a pedagogy, where critique or advice is provided by the supervisor or supervisory team who is (are) regarded as the "expert(s)"'. Alternately, Kumar and Stracke (2007) describe the feedback relationship on research reports, particularly at a doctoral level, as more consistent with a peer relationship (Kumar and Stracke, 2007). East et al. (2012) report that while students realised they were ultimately responsible for their work, a sense of partnership and equality in the relationship and genuine interest by supervisors helped them to optimise performance and output (East et al., 2012).

The power relationship between the student and supervisor should progress from an apprenticeship towards power equality through the course of the research project (Li and Seale, 2007). This changing dynamic sees the research student progress from a passive role by gradually increasing their expertise and capacity for self-reflection and self-regulation and relying less on supervisory expertise (Wang and Li, 2011). This transformational process is consistent with doctoral pedagogic practices described by Danby and Lee (2012) as 'a flexible construct which allowed for changing relationships'. The potential for the research student to become a 'full member of the disciplinary community' depends on the research supervisor recognising and being responsive to the changing needs of the researcher (Cotterall, 2011).

The student's confidence in their academic writing and associated research skills contribute to shifting the power dynamic towards a peer relationship. Inouye et al. (2019) reported that the experience of preparing written work and exchanging

feedback in peer writing groups contributed to a growth in their confidence and capacity for self-reflection, both of which contribute to transitioning of the student-supervisor power relationship.

Wang and Li (2011) indicated that directive feedback is preferred by those in a more dependent relationship (Wang and Li, 2011). Students with a more equal relationship prefer guidance or more goal-oriented feedback (De Kleijn et al., 2013). Notably, while not the focus of this review, cultural factors influence preferences and perceptions concerning power dynamics. Negative feedback can bring power dynamics to the forefront, with students being more likely to question the motives behind the feedback provided (Can and Walker, 2011) and interpret critique as being directed at the individual rather than the written work (Eyres et al., 2001).

A supervisor's professional identity and personal perceptions of stress influence the power dynamics in the supervisory relationship (Wisker and Robinson, 2016). Students' research progress is positively influenced if supervisors have minimised their stress and isolation, developed personal coping strategies and perceive themselves as having institutional support (Wisker and Robinson, 2016).

COMMUNICATING WRITTEN FEEDBACK

Written feedback is an important communication method that can be effective for engagement and stimulating critical thought (Can and Walker, 2011). Single episodes of feedback may be part of an ongoing dialogue (Bitchener et al., 2010) in which supervisors respond to the ideas raised within the research report (Stracke and Kumar, 2010) while continuing to teach and train academic writing (Kumar and Stracke, 2007). Eyres et al. (2001) postulated that feedback is most effective if it leads the recipient towards pushing boundaries, encouraging thinking and creating a dialogue (Eyres et al., 2001). Similarly, Adams (2019) conceptualises feedback as dialogic and transformational, with the research student taking increasing responsibility during their candidature for orchestrating the communication by actively participating in the feedback process and engaging with the development of academic relationships and practice (Adams, 2019).

In a small-scale study, Stracke and Kumar (2010) reported expressive feedback (e.g., praise, criticism and opinion) as most useful in engaging the researcher in reflection and dialogue (Stracke and Kumar, 2010). This is consistent with the statements of other authors who see feedback as being effective when it is suggestive rather than directive (Can and Walker, 2011) and creates a dialogue that encourages reflection (Stracke and Kumar, 2010). One study reported effective feedback should include justification for the comments provided and present an alternate perspective or suggestion (Stracke and Kumar, 2010). In another study by East et al. (2012), students suggested that supervisors project feedback into 'feedforward' towards constructive, future progress and that supervisors incorporate feedback within the relationship rather than as a discrete interaction (e.g., incorporating feedback discussion as an agenda item in a meeting) (East et al., 2012).

Written feedback can hinder the development of dialogue, particularly if the feedback is delivered at an inappropriate level to the recipient (Parboteeah and Anwar, 2009), such as providing feedback at an academic level if the recipient is a novice researcher. Similarly, if there is more than one individual providing feedback, a lack of communication between feedback providers can lead to confusion and inconsistency (Sankaran et al., 2005). Students need to be well versed and well prepared by supervisors to consider a range of viewpoints and value this as part of their reflexive and critical thinking development.

Wei et al. (2019) specifically highlight the need for overt, explicit discussions between supervisors and students to clarify expectations about the writing process, feedback process and academic culture (Wei et al., 2019). Although early agreement of feedback terms seems to be a common-sense, routine approach, Wei reports that more than half of the 80 doctoral students in their study would have benefitted from clarity and direction around expectations early in their candidature.

STRUCTURE AND CONTENT OF WRITTEN FEEDBACK

Although feedback structure and content were rarely the primary focus of the included studies, issues related to the amount, nature, format and (in)consistency of feedback; how it informed future report iterations (feedforward); and the relationship between written and verbal feedback was frequently cited. Proposed models for structuring feedback included the use of a framework (Ridgway, 2017, Sankaran et al., 2005) by complexity (Chamberlain, 2016), sequential (from general to specific) or cumulative (building on previous feedback) approaches (Stracke and Kumar, 2010).

A study by Ridgway (2017) investigated the effect of using a linguistics-based framework for feedback on a thesis chapter of a postgraduate student. The supervisor provided feedback on whole text, paragraph and sentence levels, so the student could systematically address each aspect of the feedback separately (Ridgway, 2017). A similar approach is reported in a PhD thesis about writing-centred supervision in higher degrees (Chamberlain, 2016). Chamberlain (2016) proposes interconnected levels of feedback along a continuum from 'big picture feedback' for complex tasks around writing cohesion, clarity and flow through 'mixed feedback' at a paragraph and sentence level to 'surface-level feedback' relating to layout, spelling and grammar (Chamberlain, 2016). Although guidelines for postgraduate supervision indicate that 'aspects of language and style are not the responsibility of the supervisor', Chamberlain (2016) reports that most supervisors contribute 'surface-level' feedback on spelling and grammar since they feel responsible for the final document's quality.

Sankaran et al. (2005) also advocated for working to a structure when providing feedback and providing the researcher with a copy of the structure to ensure transparency (Sankaran et al., 2005). The concepts described by Sankaran et al. (2005) form the basis of the checklist for supervisory feedback developed to complement this review (Table 3). Other examples of structuring feedback include an initial focus on the strengths of the report before offering constructive criticism or from general comments before offering more specific feedback (Donnelly and Kirk, 2010, Stracke and Kumar, 2010). The overall feedback may relate to the academic merits of the report as a whole (Stracke and Kumar, 2010) or be more general and comment on aspects of writing and analytical skills (Callaham et al., 2002, Parboteeah and Anwar, 2009). Specific feedback may include comments on content and the structure, organisation and flow of the report (Can and Walker, 2011, Parboteeah and Anwar, 2009). Kumar and Stracke (2007) have further stratified written feedback as referential (structure and organisation), directive (instructions and questions) and expressive (critique and praise) (Kumar and Stracke, 2007).

The ongoing process of providing formative feedback as a structure that 'scaffold(s) the learning' (Schulze, 2009, Stracke and Kumar, 2010) was mentioned often in the included papers. This structure assists in providing direction to the development of active learning processes and for the research report or thesis (Heylings and Tariq, 2001). Carter and Kumar (2015) also recommend scaffolding of writing and feedback to allow for and facilitate learning throughout candidature. For example, if a supervisor knows they have addressed grammar in one feedback cycle, they can

reference this in the next cycle and make recommendations for further skill development where required (Carter and Kumar, 2017). Conversely, students report that a lack of timely formative feedback leaves them feeling directionless (Heylings and Tariq, 2001).

Doctoral supervisors consistently report that students seem to ignore their feedback (Carter and Kumar, 2017, Neupane Bastola and Hu, 2020, Parboteeah and Anwar, 2009). Conversely, students report that they sometimes choose not to enact feedback after careful consideration. (Carter and Kumar, 2017, Neupane Bastola, 2020) This process of 'active inaction' may be perceived by supervisors as a disregard for their feedback. A suggestion made by doctoral supervisors to overcome this incongruity was to request that the student responds to feedback similarly to responding to journal reviewers (Carter and Kumar, 2017). This process provides an avenue and platform for the student to argue a different opinion or theory than their supervisors, but it is clear to the supervisor that the student is actively doing so, rather than ignoring the feedback. This process simultaneously allows the supervisor to check feedback efficiently and the student to practice responding to the reviewer's comments (Carter and Kumar, 2017). Reading and considering structured feedback responses provides supervisors with the opportunity to learn from the student and advance ideas within the area of a scientific enquiry being explored, both of which contribute to progress along the relationship transition continuum.

Other authors focused on the amount and quality of feedback to be higher priorities than the structure of the feedback while acknowledging that feedback should incorporate both specific and general aspects (Parboteeah and Anwar, 2009). Similarly, a quantitative study involving 21 graduate students showed that students valued regular feedback on academic writing, and preferred clear, instructive and specific feedback (Singh, 2016).

The content of written feedback was not mentioned as often as the structure in the included papers. This finding is consistent with a study that interrogated feedback comments in 15 draft dissertations and identified more comments on structural elements (such as linguistic accuracy and appropriateness) than content (Basturkmen et al., 2014). Although not mentioned as often in the included studies, a strong preference for content feedback over linguistic and genre-related feedback is highlighted by Nurie (2019) in a survey-based study involving 51 doctoral students (Nurie, 2019).

A recent review by Hodgson et al. (2020) collated information from a range of sources about examiners expectations of higher degree research reports. The common elements described were mainly content-related and included: mastery/command (evidence of a thorough understanding of the subject matter); argument (the main point is clearly explained and defended); coherence (consistent with clear links between parts and the whole); independence (originality, autonomy and ownership); criticality (contextualise own work in the existing knowledge base); depth/breadth (thorough and complete); and clarity/accuracy (description, citation and interpretation). Understanding what assessors are looking for when marking a thesis can provide students with useful benchmarking discussion points for both peer and supervisory written feedback (Hodgson, 2020).

Although the concept of supervisors 'testing' student's responsiveness and engagement with their research through the feedback process is expected, research students have also shown interest in the type and amount of feedback provided by supervisors. Students report that too little feedback can indicate supervisor disinterest, unclear feedback and incompetence in fostering writing development.

Meanwhile, too much feedback may indicate a disconnection of supervisors from the emotional impact and pressures of research report writing (Wei et al., 2019).

There is an opportunity for technology to play a role in improving the understanding and communication of the requirements or agreed expectations of supervisors and students about the structure and content of research reports. As teaching increasingly moves 'online', this technology can add value by increasing the 'feedback literacy' of postgraduate research students and supervisors via online programs (Hey-Cunningham et al., 2020) or using communication technology (such as email) as a means of 'micro-mentoring' to communicate feedback (Crossouard and Pryor, 2009). Electronic forms can be used to scaffold academic writing is feasible if the supervisor and student have identified this formally as a feedback mechanism (Silva and Marcuccio, 2019).

Table 3: Supervisor, student and shared responsibilities in written feedback on research reports

This checklist can be used early in the supervisory relationship to establish guidelines and boundaries for written feedback (Part A). As the relationship matures, it may guide the formative feedback process and ensure that summative feedback is comprehensive (Part B). The checklist also contains guidance on the structure and content elements of feedback (Part C).

PART A: Early candidate feedback parameters and considerations

Supervisor	Student
Have I clarified expectations about academic writing and feedback processes early in candidature?	Am I learning to take responsibility for initiating communication and actively participating in the feedback process?
Have I considered the student's skills, confidence and experience in academic writing?	Have I considered the strengths and preferences I bring to research and writing? What are my areas for growth?
Have I included praise and encouragement (particularly early in candidature)?	Have I considered that receiving critical feedback on written work may be challenging?
Have I responded in a way that will build trust and facilitate resilience?	Am I using feedback to help me develop self-efficacy and self-regulation skills?
Have I prepared the student to separate feedback about writing from criticism of self/person?	Have I received feedback about my writing without taking it personally? Is my ability to receive critical feedback changing as I become more experienced?
Have I prepared the student for the repeated exchange of drafts required for research reports?	Am I prepared to submit many report drafts for feedback to achieve high academic writing standards?
Have I considered the type of relationship I have (and want to have) with this student?	Have I critically engaged with the feedback to increase my scholarly identity, ownership and agency?
Have we discussed that the student is responsible for their performance and output but also experiencing partnership with the supervisor?	
Have we discussed preferences for 'directive' feedback or more 'goal-oriented' feedback?	
Have we discussed previous experiences, level of confidence and future expectations of written feedback early in candidature?	
Have we discussed whether feedback (including formative feedback) is given face-to-face as well as written?	
Have we discussed the emotional impact of feedback, including timing and delivery?	

PART B: Ongoing candidate feedback parameters and considerations

Supervisor	Student
Have I encouraged the student, contributed as a peer and showed genuine interest?	Have I taken responsibility for my performance and output and welcomed interest from my supervisors?
Have I considered that negative feedback is more likely to bring power dynamics to the fore?	Have I sought experience by exchanging feedback in peer writing groups or attending writing courses?
Have I articulated negative feedback in a way that can be absorbed and reflected on in private?	Have I allowed time to read and consider the feedback before responding?
Is the feedback appropriate for the evolving maturity of the student?	Have I considered the individual supervisor and thought about their cues, preferences and needs?
Have I provided ongoing feedback about academic writing expectations?	As I gain experience, am I taking more responsibility for initiating communication and actively participating in the feedback process? Am

	I actively engaging in academic relationships and practice development?
Have I revisited critical feedback with the student as their candidature progresses?	Is my ability to receive critical feedback changing as I become more experienced?
Have I written feedback in a way that is engaging and stimulates critical thought?	Have I used feedback to think critically, push boundaries and create a dialogue?
Has my feedback been suggestive rather than directive? Have I included justification? Presented an alternate perspective? Will it constructively contribute to future progress?	Have I informed my supervisor on whether the level of feedback is appropriate to my stage of learning and development?
Have we used feedback to create a valued dialogue and develop reflexive, critical thinking?	
Have we discussed emotional responses to feedback and the development of resilience?	

PART C: Content and structure of written feedback

Supervisor	**Student**
Have I provided formative feedback in a way that fosters learning incrementally?	Have I actively used the information from one feedback cycle for skill development in the next cycle?
Have I requested that the student respond to feedback similarly to responses to journal reviewers?	Have I actively engaged with feedback and chosen which feedback to act on and defended with an academic argument for those I have chosen not to act on?
Have I been transparent with the structure of my feedback?	Have I asked my supervisor for input on structure and content?
Have I considered the most appropriate feedback for this task? 'Big picture' for complex tasks (cohesion, clarity, flow) through 'mixed feedback' (paragraph and sentence level) to 'surface-level feedback' (layout, spelling, grammar)	Have I discussed structural components of writing with peers, and then negotiated terms around written feedback with supervisor(s)?
Have I considered how students perceive feedback from supervisors? Too little feedback as supervisor disinterest, unclear feedback as indicative of incompetence, and too much feedback indicating disconnection of supervisors from the emotional impact and pressures of research report writing?	Have I been proactive in asking for feedback, particularly parts of the report that need more input, stage of the draft, whether a full review or 'level' and 'type' of feedback requested?
Have we discussed and agreed on the frequency, timing and extent of formative feedback?	
Have we agreed on whether language, grammar, spelling and style are a shared or student responsibility?	

Have we mutually agreed that feedback may relate to any of the following content or structural elements in written work?
Lens: a well-developed argument for an approach (including a theoretical perspective or hypothesis) that indicates originality, autonomy and ownership
Literature/locating: contextualising in an existing knowledge base (what is known and the gap this research seeks to fill) with your argument/main point clearly explained and defended (suitable depth and breadth)
Logical flow: the congruence of research components from the 'gap', research question, aims, methods with the results, discussion and conclusions (the ingredients work together)
Linkage: an extension of logical flow –coherence in reporting/describing the research, clear links between parts and the whole, sequential (the recipe works)
Lost themes (avoid): check that themes raised in background or results are addressed in the discussion or findings section
Length: fits criteria, concise and readable, but of adequate depth for the subject area
Locking it up (conclusion): summarise answer/contribution to the research question and the relevance of these findings and learnings (see below)
Learning/mastery/command: discuss the contribution of knowledge about the issue or practice, investigation methodology chosen or future research; show evidence of a thorough understanding of the subject matter
Lucidity: clarity and accuracy in descriptions, interpretations and citations; rigour in spelling, grammar, punctuation, tense and consistency of citation and bibliography; follow rules provided in the journal style guide or from supervisor for presenting numbers, numerical precision, representing statistics
List for reporting requirements: use a reporting requirements checklist that matches the study's methodology

DISCUSSION

This narrative review focused on the content, context and potential impacts of receiving and giving written feedback on research reports and feedback's role in the evolving relationship between novice clinician-researchers and their supervisors. Written feedback was considered as a particularly important instructional communication method when a research report is a principal method of assessing scientific proficiency (Can and Walker, 2011, Matthews and Mercer-Mapstone, 2016). It was evident that the quality of written feedback and how it is received and used by the student influence much more than the standard of the resulting written document. We perceived written feedback to be akin to a 'threshold concept' in the research learning process. Further, once this threshold is achieved a supervisory relationship transitions into a peer relationship that endures.

The quantitative data from surveys, content analysis of reports and from qualitative data from interviews and focus groups revealed that structure and content was a dominant feature in written feedback. Although this was expected, the need for more a more holistic approach to giving and receiving written feedback was strongly represented in the data. Consistent with the theory that students' reaction to feedback fit into the interrelated components of discourse, power and emotion (Higgins et al., 2002), the other three themes we identified all related to the human impact of interactions around the structure and content of written feedback. Our review highlighted that the process of communicating written feedback, the emotional impact of receiving or giving feedback, and how these factors then influence the supervisory power dynamic are as vital as the structure and content of the feedback.

Our findings about formative and summative feedback extend on the existing literature, particularly regarding the unique features of writing a research report.

Notably, research students who transition from an undergraduate background are used to receiving summative feedback as a justification of a course mark (Houston and Thompson, 2017). However, they are less familiar with critically analysing formative feedback (Carless, 2006) to differentiate the potential of feedback that provides information into future tasks. Consistent with the equity theory proposed by Adams (2005) as a conceptual basis for interpreting feedback, research students are familiar with benchmarking their efforts and grades against peers and course standards (Adams, 2005). Therefore, learning to conceptualise written feedback as a contribution to the learning process and constructively use the feedback to progress their report is an important aspect of the researcher development process. In the included studies, students clearly and consistently reported characteristics of helpful formative feedback. These characteristics are consistent with those described by Heitink et al. (2016) and have been consolidated in the supervisor and student checklist developed from key instructional points in this review (Table 3) (Heitink et al., 2016).

This review supports the notion that appropriate formative feedback can support a student's transition towards self-reflection and self-regulation of learning (Donnelly and Kirk, 2010, Hattie, 2012, Kumar and Stracke, 2011). It also can contribute positively towards academic growth and learning, performance and confidence in research and academic writing abilities (Donnelly and Kirk, 2010, Heylings and Tariq, 2001, Kumar and Stracke, 2011, Parboteeah and Anwar, 2009). However, in synthesising data about all aspects of written feedback from the included studies, it is equally evident that inappropriate feedback can be damaging to a student's confidence and detrimental to their research progress.

The authors believe this work contributes a new dimension in the understanding of the impact of research-related written feedback on the supervisory relationship, describing both the student and supervisory perspectives concerning emotional impacts, communication and power dynamics. While the student perspective had been well-described, it had not been linked to the supervisor perspective or operationalised into actionable strategies as we have done. The key points for supervisors and students to discuss about giving and receiving feedback are outlined in Table 3. We envisage that this versatile tool could be used in a range of settings, scholarly relationships and formats to trigger discussions and assist in role delineation. It could also be used as a formal feedback checklist.

Although written feedback capability continues to be recognised as a priority skill (Donnelly and Kirk, 2010, Parboteeah and Anwar, 2009), there continues to be minimal research into the development of supervisors' feedback provision skills, their perceptions about the emotional impact of providing written feedback and research supervision-related stress. For example, it would be useful to learn more about strategies supervisors could employ to ensure they provide equitable type and amount of written feedback in response to their commitments and stressors. Another aspect of feedback that was not explored was whether supervisors consider the effect on students' emotion concerning the time of day or stage of the week when providing written feedback.

Paradoxically, the process of giving and receiving written feedback seemed to be accompanied by a set of 'unwritten rules' to each supervisory relationship. These 'rules' are somewhat assumed by supervisors, not necessarily articulated through the supervisory process, and become clear to the student as they emerge from candidature by comparing their experience to others or when they take on supervisory roles themselves. Although supervisors' experience as research students was the focus of one included study, this topic warrants further exploration (Sankaran et al., 2005).

Another aspect that was not fully elucidated is the perception of supervisors that students ignore feedback (Carter and Kumar, 2017) compared to 'active inaction' reported by the students themselves (Neupane Bastola, 2020). We question whether this conflict arises from different perceptions of ownership of the written report. If the supervisor believes the student 'owns' the research report, then it would be the student's decision of whether to make changes recommended in written feedback.

The application of the educational theory is another aspect of written feedback where new information was limited. The only reference to learning theories related to using blended learning in an online writing skills program to develop writing confidence and capability (Hey-Cunningham et al., 2020). This is likely related to the strong focus on the structure and content of feedback compared to the emotional, power relationship and communication aspects. We expect that future research on written feedback will focus on the impacts of written feedback on both student and supervisor more extensively and be increasingly grounded in the educational theory. A more detailed exploration of individual student and supervisor perspectives of written feedback depending on their academic, career and life experiences would be particularly useful to differentiate the impacts of personality and life experience on responses to written feedback. With research higher degrees and clinician research programs becoming regular progressions within academic and career pathways, this field of research would benefit from interventions that implement and evaluate written feedback models.

In an attempt to represent the scope of the literature about written feedback on research reports, we chose not to exclude review articles. Although the authors were careful not to repeat or duplicate findings that were from the same papers, this process may have led to bias by amplifying some points in the data. While the focus on novice researchers may be perceived as a limitation, there is potential for an application of the findings and associated checklists by more experienced research students and their supervisors and written feedback on topics other than research.

CONCLUSION

While written feedback is seen as an effective learning tool, there is little experimental evidence to support this claim, particularly concerning research reports by novice researchers. There are inherent risks with providing feedback, including potentially negative emotional impacts and a threat to the supervisory relationship. Written feedback can assist researchers with reflection and be a valuable learning tool for novice researchers if it is part of an ongoing dialogue and provided in a structured, transparent format, and a timely, considered manner. The progression of written feedback throughout the supervisory period using the checklist developed from this review is proposed as a means of transitioning from teacher-student to peer researcher relationships.

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Consistency in dental clinical feedback to students: clinical teachers' perspectives

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Abstract

Purpose: *In dental education, feedback from clinical teachers is critical for developing students' clinical competence. However, students have identified inconsistency of clinical feedback from clinical teachers as a major area of concern. Compared to research on the student perspective of consistency in clinical feedback, dental clinical teachers' own views of the consistency of their feedback is not as thoroughly researched. The purpose of this study is to redress that balance.*

Methodology: *This qualitative study explored dental clinical teachers' views of the clinical feedback process during the 2017 academic year, with a focus on their perceptions of consistency of their own feedback.*

Findings: *Our results show that clinical teachers use a number of parameters in judging students' performance and giving feedback, and were aware that their feedback may not be consistent with other clinical teachers' feedback. Teachers also recognised that this inconsistency could lead to an adverse effect on students' learning and clinical competence. Research implications: To improve the consistency of their feedback and calibrate their judgement of students' performance, clinical teachers recommended that their Dental School should provide opportunities for them to engage in collegial discussion and interactive, case-based teaching development programs. They also believed clinical teaching and its significance to dental student learning and competence should be recognised and valued more highly by the School.*

Practical implications: *Implementation of professional development initiatives endorsed by clinical teachers has the potential to improve the consistency of teachers' feedback and the quality of clinical dental education, and ultimately the quality of oral health care.*

Originality: *This is the first study to explore clinical teachers' views of how they judge students' performance and the consistency of their feedback.*

Limitations: *A limitation of this study is that clinical teachers who volunteered to participate may have different opinions compared to teachers who did not participate.*

Keywords: Teaching, Clinical skills, Feedback, Faculty Development

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INTRODUCTION

It is now universally accepted that feedback is integral to teaching and critical for enhancing students' achievement (Hattie & Timperley 2007; Hounsell 2003; Ramsden 2003; Shute 2008). As Hounsell (2003, p. 67) stated:

> … feedback plays a decisive role in learning and development … we learn faster, and much more effectively, when we have a clear sense of how well we are doing and what we might need to do in order to improve.

Feedback is particularly important in professional education programmes aimed at developing students' skills. For example, a synthesis of research metanalyses of pre-service teacher education courses, involving over 2.5 million participants, found that supervisors' 'performance feedback' was positively related to optimal outcomes for beginning teachers (Dunst et al. 2020). In dental education, once students enter the dental clinic and commence clinical practice on patients, feedback is critical to developing students' clinical competence (Ende 1983; Manogue, Brown & Foster 2001; Youngson et al. 2008). Clinical teachers need to provide students with feedback that is timely, constructive (focused on what students can do to improve), consistent and supportive of students' self-assessment (Boud 2000; Hattie & Timperley 2007; Nicol & Macfarlane-Dick 2006).

However, dental students have identified inconsistencies in clinical feedback as a major area of concern and deficiency in clinical teaching (Henzi et al. 2006; Strohschein, Hagler & May 2002; Wilson, Sweet & Pugsley 2015). As Henzi et al. (2006, p. 376) state, 'students viewed their clinical education as being a positive experience with some notable exceptions … including inconsistent and all too often inconsiderate feedback by faculty'. One student noted that inconsistent feedback occurs in 'situations in which two instructors would look at the same work performed by the students and each would give dramatically different feedback and assign different grades' (Henzi et al. 2006, p. 372). In a follow-up study by Henzi et al. (2007), only 53% of dental students were satisfied with the consistency of their clinical instruction, and 20% of students perceived that their dental programme's weaknesses revolved around faculty inconsistency in teaching.

Extensive research has been conducted on students' perspectives of consistency in clinical feedback; however, only limited research has been conducted on dental clinical teachers' views on the consistency of their own feedback. Clinical teachers are generally recruited from private practice and in addition to having different treatment philosophies and varied educational and professional experiences (Henzi et al. 2006), they also have different opinions as to what is clinically acceptable (Park et al. 2009). Clinical teachers have clinical experience and expertise; however, this does not necessarily equate to expertise in clinical education.

The main aim of this study was to explore dental clinical teachers' views of the clinical feedback process, focusing on their perceptions of the consistency of their feedback. The key research questions were:

1. What are clinical teachers' views on how they make judgements about students'

performance?

2. What are clinical teachers' views on the consistency of their feedback?
3. What strategies do clinical teachers believe their school should develop and implement to engage them in enhancing the consistency of their feedback?

METHODS

This study was approved by the Human Research Ethics Committee of the University of Sydney (protocol number 2016/624). The research method adopted for this study was qualitative. Specifically, in-depth individual interviews were conducted with clinical teachers. The use of qualitative methods to explore clinical teachers' perceptions of the clinical feedback process is in line with an emerging perspective that research in the dental sphere needs to be widened to include qualitative and quantitative methodologies (Kairuz, Lawrence & Bond 2015). Fugill (2005, p. 135) has suggested that:

> … the emphasis on quantitative methodology [in research in dentistry] has resulted over time in a relative neglect of the social and interactive aspects of Dentistry and may go some way to explain the lack of discussion in the dental literature of clinical teaching.

The present study was designed to address the lack of qualitative research focusing on clinical teaching in dentistry.

The clinical teachers who participated in this study were teachers of dental clinical teaching sessions for the four-year Doctor of Dental Medicine degree course in the University of Sydney School of Dentistry (the School). Most of the clinical teaching sessions for this course are held at two metropolitan hospital locations that are separated by a considerable distance. The clinical teachers may work at either one or, more rarely, both locations. Clinical teachers are all registered dentists and practise in private practices or hospital/government-based clinics; a small number are also appointed as university academic staff. Each clinical teacher is responsible for the supervision and clinical guidance of patient treatment by approximately six students in each clinical teaching session. All teachers are provided with the School's clinical teaching guidelines that outline the School's clinical protocols and rationales for dental procedures.

Clinical teachers with teaching experience of more than one year, who taught fourth year dental students were invited by email to participate in an individual, face-to-face, semi-structured interview about their views on how they make judgements about students' performance, the consistency of their feedback and how their School could help them enhance their feedback practices. This cohort of clinical teachers (N = 30) was solely responsible for teaching final year students and providing feedback on students' performance at each and every clinical teaching session they supervise. Thus, the teachers in this cohort were in an ideal position to provide their views and perspectives on the feedback process, and were asked to focus on their perceptions of the consistency of their feedback.

Within the literature on qualitative methods, at least eight interview participants is considered a satisfactory number (Baker & Edwards 2012; McCracken 1988). A total of nine clinical teachers participated in this study. This number of participants was also considered adequate because the time required to conduct the interviews was

manageable and the research questions were tightly focused (Guest, Bunce & Johnson 2006). The average duration of each interview was 45 minutes. Each interview was digitally audio recorded with the participant's consent. Participation in the study was entirely voluntary, and any clinical teacher who agreed to participate in the study had the option to withdraw from the study at any time.

The digital audio recordings of each interview were professionally transcribed. The qualitative technique of thematic analysis (Braun & Clarke 2006; Miles & Huberman 1994) was used to analyse each interview transcript. In the initial phase of the analysis, the authors independently read the transcripts to gain familiarity with and become immersed in the data. In the second phase, the initial codes were generated by 'coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code' (Braun & Clarke 2006, p. 87). The generation of the initial codes also involved the concurrent writing of analytic memorandums to 'document and reflect on the coding processes and code choices … and the emergent patterns … themes and concepts in the data' (Saldaña 2013, p. 41). In the third phase, the patterns and relationships between the codes were recognised and potential and emerging themes were identified. In the fourth phase, the main themes and sub-themes were defined and reviewed, and it was confirmed that the developed themes were representative of the codes and the entire data set. In the final phase, the essence of each theme was clarified and distilled, and each theme was named.

RESULTS

Nine themes emerged in relation to each of our three research questions. Each theme is described below under each question. The nine themes are also listed against each research question in Table 1.

Table 1. Research questions and associated themes.

Research Question	**Themes**		
1. What are clinical teachers' views on how they make judgements about students' performance?	Complexity of influences on judgement	Personal concerns in judgement	Poor use of teaching guidelines
2. What are clinical teachers' views on the consistency of their feedback?	Good intra-reliability in the consistency of the feedback	Poor inter-reliability in the consistency of the feedback	Adverse effects of inconsistent feedback on student learning
3. What strategies do clinical teachers believe their School should develop and implement to engage them in enhancing the consistency of their feedback?	Valuing commitment to teaching	Facilitating collegiality and communication	Interactive teaching development program

RESEARCH QUESTION 1. WHAT ARE CLINICAL TEACHERS' VIEWS ON HOW THEY MAKE JUDGEMENTS ABOUT STUDENTS' PERFORMANCE?

COMPLEXITY OF INFLUENCES ON JUDGEMENT

Clinical teachers were of the view that they use a number of parameters to judge students' performance in clinical teaching sessions. They expressed the view that making a judgement is a complex process influenced by more than one parameter. They indicated that the most predominate parameter was the clinical teacher's knowledge of their own clinical practice; however, they noted that this often goes hand-in-hand with other influences, including other students' performances and the teacher's experience when they were a student. Clinician Four (p. 2)stated:

> I suppose you base it … on what you would expect, honestly you expect the student to have a standard where you go through a procedure, how you would do it but not at the level that you do it — obviously, we have way more experience than them and I do try … and think back to yes, this is what I expect I would do as a student.

PERSONAL CONCERNS IN JUDGEMENT

Clinical teachers perceived that their judgement of students' performance was influenced by personal and specific concerns. These concerns were not based on clinical performance but were more aligned with overall patient care, how a student presents, and the student's personality. Clinician One (p. 1)stated:

> I'm very much more conscious of their people skills and their patient management. That's one of the things that I like to give more feedback on. If I like their personality as well, I also judge them on how they are with the patient, so I probably will give them a higher score even if technically they are not that good.

POOR USE OF TEACHING GUIDELINES

When the clinical teachers were prompted and asked if they used the School teaching guidelines as a basis for their judgement of student performance and provision of feedback they indicated that they did not explicitly use the guidelines. This was noteworthy, as the relevance of the teaching guidelines did not appear to play as significant a role in the judgement of a student's performance as the clinical experience of the teacher did. Clinician Five (p. 2)stated:

> Ah well roughly, you read it but beyond that once you get to [the clinical teaching session], it is somewhere in the back of your mind, but you mainly use your experience.

RESEARCH QUESTION 2. WHAT ARE CLINICAL TEACHERS' VIEWS ON THE CONSISTENCY OF THEIR FEEDBACK?

GOOD INTRA-RELIABILITY IN THE CONSISTENCY OF THE FEEDBACK

Without exception, the clinical teachers believed that they were consistent in the feedback they give to their own students or that they at least made a strong effort to

be consistent. However, the majority did not have any method of monitoring whether their belief was correct. As Clinician Two (p. 2) stated:

> I hope [my feedback is consistent]. That's what I strive for. I've never thought about how I monitor it. I don't know … I have been conscious of it [being fair] but sometimes the perception [of students] can be different. I'm not sure why.

POOR INTER-RELIABILITY IN THE CONSISTENCY OF THE FEEDBACK

On the question of inter-reliability, most clinical teachers knew without doubt that their feedback was not consistent with that of other teachers. At no stage in any of the interviews, did any of the participants comment that this lack of consistent feedback to the students concerned them; even though they knew it was a concern to the students and resulted in student dissatisfaction. As Clinician Four (p. 8) stated:

> We are all starting at different points and then we expect to be consistent because we have some bits of paper … you know, we are all 10 miles apart as far as consistency is concerned.

Similarly, Clinician Eight (p. 5) stated:

> No, I think I am different to others — well that's what they [the students] tell me. There is a broad range of clinical feedback and it doesn't matter as long as you explain why to the students.

THE ADVERSE EFFECTS OF INCONSISTENT FEEDBACK ON STUDENT LEARNING

Clinical teachers recognised that the lack of consistency of clinical feedback had adverse effects on student learning, which resulted in both confusion and a perceived lack of fairness from students' perspectives. As Clinician Seven (p. 4) stated:

> It's unfair you get unhappy … you want everyone to be treated equally. Well if one person gets feedback for the same work and another person gets a different feedback then they won't know what they are supposed to be doing then and it starts to become confusing about how exactly they should be doing it.

Similarly, Clinician Five (p. 3) stated:

> If there is no consistency in feedback then you can't learn at all and then they [the students] just get confused … how can they possibly learn what they should be doing?

RESEARCH QUESTION 3. WHAT STRATEGIES DO CLINICAL TEACHERS BELIEVE THEIR SCHOOL SHOULD DEVELOP AND IMPLEMENT TO ENGAGE THEM IN ENHANCING THE CONSISTENCY OF THEIR FEEDBACK?

VALUING COMMITMENT TO TEACHING

Overall, clinical teachers were of the view that their colleagues should be committed to teaching, and that the School should value and support clinical education. This theme emerged not in direct response to the third interview question about strategies for engaging teachers, but resulted from a stream of persistent, unsolicited comments by clinical teachers throughout the interviews. Clinical teachers thought that the School should provide training programmes to assist them to develop proficiency in their teaching practice, including in the areas of feedback and assessment. As Clinician One (p. 8) stated:

> I do think that there is a lack of recognition of teaching. I think the major problem is getting everyone to consistently teach the same thing. The Faculty needs to provide training for us.

FACILITATING COLLEGIALITY AND COMMUNICATION

Clinical teachers thought that to improve the consistency of their feedback, and their teaching practices generally, the School should open up avenues for communication and collegiality among the diverse group of teachers. As Clinician Nine (p. 5) stated:

> We need to be able to communicate with other tutors on a regular basis to really gain a sense of what we are trying to achieve on a daily basis.

Similarly, Clinician Four (p. 12) stated:

> Wouldn't it be a nice concept where we could get together and communicate and learn?

INTERACTIVE TEACHING DEVELOPMENT PROGRAMME

It is not surprising that clinical teachers, given their desire to communicate with each other, also felt that to improve the consistency of their feedback, the School should provide an interactive teaching programme based on face-to-face, small-group discussions that focused on the concepts of effective clinical teaching and feedback. Regular collegial meetings, case-based discussions and calibration exercises for clinical teachers were also mentioned as ways to improve teachers' depth of knowledge about how to provide consistent feedback. As Clinician Five (p. 5) stated:

> I think courses to encourage people to come and then you could have case studies with clinical slides, photographs, aiming for some calibration. I think a lot of the inconsistency is also to do with the private practitioners who have done their own thing in private practice for x number of years and that's what they do and that makes

for a little bit of confusion.

DISCUSSION

This qualitative study explored clinical teachers' views about how they view student performance and their perceptions of the consistency of their feedback. This study also explored clinical teachers' ideas and recommendations for faculty development strategies to help them improve their feedback practices. Our qualitative results showed that clinical teachers may combine knowledge of their specific clinical practice, their own past student experiences, and even individual student's personalities to inform their feedback at any given clinical session. Notably, the School's teaching guidelines played only a minor role in determining teachers' judgements. These results are consistent with Park et al.'s (2009) findings that while the Faculty had provided written guidelines, they were not used for evaluation and feedback, and in fact, 'a dentist brings [to the teaching situation] his own clinical bias consisting of his own clinical experience' (Park et al. 2009, p. 37).

In the present study, despite the range of influences on clinical teachers' decisions that informs the feedback they provide, most teachers thought they gave consistent feedback (intra-reliability). However, they were aware that their feedback was not consistent with other clinical teachers' feedback (inter-reliability). These findings align with previous research on inconsistency in clinical teaching and student dissatisfaction (Bloxham et al. 2016; Park et al. 2009). In a major review of research on intra- and inter-reliability in clinical teaching, Taylor, Grey and Satterthwaite (2013) concluded that there is a high degree of variability between different clinical teachers' practices and less variability within individual teachers' practices. Clinical teachers in the study also recognised that this inconsistency across students' learning experiences could lead to student confusion and dissatisfaction and have an adverse effect on students' learning and achievements. Students' concerns about inconsistency in feedback and its effects has also been confirmed by research studies in different dental schools worldwide (Bloxham et al. 2016; Hendricson et al. 2007; Henzi et al. 2007; Jahangiri et al. 2013; Wiley & Gardner 2010).

Our study indicated that clinical teachers strongly believe that clinical teaching should be valued and supported by their School, and that the School should introduce strategies to facilitate communication and learning with colleagues. Recognition of the value of teaching has been identified as a concern of dental clinicians in previous research. In a study of chair-side teaching, Wilson, Sweet and Pugsley (2015, p. 187) found that the 'general observation is that research is everything, and teaching counts for little seems to prevail at most universities'. As Clinician Three in our study stated, 'If we value the education and we value what we are trying to achieve then we need to do more for clinical education' (p. 9).

The clinical teachers were of the view that the School should provide teaching development programmes to help improve their feedback practice. This need is consistent with research on the teaching development needs of clinical teachers across a wide range of health professions, which found that 'feedback' was the most reported area for improvement (Bearman et al. 2018). To engage teachers, teaching development programmes should be interactive and case-based in design to stimulate discussion among colleagues. We already know that faculty development programmes can play a major role in improving the quality of clinical education (Haden et al. 2006; Manogue, Brown & Foster 2001; Masella & Thompson 2004; Wilson, Sweet & Pugsley 2015). In their evaluation of the available evidence, Hendricson et al. (2007, p. 1529–

1530) concluded that some of the critical design elements consistently associated with programme effectiveness include the:

> … use of experiential learning (hands-on practice of teaching skills, case study analysis), use of a diversity of learning experiences, use of peers to model exemplary teaching behaviours, and programs designed to facilitate peer interaction and the building of [collegial] relationships.

Faculty development programmes alone may not necessarily address the issues related to the provision of inconsistent feedback by clinical teachers. In the clinical teaching environment, many significant outside influences come into play; for example, one-to-one teaching is often patient defined, it may be ad hoc depending on patients' needs and it can be stressful, time limited, and require that the students perform at a high level at all times while focusing on patients' wellbeing. It is thus possible that students' expectations of feedback are not able to accommodate the change from the relative simplicity of the traditional classroom to the complexity of the clinic. As Price et al. (2012, p. 115) argue, to improve clinical teachers' feedback we may also need to 'align student and staff expectations of feedback', so the teachers 'share the same understanding of why they are giving feedback and the students share the same understanding in the receipt of feedback and the ways in which it can help them'. Thus, in addition to instigating effective and targeted faculty development programmes, we also need to develop strategies to acknowledge, encourage and facilitate a shared understanding and awareness about the nature and effects of clinical judgement, feedback and expectations for both students and staff alike. Such strategies could include involving both students and staff in the joint development of rubrics for evaluating students' clinical skills (Chan & Ho 2019), and helping students and staff to develop a 'learning goal orientation' to feedback (Farrell et al. 2017) based on the co-developed rubrics.

The limitations of this study are that clinical teachers who volunteered to participate were accepted on a first-in-first-serve basis. Thus, it could be assumed that the more highly interested or motivated clinical teachers may have volunteered earlier in the process of recruitment and may have different opinions compared to other clinical teachers who did not participate. However, the findings of this study are substantially corroborated by previous research findings, which suggests that while the participant group was small, the findings do have validity. The first author is a clinical teacher and was primarily inspired to undertake this research after she became aware from student feedback that there was a lack of consistency in clinical teachers' feedback. This awareness may have influenced the direction of questioning in the interviews. However, every attempt was made to reflect on and evaluate the direction of the interviews, monitor them for biases and modify the interview techniques as required.

Future research could focus on testing the validity of the themes identified in this study by undertaking a survey of entire cohorts of clinical teachers within and across dental schools. This study involved clinical teachers in a metropolitan area; however, future research could also focus on the consistency of health professionals' feedback in rural and remote locations, and 'transformative' student placements in Aboriginal health (McDonald et al. 2017). Research could also be undertaken to develop strategies and educational initiatives that will promote and engage students effectively and actively in the feedback and assessment process to align students' and teachers' expectations in relation to feedback.

CONCLUSIONS

In dental education, clinical teachers' feedback is crucial to dental students' development and to their becoming competent, independent practitioners. This study showed that a complex mix of parameters, including a clinical teacher's own clinical practice and their experience as a student, can influence the feedback they provide. As a result feedback can often be inconsistent within the clinical teacher cohort, which can have a detrimental effect on students' confidence and hinder their learning. Clinical teachers themselves recognise the need to improve the consistency of the feedback they provide. They want their teaching to be valued more highly, and they want to be provided with opportunities to engage in discussion and case-based activities with colleagues to develop their pedagogical skills and calibrate their judgements of students' performance. Dental school leaders have a responsibility to develop and implement professional development initiatives that have been endorsed by clinical teachers to improve the quality of clinical dental education and ultimately oral health care.

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Preparing student paramedics for the mental health challenges of the profession by using the wisdom of the experienced

Lisa Holmes[1], Natalie Ciccone[1], Richard Brightwell[1], Lynne Cohen[1]

Abstract

Given the significant mental health issues affecting paramedics, there is an urgent need to promote positive mental health and wellbeing among future cohorts of student paramedics. This study investigated the preparedness of student paramedics for the mental health challenges of the profession, and explored the coping strategies used by experienced paramedics.

The study comprised two parts. Part A comprised two surveys of (a) 16 course coordinators and (b) 302 students of the 16 accredited undergraduate paramedicine courses in Australia and New Zealand. The surveys aimed to identify the perceived need for inclusion of preparation for mental health challenges within the curriculum, and to examine the anticipations, confidence and fears of student paramedics and course coordinators, on commencing their careers.

Part B included 20 semi-structured interviews with experienced paramedics from Australia and New Zealand. The interviews provided an understanding of their anticipations, confidence and fears as they commenced their careers, professional experiences, coping strategies and advice for student paramedics. The findings from interviews were validated in three focus groups, each including six paramedics, that were representative of the geographic spread.

All course coordinators and 97% of students agreed that the mental health challenges of the profession should be included in the curriculum of accredited undergraduate paramedic courses. Experienced paramedics expressed a sincere love for the paramedic role (70%) and used black humour as a coping strategy (70%). Based on the paramedics' lived experiences, advice for students comprised three themes: support for themselves and others, maintaining health, and changes to the profession. These findings were mapped against the aims of Australia's current National Mental Health Policy to provide evidence-based and policy-informed guidelines for the integration of positive mental health strategies into undergraduate paramedicine curricula.

Preparing student paramedics for the mental health challenges of the profession would be advantageous; this could be achieved by including content relating to anticipation, confidence and fears about entering the profession within the undergraduate curriculum. Veteran paramedics have highly credible lived experiences, and can contribute positively to the future of paramedicine by providing advice to paramedicine students about preparing for practice.

Keywords: student, paramedic, preparedness, mental health, coping strategies, wellbeing

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INTRODUCTION

One in five adults in Australia (Australian Bureau of Statistics 2018) and one in six in New Zealand (Ministry of Health 2018) are diagnosed with a mental health condition in their lifetime. By contrast, more than one in two employed first responders and one in three volunteer first responders experience a mental health condition (Beyond Blue Ltd 2018). Furthermore, one in three first responders experience high or very high psychological distress in their work compared to one in eight of the general adult population (Australian Bureau of Statistics 2018). In the context of paramedicine, two-thirds of paramedics were found to have been deeply affected by a traumatic event experienced at work, increasing the risk of post-traumatic stress disorder by four times that of non-exposure (Beyond Blue Ltd 2018). This has led to much media coverage around the physical, emotional and mental demands of the paramedic role.

Investigations into the high rates of mental illness and suicide within paramedicine have been conducted across Australia and New Zealand. One such investigation, conducted by the Western Australia Chief Psychiatrist Dr Nathan Gibson, was implemented after five suspected suicide deaths of paramedics and volunteers from Western Australia between December 2013 and March 2015. The focus of the investigation was to determine whether the individuals' roles as first responders had contributed to their deaths, and to offer recommendations to the ambulance service on future mental health and wellbeing support for staff. While acknowledging the substantial tragedy for families, friends and colleagues—in addition to the cause for concern within the ambulance service, government and wider community—the findings determined there was little evidence to suggest that their roles and the exposure to critical incidents were key factors in the losses (Gibson 2015). Reference was made to the low levels of organisational satisfaction, which was also noted in other reviews across Australian ambulance services, in particular the 'cultural divide' between management and paramedics. A recent national survey of paramedics indicated that poor mental health literacy is a significant barrier to paramedics recognising that they or their colleagues may have, or are developing, a mental health condition (Beyond Blue Ltd 2018). Others indicate that emergency workers are not accessing or are not able to access the levels of emotional support required for the work they are asked to undertake on a daily basis (Knowles 2015).

Whatever the cause, the disproportionately high rate of mental health issues in Australian and New Zealander first responders needs to be addressed urgently. This paper explores what we know about strengthening mental health within the paramedicine profession. A series of guidelines are proposed, which may support undergraduate course coordinators to incorporate mental health and wellbeing into the education and training for this group of future professionals who may experience extreme trauma on a daily basis. Addressing mental health throughout the training and learning phase, with a particular focus on personal signs and symptoms, may encourage the development of individual coping strategies and early support-seeking behaviour as part of everyday health practices. This education and ongoing self-monitoring may not only reduce self-stigma but also assist students through their studies and into their careers by normalising awareness, self-care behaviours and

attitudes towards mental health and wellbeing. In turn, this can promote a more supportive environment and culture within the workplace as these students are the colleagues, supervisors and managers of the future. Students would have the opportunity to become aware of the mental health challenges in a safe learning environment, as opposed to developing ad-hoc coping strategies, with inadequate support, after events due to the focus and demands of the role.

Exemplary guidelines, such as Australia's National Mental Health Policy, promote mental health and resilience among the community, in workplaces and within national policies. These provide frameworks for considering the prevention of mental health problems, reducing the impact of mental illness, recovering effectively and assuring the rights of those living and working with mental health problems and illness. However, despite the plethora of publications on paramedic mental health challenges, there is a lack of literature on preparing undergraduate student paramedics for the mental health challenges of the profession. Therefore, there is a need to study undergraduate student paramedic preparation for practice.

The following research questions were posed:

4. To what extent do student paramedics feel prepared for the mental health challenges of the profession during their accredited paramedicine undergraduate degrees?
5. To what extent do course coordinators believe awareness of, and techniques for addressing, the mental health challenges of the profession should be part of the undergraduate curriculum?
6. What skills and strategies do experienced paramedics feel student paramedics should have to prepare them for the mental health challenges of the profession?

METHODS

STUDY DESIGN

A mixed methods design was used to triangulate qualitative and quantitative data from three distinct respondent groups: paramedicine students, course coordinators and experienced paramedics. These three groups were included to understand the current mental health content in undergraduate paramedicine degrees, to explore students' perceptions of the mental health content and their fears and aspirations for the role, and to identify the mental health strategies experienced paramedics practice throughout their career. These qualitative and quantitative data can be used to inform the development of best-practice guidelines for the implementation of mental health content in undergraduate paramedicine degrees.

SETTING

All 16 institutions offering accredited paramedicine undergraduate degrees across Australia and New Zealand agreed to participate in the study. Interviews and focus groups were also conducted from experienced paramedics located across Australia and New Zealand.

PARTICIPANTS AND INSTRUMENTATION

The undergraduate students and course coordinators completed an online survey that examined levels of preparation for the mental health challenges of the profession, the

inclusion of this topic in accredited curricula, and anticipation, confidence and fears of commencing their careers. Experienced paramedics participated in interviews and focus groups that explored their experiences, coping strategies and advice for student paramedics. Both the surveys and interview questions were piloted with a small group of paramedicine students and experienced paramedics to ensure the questions were understood as intended, and the format and wording was clear. Only grammatical modifications were made prior to commencement of data collection. SurveyMonkey online software was used to develop and disseminate surveys.

Paramedicine course coordinators

Course coordinators from all 16 institutions agreed to participate in the study. Course coordinators were asked to complete an online survey, comprising closed- and open-ended questions about mental health content offered to students as part of the degree, and their perceptions of undergraduate paramedicine students' thoughts, aspirations and fears for their chosen career. Course coordinators were also asked to distribute a similar short online survey to their undergraduate students.

Paramedicine students

Students of each of the 16 participating institutions were asked questions that explored the extent to which mental health was addressed during their degree, as well as their aspirations and fears for their chosen career and confidence in performing their duties.

Experienced paramedics

Paramedics with a minimum of 15 years' service were invited to participate in the study via presentations at paramedic conferences and continuing professional development events. Examples included the Western Australia Chapter Paramedics Australasia Conference, Network of Australasian Paramedic Academics meetings and the Paramedic Australasia International Conference. Paramedics were fully informed of the research through the presentation and subsequent discussion with the researcher. All states and territories of Australia and New Zealand were represented in the sample, including paramedics from metropolitan, rural and remote areas. Semi-structured interviews were conducted with 20 experienced paramedics from Australia and New Zealand to explore their thoughts on entering the profession, their mechanisms for coping with mental health challenges over the course of their career and the advice they would give to students about to commence their career in paramedicine. Findings were validated through a series of three focus groups conducted with paramedics who volunteered for the study and were not interviewed.

DATA ANALYSIS

Surveys

Descriptive statistics were generated using SurveyMonkey for survey data collected from students and course coordinators.

Interviews

Recorded semi-structured interviews were conducted to elicit the stories of survival of the mental health challenges experienced by veteran paramedics and to describe the survival strategies adopted. The use of both closed- and open-ended interview questions allowed for the collection of a large volume of information, while the semi-structured format allowed for free flow of narrative while maintaining focus.

The recordings were catalogued and reconstructed using restorying. This is the process of reconstructing the story from participants using key themes and timelines to reorganise the content (Ollerenshaw & Creswell 2002). Where relevant, the researcher collaborated with the participant to finalise the narrative and ensure that

it was representative of the participant's contribution (Gay, Airasian & Mills 2011). The interviews were analysed using descriptive statistics for the closed-ended questions and thematic analysis for the open-ended questions. The content was the main focus, with key themes created based on the patterns of the stories using the participants' own words. Where necessary, clarification of the meaning was sought to ensure the accuracy of the analyses (Braun & Clarke 2014). This resulted in data that are accessible to both academic and non-academic communities.

Focus group data were analysed in the same way as interview data. Themes were compared and used to validate the interview findings. This enabled broader generalisability across the veteran paramedic community. Focus groups clarified and validated data collected in the individual interviews by utilising the thoughts and opinions of similar professionals. Interview and focus group data were subsequently checked for accuracy and reliability by members of the research team to enhance rigour.

This mixed method approach, using both qualitative and quantitative methods and analyses, enabled a holistic overview of preparation for the mental health challenges and the experiences of veteran paramedics.

ETHICS

This study was reviewed and approved by the Edith Cowan University Human Research Ethics Committee.

RESULTS

DEMOGRAPHICS

Participants represented all states and territories of Australia and New Zealand (see Table 1).

Table 1. Demographics of students, course coordinators and experienced paramedics.

State, territory or country	Student paramedics	Course coordinators	Experienced paramedics
Australian Capital Territory	3	0	2
New South Wales	26	3	2
New Zealand	55	1	7
Northern Territory*	0	0	2
Queensland	68	2	2
South Australia	37	3	2
Tasmania	10	1	2
Victoria	40	3	3
Western Australia	63	3	5

* An accredited undergraduate paramedicine program was not offered in the Northern Territory, so residents of the Northern Territory study at universities in other states.
Note: Some course coordinators and experienced paramedics had worked in more than one state, territory or country.

COURSE COORDINATOR AND STUDENT PARAMEDICS

All course coordinators (100%) and most students (97%) reported that mental health challenges of the paramedic profession should be part of the undergraduate paramedic education and training curriculum. Three-quarters of course coordinators (75%) and students (74%) agreed that mental health challenges of the paramedic profession are currently included within undergraduate paramedic courses. However, there remained a significant percentage of respondents (36% of course coordinators and 43% of students) who consider this topic is not covered in appropriate depth. Importantly, two-thirds (64%) of course coordinators and more than half (54%) of students reported that students were not suitably prepared for the mental health challenges of the paramedic profession. Tables 2 and 3 provide the survey results for course coordinators and undergraduate students.

Table 2. Course coordinator and student paramedic perceptions of mental health preparation in undergraduate curriculum.

Question	**Course coordinators (*n*)%**		**Student paramedics (*n*)%**	
	Yes	No	Yes	No
Should the mental health challenges of the paramedic profession be part of the undergraduate curriculum?	100 (15)	0 (0)	97 (274)	3 (8)
Does your undergraduate course currently include the preparation of novices for the mental health challenges of the paramedic profession?	75 (12)	25 (4)	74 (225)	26 (78)
Are the mental health challenges of the paramedic profession covered in appropriate depth?	64 (7)	36 (4)	57 (113)	43 (84)
Has your course suitably prepared your students/you for the mental health challenges of the profession?	36 (5)	64 (9)	46 (113)	54 (131)

Table 3. Actual versus ideal mode of instruction for preparation for mental health challenges in undergraduate curriculum.

Mode of	**Course coordinators**	**Student paramedics**

instruction	(*n*)%		(*n*)%	
	How the material is taught	How the material should be taught	How the material is taught	How the material be should taught
Lecture	100 (11)	86 (12)	81 (162)	69 (171)
Discussion	100 (11)	93 (13)	63 (126)	81 (202)
Activity	82 (9)	86 (12)	36 (73)	65 (162)
Independent research	9 (1)	21 (3)	34 (68)	26 (65)
Group research	36 (4)	64 (9)	9 (19)	24 (61)
As a standalone unit	45 (5)	43 (6)	24 (48)	32 (79)
Placement or practicum	19 (1)	7 (1)	9 (19)	11 (27)

Table 4 summarises the issues student paramedics fear most when commencing their career. Fear of making a clinical mistake was the most frequently reported response among both course coordinators (40%) and students (38%). Although 23% of students feared for their personal mental wellbeing, no course coordinators noted this as a perceived fear among students. Conversely, 20% of course coordinators reported students feared working with unsupportive colleagues, yet only 2% of students agreed with this statement. Fears identified solely by students were treating children (13%), aggressive and abusive patients (11%) and the death of a patient (8%). Small numbers of course coordinators and students feared multiple casualties (10% and 5%, respectively) and being accepted as an equal (10% and 1%, respectively).

Table 4. Issues student paramedics fear most when commencing their career as a paramedic.

Themes	Course coordinators (*n*)%	Student paramedics (*n*)%
Making a clinical mistake	40 (4)	38 (62)
Personal mental wellbeing	–	23 (37)
Not getting a job	10 (1)	–
Treating children	–	13 (21)
Aggressive and abusive patients	–	11 (18)
Death of a patient	–	8 (13)
Multiple casualties	10 (1)	5 (8)
Working with unsupportive colleagues	20 (2)	2 (4)

Being accepted as an equal	10 (1)	1 (1)
Motor vehicle accidents	10 (1)	–

EXPERIENCED PARAMEDICS

To complement the quantitative survey data from course coordinators and student paramedics, experienced paramedics were interviewed to explore their lived experience of the profession, the mental health challenges faced and coping strategies used. This section compares experienced paramedics' perceptions of the mental health challenges with those of course coordinators and student paramedic, and those described in the available literature.

Commencing career aspirations and concerns

Helping people was most positively anticipated by paramedics commencing their career. This view was shared by students and course coordinators: 30% of students positively anticipated caring for people, and 25% of course coordinators perceived this to be important for students. 50% of the veteran paramedics stated that they positively anticipated offering relief in an emergency situation, whilst one-third of course coordinators and 11% of students who identified making a difference to patients and their families as a positive anticipation.

Paramedics recounted the ability to develop rapport quickly as their greatest source of confidence prior to commencing their career. 25% of students cited communication with patients as a source of confidence; this can be considered similar to building rapport. More than 50% of paramedics reported a sense of confidence from knowing they wanted to be a paramedic. This may be linked to the structure of training and employment that existed within some ambulance services 15 or more years ago, whereby volunteer paramedic work was a prerequisite for applying for a paid paramedic position. It could be argued that undertaking a role as a volunteer paramedic would provide an individual with sufficient exposure to be certain of the career path they were following.

At the start of their career, 65% of experienced paramedics felt least confident when they did not know what to do upon arrival at a call. In addition, 30% reported not being able to help or being unable to make decisions quickly as situations when they felt least confident. Clinical decision-making was the area course coordinators felt students were least confident (45%), although this perception was lower among students (25%).

'Not knowing what I was doing' was identified as the source of most fear by paramedics (65%) when they commenced their career in paramedicine. Making a mistake was also cited by more than half of paramedics (55%). These fears are similar to making a clinical mistake, which was the most reported fear by both course coordinators (36%) and students (27%). Upon further discussion with paramedics, it was clear that the potential outcome of not knowing or being able to help could affect the life and wellbeing of a patient, and the career of the paramedic; 35% of paramedics recalled feeling responsible for patients.

Mental health experiences

Seventy per cent of experienced paramedics expressed their love and passion for the role, consistently speaking of their affection for the profession and their 'paramedic family'. This was often associated with a sense of belonging and immense pride in the role. While this is positive, several paramedics identified feelings of loss and reduced self-worth upon leaving the service. It could be argued that these might be common emotions when leaving any role that was enjoyed; however, interviews suggested that

this is perhaps intensified within paramedicine due to the frequent overlap in work and social activities, as well as the strong feelings of being needed and helping others identified.

Half of the paramedics admitted to experiencing long-term negative effects of shift work, including:

- eating and digestion issues
- disrupted sleep patterns
- ongoing tiredness due to changing shifts
- increased feelings of stress and irritability
- high risk of injury.

Twenty per cent of those who cited shift work as an issue added that not knowing when a shift was going to end increased stress levels. Shift work contributed positively to the sense of community and belonging among colleagues and the profession. Many participants referred to their colleagues as their 'other' family. This view could be due to the strengthened relationships of crew partners working long hours in close proximity, often spending a full shift with the ambulance as their base. The stressful, unpredictable and challenging nature of pre-hospital work is likely to build high levels of trust between colleagues, particularly when confidence in each other's decisions, clinically and for safety, is needed.

Sadly, 45% of experienced paramedics had lost colleagues due to mental illness leading to suicide; this was reported by paramedics from all states and territories of Australia and New Zealand. The shock and disbelief felt by family, friends and colleagues after losing someone to suicide often leads to feelings of anger and guilt, which can increase stress and the risk of mental illness (Lifeline 2019).

All interviewed paramedics acknowledged that the role of their profession had changed substantially over the last 15 or more years. About 45% of participants discussed the following specific changes that they had observed:

- increased call volume
- increased community-based and primary care where patients are not always transported to hospital
- reduced or no downtime after critical incidents
- greater awareness of the ramifications of care giving
- population growth and increased geographical spread
- closure or merging of ambulance stations.

Due to changes in the paramedics' role over time, paramedics spend less time together at a station between calls. This seems to have had a detrimental effect on the wellness of paramedics, as it has limited the opportunities for social and habitual contact as well as reduced occasions to rest, eat and share experiences and emotions.

Almost half (40%) of paramedics stated they had experienced both verbal and physical violence on calls. This has been reported widely in the media, with perpetrators being prosecuted and at times imprisoned. Maguire et al. (2014) reported the risk of serious occupational injury among paramedics was more than seven times higher than the national average. Boyle et al. (2007) found 87.5% of paramedics surveyed had experienced some form of violence while undertaking their roles in the community. During interviews, 30% of veteran paramedics linked the rise in violence against paramedics to the increase in alcohol use, illicit drug taking and

calls relating to mental illness. This supports the suggestions made by Boyle and Wallis (2016). They raised the possibility of a decline in respect for paramedics and community helpers, due to a change in societal values and norms, as leading to an increase in violence during calls.

Struggling to let outcomes and connections with patients go was the most difficult aspect of the role for 35% of the interviewed paramedics. When discussing this further, all recalled this being a particular challenge in the early stages of their careers. While this challenge reduced over time, paramedics expressed that it remained difficult to move forward after certain types of calls, regardless of years in service. Calls that paramedics had most difficulty moving on from were those they related to on a personal level, particularly those involving children. Previous research has found that the calls involving children and colleagues caused the most emotional distress (Regehr, Goldberg & Hughes 2002). Over one-third of paramedics (35%) recalled communicating the death of a patient to family or friends as the most difficult aspect of the role. All participants who discussed this said they could remember the first and last time in great detail.

Coping strategies

The following responses are specifically related to the strategies paramedics implemented to survive the mental health challenges of their role. When asked about the coping strategies paramedics use to maintain positive mental health, the most prevalent strategy was the use of black humour (70%). This finding is supported by a study of stress and the coping strategies used by 608 paramedics in Canada, where 90% of participants used black humour as a coping strategy (Christopher 2015). Specifically, the participants stated that black humour was used for stress relief, social support, acceptance from peers and a way to suppress emotions. The data collected in this study showed that 45% of participants coped by talking things through with a crew partner or colleagues, while 45% coped by dehumanising patients by treating the injury or illness as opposed to the person.

Keeping fit and healthy was a coping strategy used by 40% of participants. This strategy was also linked to fostering good sleep routines (20%). The combination of shift work and stresses of the job places paramedics at a higher risk of unhealthy diets and lower levels of fitness. These issues can lead to increased chances of sleep problems, gastrointestinal issues and a lower immune response (Kent, Mason & Batt 2016). Similarly, adopting a routine to unwind before going home after a shift was a strategy for 35% of participants; this links to the theme of normalising strategies to cope with the challenges of the role. 40% of all paramedics stated they continually developed their skills as a paramedic to increase confidence in themselves and their professional judgement. Others focused on a hobby outside paramedicine to help manage stress (30%), and 25% felt the support they received from loved ones was central to maintaining their mental health.

Forty per cent of paramedics admitted to using alcohol, prescription and/or illicit drugs to cope with the challenges of the profession. Reference was also made to issues with gambling (10%). Others said they needed to leave the profession to improve their mental health, and 20% were receiving or had previously received professional help for their diagnosed mental illness.

Advice for student paramedics

The advice provided by experienced paramedics for students was collated into three core themes. The first related to support, focusing largely on offering support to others in the profession and seeking it from colleagues. Staying fit and healthy was the second core theme. Paramedics believed that staying physically fit helped maintain psychological wellbeing. Finally, experienced paramedics recommended changes to

the profession to support students. These included increased support from the employer for managing stress, reviewing rosters to help reduce fatigue, and continuing professional development, particularly related to mental health. These echo the representations and subsequent findings in the recent senate inquiry into the role of Commonwealth, state and territory governments in addressing the high rates of mental illness experienced by first responders, emergency service workers and volunteers (Parliament of Australia 2019).

DISCUSSION

This study contributes to the understanding of factors that impact on the mental health and wellbeing of paramedics. Experienced paramedics' professional and lived experiences can provide insight into maintaining positive mental health and wellbeing. The advice from experienced paramedics was validated through focus groups involving veteran paramedics with a similar length of experience. The advice and coping strategies can help prepare student paramedics for the mental health challenges of the profession, and such information can be included in accredited undergraduate curriculum.

Anecdotal evidence suggests that this topic is valued by those involved in the education and training of student paramedics, as well as the paramedics themselves and their employers. Despite the importance of the topic, this study is the first to research the mental health challenges perceived by undergraduate course coordinators and paramedicine students, and to conduct in depth interviews with veteran paramedics to elicit their advice for novices. The 100% response rate to the course coordinator survey and the completion of surveys by paramedicine students from all undergraduate degree programs across Australia and New Zealand, as well as the willingness of veteran paramedics to participate in interviews and focus groups, provides an indication of the importance of this topic within the profession.

This research found that all course coordinators and almost all students believe the mental health challenges of the profession should be addressed at an undergraduate level; however, only three-quarters believe this occurs and even fewer (approximately half) believe it is addressed sufficiently. Furthermore, less than half of all students believe the course has effectively prepared them for the mental health challenges ahead. Additionally, current paramedics report managing their mental health is one of the most important factors for them in their daily role.

Given these findings and the alarming, disproportionately high rates of mental illness and suicides among this profession, there is an urgent need to develop evidence-based guidelines for the integration of mental health awareness and coping strategies into undergraduate paramedicine degrees. Undergraduate programs are ideal environments in which to begin preparing student paramedics to meet the mental health challenges of their future profession. It is important to acknowledge that this undergraduate teaching cannot, and must not, replace ongoing programs and initiatives by pre-hospital organisations that are intended to support the ongoing mental health and wellbeing of paramedics.

There is significant value for accredited undergraduate degree programs to include comprehensive preparation for the mental health challenges of the paramedic profession, and to raise awareness and educate paramedicine students about mental health prior to commencing their professional careers. Paramedicine students are a captive audience, and there is great potential to enhance patient care and self-care through developing better understanding in their preparatory learning environments. In the same learning environments, the opportunity exists to teach coping strategies

to meet the mental health challenges through the lived experience and advice from veteran paramedics. The common sense, profession-specific, highly credible advice can connect veterans with novices in a unique and positive educational way.

Concerns have been raised about the potential risk of students being exposed to violence while on practicum with ambulance services or other healthcare providers. Preparation prior to commencement of practitioner postings has been highlighted as a valuable action (Boyle & Wallis 2016). This preparation could be undertaken through sharing the lived experiences and advice from veteran paramedics as a segue into developing the following skills:

- knowledge of mental illness, including addictions
- practical communication skills on how to approach distressed patients, including de-escalation techniques
- physical safety awareness.

Preparation could provide a foundation for students to gain valuable exposure and experience in a safe and constructive environment through the use of case studies and simulations before practicum.

Collectively, the themes from this study represent a way forward in the preparation of students by using the experiences of those that have lived and successfully coped with mental health issues while working as a paramedic. Previous literature has often ignored the potential for preparing students for the mental health challenges of the profession and focused on paramedics already working in the role. Findings from the current study have increased our understanding of the mental health and wellbeing of paramedics and the coping strategies used throughout their careers. Furthermore, this study provides insight into how student paramedics could be prepared in their learning phase.

While no evidence-based guidelines for promoting mental health within undergraduate paramedicine courses currently exist, there are pockets of good practice occurring within paramedic services around Australia and New Zealand. For example, the Queensland Ambulance Service has proposed the following self-care advice for first responders:

- care for your body
- care for your emotional self
- care for your cognitive self
- know where you will get support – and use it. (Murray 2013, p. 86)

The lessons learned from students, course coordinators and experienced paramedics have been integrated with the current Australian National Mental Health Policy (Department of Health 2009) and its associated plans to produce Australia and New Zealand's first guidelines for developing mental health literacy among future paramedics.

The resultant guidelines are grounded in the four priority areas of the National Mental Health Policy. They serve to improve paramedics' understanding of their role, mental health in the Australian and New Zealand context and how to promote their own and their colleagues' mental health. The guidelines are twofold. They focus on the content that should be provided to student paramedics: a) 'for me', including information to assist in the development of their own positive mental health and wellbeing; and b) 'for my role', including knowledge about mental health problems

and illnesses, their broad impact, treatment and the rights of those with a mental health problem and/or illness.

Table 5. Alignment of recommendations with National Mental Health Policy

Aims of the National Mental Health Policy	Content	
	For me	For my role
Promote the mental health and wellbeing of the Australian community and, where possible, prevent the development of mental health problems and mental illness	Knowledge of mental health and wellbeing	
	Knowledge of mental illness	
	Knowledge about and attitudes towards the importance of prevention	
Reduce the impact of mental health problems and mental illness, including the effects of stigma on individuals, families and the community	Self-care strategies	Impact of mental health problems (e.g., the ecological model of individual through to broader community)
		Stigma
	Supporting colleagues who may be experiencing mental health problems	
Promote recovery from mental health problems and mental illness	Mental health and illness treatment (short and long term)	
	Online, phone and one-on-one support services	
	Inclusion	
Assure the rights of people with mental health problems and mental illness, and enable them to participate meaningfully in society	–	Theoretical understanding of legal responsibility and rights
		Working with mentally ill patients (e.g., duty of care, restraint, safety, communication, empathy)
(Department of Health, 2009)		

CONCLUSION

The guidelines created in response to this study represent a way forward in the preparation of student paramedics by using the experiences of those that have lived and coped successfully with mental health issues while working as a paramedic. Previous literature has tended to ignore the potential for preparing students for the mental health challenges of the profession and focused on paramedics already working in the role. The guidelines also improve the understanding of the mental health and wellbeing of paramedics, the strategies they have used to cope with the challenges faced throughout their careers and how student paramedics could be prepared for their career in their learning phase. The guidelines may act as a precursor to recommendations four and five from the senate inquiry into the role of Commonwealth, state and territory governments in addressing the high rates of

mental health conditions experienced by first responders, emergency service workers and volunteers (Parliament of Australia 2019). These recommendations focus on the design and implementation of a national action plan for first responder mental health and mental health awareness training, including safety plans.

Future work should investigate how these guidelines may be extrapolated into the training and working practices of current paramedics to provide ongoing support for paramedics once in the job. Ambulance services across Australia and New Zealand have been reviewing and publishing organisational wellbeing strategic plans outlining policies and procedures for focused wellbeing activities and support, for example, workshops and extensive guidance for individual and family support. A continuation of mental health and wellbeing education across accredited undergraduate paramedicine degrees, graduate paramedic training and throughout the paramedic career would promote development of personal wellbeing coping strategies, ensure ongoing access and engender trust in the support available. The guidelines could also be utilised for emergency communication centre and call-taker training.

This study has some limitations. Although all states and territories in Australia and New Zealand were sampled, the number of paramedics interviewed was limited due to the nature of qualitative research methods, and, therefore, are not a representative sample of all experienced paramedics. Focus groups were used to validate the face-to-face interviews; however, a larger sample would increase the representation of the target population. Furthermore, these guidelines have been created based upon the study findings and have not been subject to any validation or acceptability testing.

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Conflict of Interest

None.

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The use of the objective structured clinical examination (OSCE) in a practice-based health discipline: Academic and student experience in paramedicine

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Abstract

Purpose*: Over the past two decades, the discipline of paramedicine has seen expediential growth as it moved from a work-based training model to an autonomous professional training model grounded in academia. With limited evidence-based literature examining assessment in paramedicine, this paper aims to describe student and academic views on the preference for the Objective Structured Clinical Examination (OSCE) as an assessment modality, the sufficiency of pre-OSCE instruction, and whether or not OSCEs' performance is a perceived indicator of clinical performance.*

Design/Methods: *A voluntary, anonymous survey was conducted to examine the perception of the reliability and validity of the OSCE as an assessment tool by students sitting the examination and academics facilitating the assessment.*

Findings: *This study's results revealed that the more confident the students are in the assessment's reliability and validity, the more likely they perceive the assessment as an effective measure of their clinical performance. The perception of reliability and validity differs when acted upon by additional variables. The anxiety associated with the assessment and adequacy of performance feedback are cited as major influencers.*

Research Implications: *This study's findings indicate the need for further paramedicine discipline-specific research on assessment methodologies to determine best practice models for high-quality assessments.*

Practical Implications: *The development of evidence-based best practice guidelines for assessing student paramedics should be of the utmost importance to a young, developing profession, such as paramedicine.*

Originality/Value: *There is very little research in the discipline-specific area of paramedicine assessment, and discipline-specific education research is essential for professional growth.*

Limitations: *The principal researcher was a faculty member of one of the institutions surveyed. However, all data was non-identifiable at the time of data collection.*

Keywords: paramedic, paramedicine, Objective Structured Clinical Examinations, OSCE, education, assessment

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INTRODUCTION

The Objective Structured Clinical Examination (OSCE) has been implemented and widely studied in health-related fields, such as nursing and medicine, for decades. However, this method of assessment has not been convincingly studied in the context of paramedicine. The discipline of paramedicine has developed rapidly over the past 20 years, and the pace of change is presenting various professional, procedural and andragogic challenges (O'Brien et al. 2014; Williams et al. 2009). For instance, there is a growing expectation that paramedics will provide a high level of care for emergency and non-emergency patients in high-pressure, time-critical environments immediately following graduation (O'Meara et al. 2017). Furthermore, the expectation of a paramedic's level of clinical competence following program completion has grown significantly. Further, the accurate assessment and measurement of paramedic students' clinical competence have become a challenging responsibility for those involved in their education (Tavares et al. 2013). This change in the educational environment has led to an increased emphasis on the quality of training and assessments that surround the clinical competence of paramedic students (O'Brien et al. 2014; Sheen, 2003).

A body of knowledge, based on research specific to paramedicine education, must emerge to improve paramedic assessment and curricula and develop growth as a discipline (Krishnan 2009; Williams et al. 2009). This paper addresses findings from a study conducted to examine student and academic perceptions of the reliability and validity of the OSCE format as an assessment tool for paramedic students. This paper aims to describe student and academic views on the preference for OSCE as an assessment modality, the sufficiency of pre-OSCE instruction, and whether OSCE performance is a perceived indicator of clinical performance. This paper also aims to determine if students believe OSCE-associated anxiety impedes their OSCE performance. The paper will address the following research questions to meet these aims:

How do paramedic students prefer the OSCE assessment compared to other assessment modalities used in a Bachelor's of Paramedicine programme?

Do paramedic students believe OSCE-associated anxiety is a barrier for their performance in an OSCE assessment?

Is there a belief among students and academics that a students' OSCE performance will reflect their clinical practice performance?

Do students and academics feel that pre-OSCE instruction is sufficient to assist students in their OSCE assessment?

LITERATURE

Historically, the level of student clinical competence in health-related areas, such as nursing and medicine, has been measured by an OSCE (Harden 2015). Implementing this assessment format in health-related disciplines emerged due to the perception that OSCEs are consistent, reliable and valid (Rushforth 2007). Many education programs also utilise OSCEs due to their format and objective nature (Nasir et al. 2014). Furthermore, it is widely recognised that OSCEs provide a specific set of data on a student's clinical competency that aligns with the effectiveness of clinically-based education programs (Bartfay et al. 2004). It is for these reasons that OSCEs continue to be utilised by many preparatory institutions as an important determining factor in the assessment and ratification of a students' competency to practice (Harden 2015). Therefore, assessing skill development via an OSCE is considered effective in identifying skill deficits and can provide a reliable evaluation of the students' clinical performance.

Traditionally, an OSCE format comprised of a series of practical-based stations designed to test the clinicians' procedural and data interpretation skills in an applied clinical context (Harden 1988). Early studies on OSCEs identified the need to constantly amend or consider the OSCE format to ensure the quality and success of this assessment (Bartfay et al. 2004). Today, the structure of OSCE assessments and formats range from a single station, four or five stations, to 20 stations or more (McKinley et al. 2008). These stations could involve a variety of different assessment items (e.g., written questions, oral questions, clinical patient presentations and scenarios) or a combination of various formats (Harden 2015). The practical aspect of OSCE assessments can be emphasised using various techniques, such as simulated patients, videotaped interviews or written and verbal reports of patient histories (Harden 2015). There is an extensive history of simulation-based education and assessment. Still, it is an area of ongoing research and development for associated health-related disciplines, and the process of improving its effectiveness as a tool continues to be investigated (Jansson et al. 2013).

When developing an assessment item, such as an OSCE, academic staff must consider the intended learning outcomes for that particular assessment and ensure that they are disseminated to the student. However, the issue of reliability and validity can be problematic concerning the format of an OSCE. Indeed, it has been argued that an appropriate level of attention to the assessment design is required for the level of reliability and validity to acceptable (Carraccio & Englander 2000). A reoccurring theme in the literature from relevant health fields on the reliability and validity of the OSCE format indicates that reliability is reflective of the number of stations or posts included in the examination (Mitchell et al. 2009). Further, Pell et al. (2012) concluded that an OSCE assessment with a high number of assessable components was typically more reliable than one that only measured a limited number of clinical competencies. Hastie et al. (2014) also found that a larger number of stations, utilising an array of clinical scenarios, applying skills, incorporating standardised checklists, and providing variation in the examiner(s) marking allowed the student to display a more accurate presentation of their clinical competence.

The notion of reliability depends significantly on the ability to reproduce the assessment consistently with minimal changes or modifications. Mitchell et al. (2009) claim that four areas of development must be considered to develop reliability and validity within the OSCE assessment. These areas include (1) measuring skills integration; (2) measuring the student's professional behaviour; (3) the ability to differentiate between performance and competence; (4) ensuring that measuring clinical competence is done in a context-reliant environment. Adamson et al. (2013)

develop these concepts further by placing them in a context of different assessment styles, such as short-duration stations and computer-based simulations.

The original design of OSCEs for paramedicine was based on multiple stations (Harden 1988). However, in more recent years, the stations have been modified to include a range of scenarios where the clinician is required to diagnose and manage a patient using 'hard' technical, clinical skills and 'soft' skills, such as effective communication (Von Wyl et al. 2009). O'Brien et al. (2013) found the use of simulated training models in the development of an OSCE assessment had led to an improvement in learning and the assessor's ability to evaluate the participant's clinical competence. Moreover, the purpose of the assessment is to allow the participant to demonstrate their knowledge of the patient's condition and evidence of their clinical skills.

Current evidence suggests that a systematic approach to student assessment feedback should be maintained to improve the quality of overall student experience (Grebennikov & Shah 2013). There are many similarities between the various health-related professions. Still, it is important to remember that each discipline has its own specific roles and responsibilities to consider. One area that seems to have been largely overlooked by current researchers in paramedicine is the perception of students regarding the effectiveness, reliability and validity of OSCE assessments (Harden 2015). Therefore, it is essential to gather the appropriate information regarding the perception of educational assessment methodologies, such as the OSCE, as it pertains to paramedicine students. A study was conducted that specifically included paramedicine students' perceptions and academics developing and facilitating the assessments in a paramedicine education program.

METHODOLOGY/METHODS

Paramedic students and paramedic academics across two Australian universities, each offering a Bachelor's of Paramedicine, were approached for this study. All paramedic students were in their final year of a Bachelor's of Paramedicine degree. All paramedic academics taught in a Bachelor's of Paramedicine programme. A voluntary, opt-in, anonymous online survey was administered to paramedic students and academics. An online survey method is appropriate since surveys are well-suited to studies aiming to investigate the descriptive aspect of a situation. Surveys enable the exploration of different aspects of a given situation or for hypothesis testing (Farmer et al. 2016). Each of these areas has been carefully considered during the design and development of this project (Kelley et al. 2003). Demographics played no significant role in the results between the responses of students enrolled in the single degree program and the students undertaking the dual degree program. Also, there was an equal mix of age and gender.

The survey was generated using the qualtrix software program and was designed using a set of five-point bipolar Likert scale questions. This format enabled the development of a standardised form that could then be used to collect data from a generalisable sample of individuals (Joshi et al. 2015). The Likert scale questions measured participants' perspectives of a variable from 'strongly agree' to 'strongly disagree' on a five-point scale. The students and staff had access to the online survey via a university intranet link for two weeks. The links were distributed via email or intranet messaging. There was no direct interaction between the principal researcher and the respondents regarding the content of the questionaries. The responses were analysed and compared for similarities and differences via statistical analysis with the SPSS software tool. An exploratory data analysis method was utilised to construct a correlation matrix to explore relationships between the variables gathered in the

dataset. Significant correlations were identified, and relationships were validated using t-tests. Significant relationships were revised into a 3D graph form to provide a representation (DuToit et al. 2012). The survey questions were:

7. Participating in an OSCE makes me more aware of my level of problem-solving ability
8. Participating in an OSCE makes me more aware of my level of communication ability
9. Participating in an OSCE gives me a clearer understanding of my clinical ability
10. The OSCE format is a better reflection of my clinical competence when compared to other assessment styles
11. I find the specific OSCE instructions given prior to undertaking the OSCE assessment easy to understand and follow
12. The time allocated to each OSCE is adequate to demonstrate my clinical competence
13. I receive adequate feedback on my OSCE preparation prior to my OSCE assessments
14. I receive adequate feedback on my performance post OSCE assessment
15. An OSCE is an accurate measure of my level of clinical performance
16. My OSCE performance is indicative of how I will perform clinically on road

The short and focused survey questions were piloted on three academics and three students to determine whether the questions were easily understood and could yield the data sought. No adjustments were required.

ETHICS

The ethics approval for this research was obtained from the Human Research Ethics Committee of the University of Southern Queensland. The ethics approval number is H16REA020. Further permission was granted to access students from the Head of School, Nursing, Midwifery and Paramedicine, Australian Catholic University.

RESULTS AND FINDINGS

The total student population response was *n*=108 from a total population of *n*=270 (40%). The academic population response was 37 from a total population of 110 (33.6%). Of the student population, 69 (65.7%) were female. Thirteen (35.1%) academic staff members were also female. Two subgroups of the student population were identified based on whether they were studying a single degree in paramedicine or a double degree in paramedicine and nursing. From this group, 47 (44.8%) were studying a single paramedicine degree. The majority of academic staff had been teaching for more than one year, with only three (8.1%) having started in the academic field in the past year. Students were asked to state their current grade point average (GPA) with 96 (92.3%) of the students having GPAs between 4.1 and 6.0. Of this group, the largest subset, 38 (36.5%) belonged to the GPA grouping of 5.1 and 5.5.

Responses ranked OSCEs as an assessment item compared to seven other assessment forms commonly used in tertiary education. The most preferred assessment task is ranked one.

How do students' preferences of the OSCE format compare to other assessment modes?

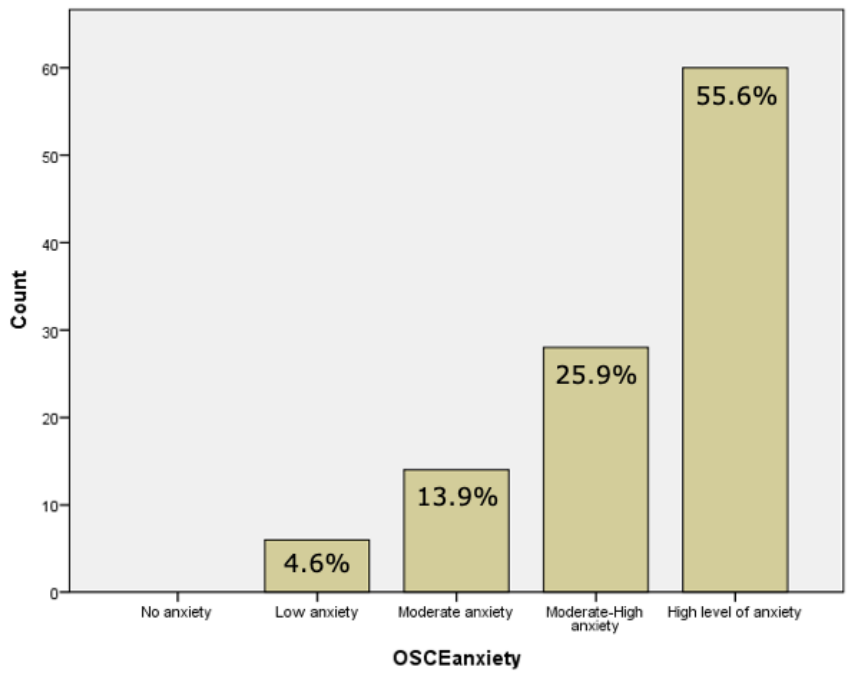
Table 1. Student preferred assessment formats

Preference	N Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Skewness Std. Error	Rank
MCQ	105	1.61	.766	1.849	.236	1
Written	109	2.31	.950	.722	.231	2
Essay	107	2.54	1.066	.530	.234	3
Portfolio	107	2.76	1.123	.129	.234	4
OSCE	109	2.77	1.296	.308	.231	5
Oral	108	3.22	1.210	-.213	.233	6
Group	108	3.70	1.079	-.338	.233	7
Valid N (listwise)	101					

Do student paramedics consider anxiety as a barrier to their performance on the OSCE?

The following data reflects the students' perceived level of anxiety when having to undertake an OSCE (Figure 1) correlated with the students' level of perceived anxiety compared to their preference for OSCEs as an assessment task.

Figure 1. Level of anxiety associated with the OSCE



Findings concerning whether the student participants perceived anxiety as a barrier to their performance, indicated a strong, positive correlation between the two variables (r =.596, n = 108, p <0.001, CD = 35.5%). The result was statistically significant, evidencing the hypothesis that students consider anxiety a barrier to their performance in OSCE assessments. Therefore, regardless of the students' preference for OSCEs, participants were most likely to associate a high level of anxiety in

participating in the assessment. For example, 50% of the population either 'liked' or 'strongly liked' OSCEs as an assessment item. Additionally, 13% of participants preferred an OSCE's format for assessments, even though they had a very high level of anxiety associated with undertaking the assessment. Notably, 31% preferred the OSCE as an assessment, even though they had a moderate to high level of anxiety associated with the assessment. An equal number (31%) disliked or strongly disliked the OSCE as an assessment preference.

Some students perceived the OSCE as providing an accurate measure of their level of clinical performance despite having high levels of anxiety. Students that reported a lower level of anxiety towards OSCEs were more likely to believe OSCEs are an accurate measure of their clinical performance. Meanwhile, students with a higher level of anxiety were less likely to believe it is an accurate measure. This data is particularly relevant compared to the perceptions of staff revealed in the following question.

Are the academic staff perceptions of the intended outcomes of OSCE assessments consistent with those of the students?

The results were varies concerning whether academic staff perceptions of the intended outcomes of OSCE assessments are consistent with those of the student paramedics participants (see Figure 2 and 3).

Figure 2. Academic perception of OSCE format

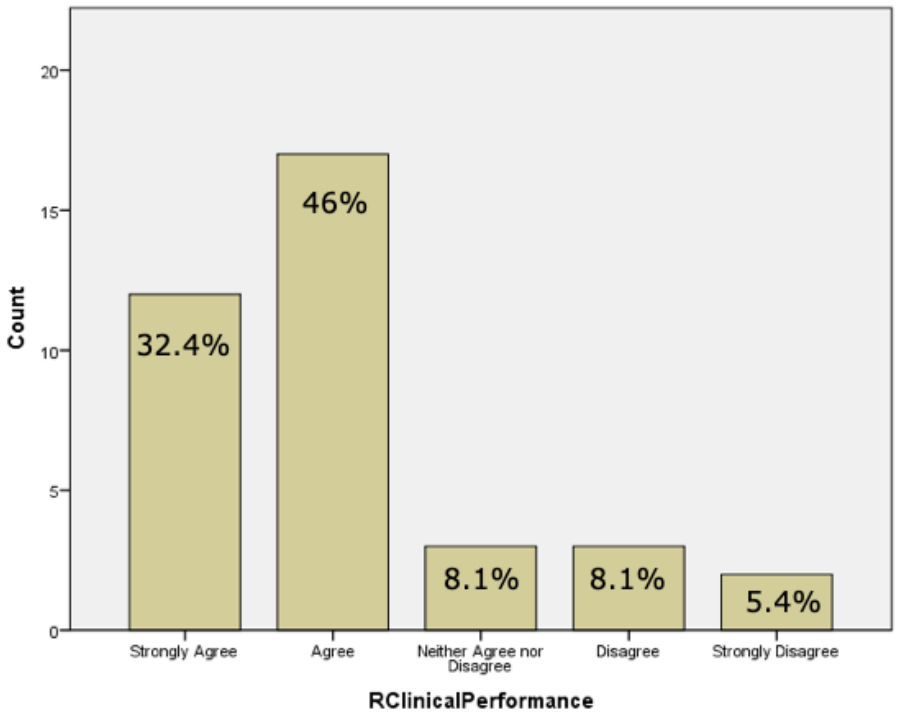


Figure 3. Student perception of OSCE format

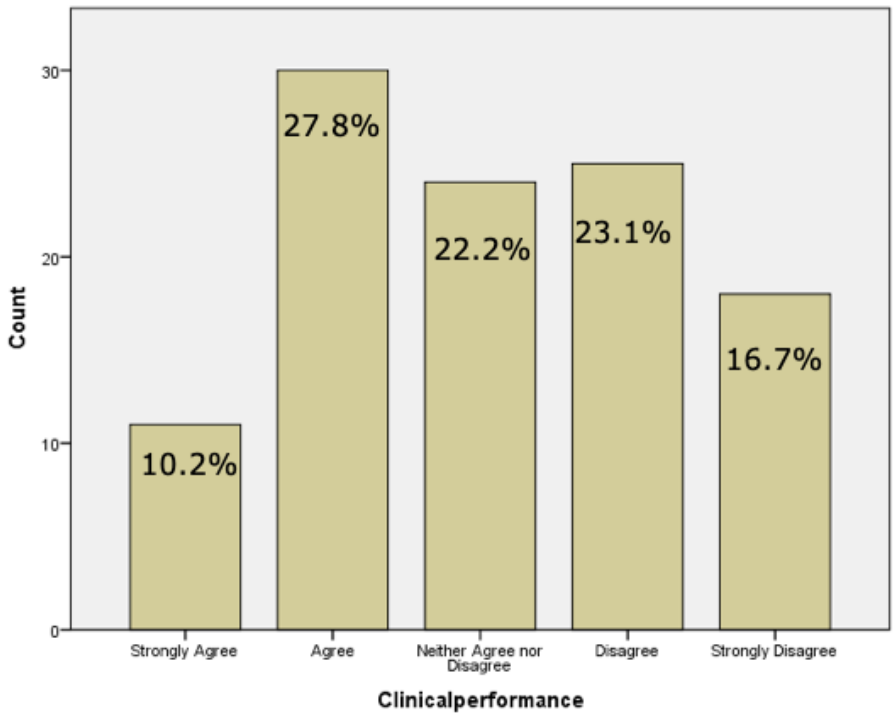
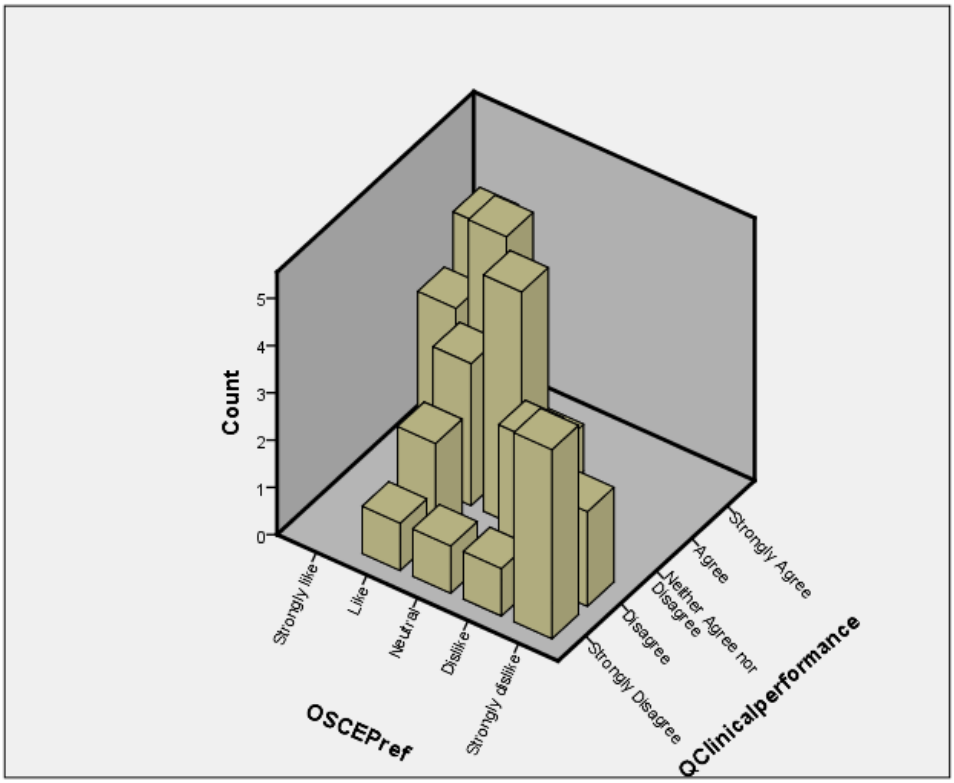


Figure 2 and Figure 3 show that academics appeared to believe that the outcome of an OSCE best reflects the students' clinical performance compared to other assessment strategies. However, the student's perception of whether an OSCE reflects their clinical performance is more widely distributed.

Do students perceive the OSCE format as an accurate indicator of their level of clinical performance?

There is a strong, positive correlation between the two variables r =.686, n = 109, p <0.001, CD = 47.05%, indicating a significant relationship between them. This result is statistically significant and evidences the hypothesis that students perceive the OSCE format as an accurate indicator of their level of clinical performance. As observed in Figure 4, there appears a clear relationship between the students' preference to undertake an OSCE assessment and their belief that the OSCE is an accurate measure of their clinical performance. Students who 'agree' or 'strongly agree' that the OSCE provides an accurate measure of their clinical performance are most likely to 'agree' or 'strongly agree' with a preference for an OSCE assessment.

Figure 4. Preference for the OSCE vs. Measure of Clinical Performance



Is the perception of students and academic staff that the feedback provided before OSCE assessments adequate?

The following figures reflect whether students perceive they received sufficient instructions and information before an OSCE. Most students are either 'neutral' or 'disagree' that the level of feedback provided before an OSCE is adequate (Figure 5). However, Figure 6 indicates that educators facilitating OSCE assessments are more likely than the student to believe that the level of feedback provided pre-OSCEs is adequate. The differences in students' perceptions from that of educators are reflected in several variables considered by the study. This is perhaps one of the most significant barriers to improving student perception of the reliability and validity of the OSCE format.

Figure 5. Student perception of feedback before an OSCE

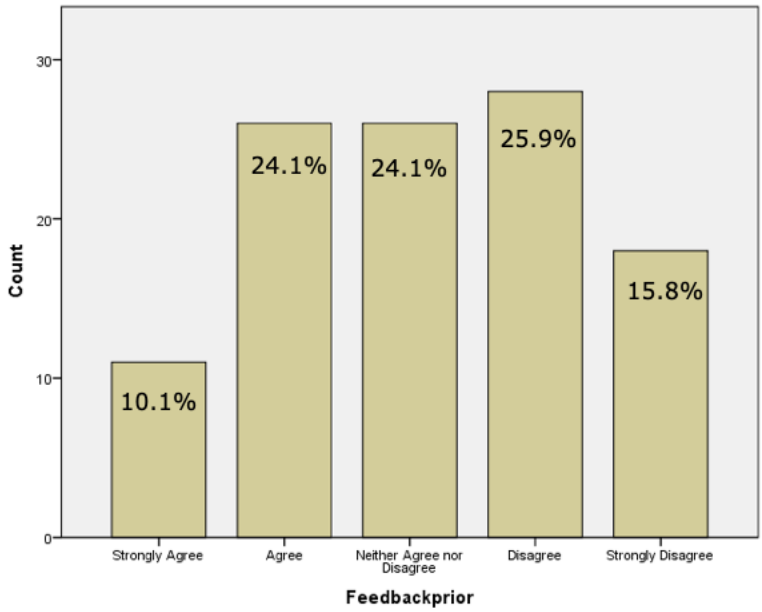
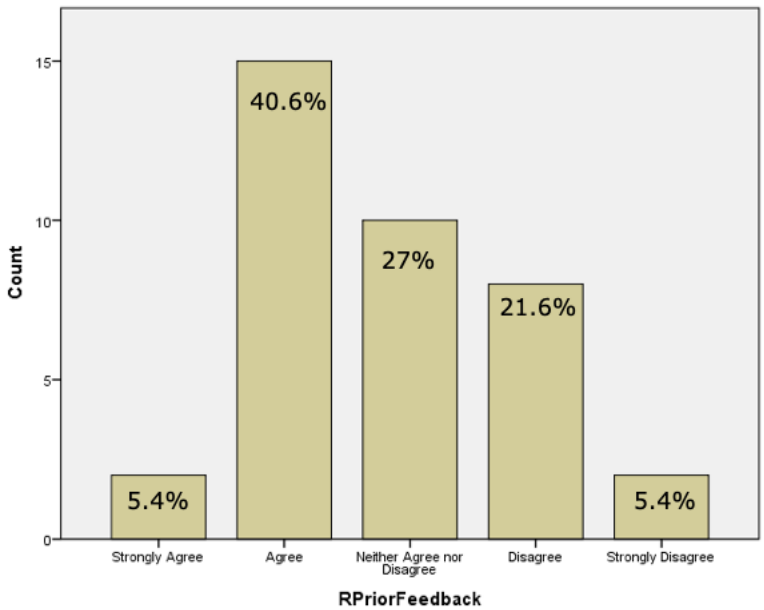


Figure 6. Academic perception of feedback before OSCE



Overall, a correlation exists between the students' perception of whether they received adequate feedback to prepare for OSCE, compared to perceptions of whether the OSCE is an accurate measure of their clinical performance. Results indicate there is a moderate, positive correlation between the two variables (r = 0.450, *n* = 108, *p* <0.001, CD = 20.25%). This result is statistically significant and provides evidence that the more positively the student perceives the level of feedback provided on

performance before the OSCE, the more strongly they agree that the OSCE is an accurate measure of their clinical performance.

Findings from this study revealed that, although academic staff consider OSCEs an assessment methodology that best reflects a student's clinical performance, the students' perception of the OSCE is more widely distributed. Finally, there is a strong correlation between the student's perception of the reliability and validity of the OSCE format as a measure of clinical performance and the two variables (anxiety associated with the assessment and adequacy of feedback before the assessment). However, there exist different perceptions regarding preparation information before an OSCE.

DISCUSSION

The movement of paramedicine education into the tertiary sector necessitates evidence-based practice content to effectively contribute to learning and teaching processes and outcomes (Donaghy 2018). The need for an increased level of evidence to support learning and teaching is most significant concerning assessment strategies and practices (Harden 2015).

Most participants rated their anxiety levels associated with the OSCE as either high or moderately high. This finding is consistent with the levels of anxiety indicated by physical therapy doctoral students when participating in OSCE assessments (Swift et al. 2013). Thirty-one per cent of the participants correlated this high level of anxiety to a 'dislike' for the OSCE's format. Another 31% of the cohort stated that, while the OSCE elicited a high level of anxiety, they preferred the OSCE as an assessment format. Dahwood et al.'s research (2016) reported that academic staff could help reduce exam anxiety through techniques, such as group work, before exams and by ensuring that students had access to student advisors and support systems. However, the key recommendation by Dahwood et al. (2016) is that there was a need for students to maintain a high level of physical and mental health before and during exam periods to promote academic performance. Notably, the reason for exam anxiety was not this study's focus. However, this could form the basis of future research into the factors contributing to the perceptions of students undertaking OSCEs.

Findings also indicated that 50% of the student cohort preferred OSCEs as a method of assessment, even though it produced high levels of anxiety. As such, it could be argued that, instead of anxiety being a barrier to a student's performance in an OSCE, anxiety could be a variable that creates a positive perception of the OSCE as an effective assessment methodology. This phenomenon has been observed in Midwifery research of a similar nature (Jay 2007). However, anxiety levels as a barrier to success must be considered to improve students' perception of the reliability and validity of the OSCE as an assessment. By reducing students' levels of anxiety while maintaining their perception of the format as a positive assessment method, it might be possible to increase student confidence in its effectiveness.

Comparative studies in other health-related professions also found heightened levels of anxiety in students when performing an OSCE assessment task. However, no significant difference in performance outcome was indicated (Brand & Schoonheim-Klein 2009). However, findings indicate that the students' high levels of anxiety influence their perception of the format as an accurate measure. Moreover, the lower the student's level of anxiety, the more likely they are to agree that an OSCE is an accurate measure of their clinical performance. Thus, if it was possible to reduce the high levels of anxiety students' associate with the OSCE, the perceptions of the students could be more positive and align more closely with academics' almost universal perception of the OSCE as an effective assessment method.

Student participants, who were more positive about the OSCE and its ability to measure clinical ability, were more likely to agree that it is an effective measure of their clinical performance. This strong, positive relationship was also evident in the students' preference for an OSCE as an assessment item and whether they believe the format provides a better illustration of their clinical competence than other assessment types. The stronger the participants' preference for the OSCE as an assessment item, the more strongly they agreed that the OSCE was a better measure of their clinical competence compared to other assessment formats. This series of strong positive relationships imply that the paramedic students involved in this study perceived the OSCE as an accurate indicator of their clinical performance. Furthermore, this finding is consistent with previous studies in other health disciplines regarding the effectiveness of an OSCE as a measure of clinical performance (Graham et al. 2013).

Another area of consideration was whether the academic staff perceptions of the OSCE's intended outcomes were consistent with those of the student cohort. Consistency, in relation to perception, is important. Tavares et al. (2013) concluded that student acceptance of the OSCE format as being reliable needed to include factors, such as standardisation and assessor objectivity. The study's results indicated that student perceptions do not always align closely with those of the academics facilitating the assessment. The academic staff involved in this study considered the OSCE as the best reflection of a student's clinical performance. However, the students' perceptions of the OCSE as an effective measure were more widely distributed, although the reason for these perceptions was not a component of this study.

Results indicated that students had a difference of opinion on the adequacy of feedback when compared to the perception of the academics involved with the assessment. However, the more strongly students believed that they received adequate feedback during their preparation before the OSCE, the more inclined students were to agree that an OSCE is an accurate measure of their clinical performance. As such, the importance of effective feedback should be considered vital for the development of clinical assessments in health-specific professions, such as paramedicine (Lefroy et al. 2015). Students rated multiple-choice questions (MCQ) as the most preferred assessment strategy and group activities as the least preferred assessment item. The reason for this preference for MCQs was not investigated in this study. Further, students that participated in this study only ranked the OSCE fifth in preference out of seven assessment methodologies surveyed.

Notably, Van De Ridder et al. (2008) indicated that the quantity and quality of feedback provided both before the assessment was a key factor in the students' perception of success. Students were less likely to agree that the level of feedback provided is adequate before assessment situations. This indicates that the academics have a potentially different perception of what equates to the provision of an adequate level of feedback. This requires further investigation since the students' perception of preparation for the assessment could be considered as the primary indicator of success.

LIMITATIONS

The principal limitation was that the researcher was a staff member of one of the universities and potentially had direct or indirect contact with the student and academic cohort during the survey's period. Any contact was a part of the course's formal curriculum, and there was no discourse regarding the survey data between the academic and students at any time (surveys were submitted anonymously). No data

was collected on entry-level scores for the degrees at the two universities, and no data was collected about whether students' GPAs influenced assessment preferences.

CONCLUSION

The increase in discipline-specific investigations of educational methodologies is an important development in the ongoing improvement in delivering effective learning and teaching in the discipline of paramedicine. Of key significance is that students and academics perceived OSCEs to be a valid and reliable measure of the student clinical performance. There was a difference in perception of the effect of variables, such as adequate levels of feedback before assessment. Still, the comparison between the academics' and students' perceptions in this study warrants further investigation. The students indicated heightened levels of anxiety when undertaking an OSCE style assessment. However, students also indicated that this increased level of anxiety gave them a more accurate measure of the perception of their clinical performance when compared to alternative assessment methods. When considering the importance of practical clinical assessment in the students' ability to demonstrate their clinical competence, the OSCE format appears to enable students to most effectively 'show how' compared to alternate assessments. The ability of a well-designed OSCE to facilitate students to apply clinical knowledge in a standardised setting could improve its value as an assessment tool. Finally, although an OSCE is considered an accurate measure of students' clinical performance, improving the perception of the assessment format's reliability and validity could result in improved student confidence in the format and its efficiency as a measure of clinical performance.

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Using reflection: Mentoring midwifery students in India

Glenda Hawley[1], Anthony G Tuckett[1]

Abstract

Purpose: *This study aims to offer guidance to lecturers and undergraduate midwifery students in using reflective practice and to offer a roadmap for academic staff accompanying undergraduate midwifery students on international clinical placements.*

Design*: Drawing on reflection within the Constructivist Theory, the Gibbs Reflective Cycle (GRC) provides opportunities to review experiences and share new knowledge by working through five stages—feelings, evaluation, analysis, conclusion and action plan.*

Findings*: The reflections of the midwifery students in this study provide insight into expectations prior to leaving for international placement, practical aspects of what local knowledge is beneficial, necessary teaching and learning strategies and the students' cultural awareness growth.*

Implications*: The analysis and a reflective approach have wider implications for universities seeking to improve preparations when embarking on an international clinical placement. It can also inform practices that utilise reflection as an impetus to shape midwifery students to be more receptive to global health care issues.*

Keywords: midwifery, students, reflection, international placement, education, learning, culture

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Introduction

Within the School of Nursing, Midwifery and Social Work at the University of Queensland (UQ), Australia, the curricular conceptual framework utilises the constructivist theory of learning and teaching (Narayan et al. 2013). This theory informs both the educational and philosophical frameworks for course content within the school programs and advocates that students engage with information to construct knowledge. An imperative component of the theory is to critically reflect on past and recent experiences and actively use these reflections to construct new meaning and knowledge (Narayan et al. 2013).

It is known that reflective practice is useful to assist health care providers to link experience with theory. There is ample support for reflection as an essential part of learning in nursing and midwifery studies as it empowers decision-making, acts as a mechanism to improve patient care and benefits professional development (Wain 2017). In addition, reflection is also considered an important component in helping practitioners critically consider, validate and inform actions to improve practice (Lincoln 2016).

Reflection has also become a major part of continued professional development. National Governing body websites for nurses and midwives, that incorporate professional development now include lessons on the 'art and science' of reflecting and contemplating on practices in midwifery (Nursing and Midwifery Board of Australia 2016; Wilding 2008). Relying on reflection, midwives in Australia are required by the national regulatory body of their profession—the Nursing and Midwifery Board of Australi—to record evidence of currency of practice in a yearly portfolio and it is mandatory for them to maintain an acceptable level of competency to fulfil regulatory requirements (Australian Health Practitioner Regulation Agency 2019). The Royal College of Midwives in the United Kingdom (UK) also recognises reflection as beneficial in experiential learning and for the development of critical thinking skills, which helps to facilitate the integration between theory and practice (Regulators unite 2019; Tuckett & Compton 2014). However, good exemplars of reflective practice and what this might look like can be hard to find. In midwifery literature, authors commonly use a descriptive format to write about reflection occurring around an incident and their experiences (Lewis 2017). Reflection is exemplified in overseas placements but again, the context is usually descriptive and observational and may only discuss the feelings of participants (Lewis 2017). Since descriptive reflection has been typified as merely stating what happened or as an exercise in ticking boxes (Koshy et al. 2017), more in-depth data into reflective thought processes are required. A higher level of reflection occurs when more meaningful questions are asked, such as 'what happened?', 'why does it matter?' and 'what are the next steps?' Answering these questions is important for learning and necessary for change to occur (Koshy et al. 2017). This higher-level quality reflection can occur when a model or a process such as the Gibbs Reflective Cycle (GRC) is used (Gibbs 1988).

In relation to this, reflection plays a crucial role in the field of health care education, especially since sending students on international clinical placements is considered important to build capacity for health professionals in a global health care sphere (Tuckett & Crompton 2014). The key objectives for students attending an international clinical placement include: being immersed in a culturally-diverse environment, developing resilience, recognising norms and differences, learning to live outside their comfort zone, leveraging opportunities after graduation, and developing a sense of helping others (Tuckett & Crompton 2014). While the number

of students participating in international placement is increasing, there is a paucity of information on what specifics are involved in the planning of such a project.

In this study, the first author used the GRC to provide her firsthand accounts of students' expectations prior to leaving, the practical and beneficial aspects of having local knowledge, planning and preparing the necessary teaching and learning strategies, and changes to students' cultural awareness. Since reflection is perceived as deliberate thinking and a process of looking back, it is acknowledged that it can be used to examine competence and preparedness to improve future practice (Nilson 2011). This paper contributes to the field of study in two ways: (i) by filling the gap in knowledge on how to prepare students for an international clinical placement, and (ii) by offering a transferable example of the use of the GRC that can be applied in the classroom.

Background

In September 2017, UQ offered its undergraduate midwifery students an opportunity for international clinical placement to India. The placement was funded by the New Colombo Plan, which is an Australian Government initiative that supports undergraduate students in their studies by helping them to participate in residencies or placements in the Indo-Pacific region, with an aim to enhance the students' knowledge of cultural practices in the region (Australian Government 2018).

While the placement was designed to at least be an observational experience, students had the opportunity to participate in patient care while being assisted by a local midwife. The program was for students who were in their second or third year undergraduate degree studies, which meant that they were equipped with having learnt the essential skills in managing normal birth and newborn care, including common complications. The timing of the placement was considered ideal as (i) the students had had at least one and a half years of clinical placement exposure, which enabled them to utilise knowledge and skills during the experience in India, and (ii) the students had a subsequent final-year clinical placement upon their return to Australia.

The application process was rigorous, involving an expression of interest letter and an interview, which included questions scored numerically to ascertain the motivation for wanting to embark on an international placement (MaRS Discovery District 2019). The interview also presented the students with an introduction to avenues for raising money to 'give back' to the facilities the students were to visit. Successful applicants were invited to attend an introductory educational workshop to inform them of placement expectations and give them opportunities to ask questions.

It is also worth noting that by the time students have progressed through the recruitment process, they were well aware that the expected, formal teaching and learning that was part of their home university experience would continue in India. This includes learning through the Problem-based Learning (PBL) teaching approach as the Midwifery program at UQ utilised this method of learning, which has been shown to be beneficial in helping develop student compliance (Da Silva et al. 2018). This approach has been used in many medicine, nursing and midwifery settings (Da Silva et al. 2018; Rowan et al. 2008). In midwifery PBL, a case scenario is presented with accompanying 'triggers' identified to provide a topic for students to research and present back to fellow students in class. The 'triggers' are broad and include topics such as antenatal care or instrumental births. This differs from medicine programs where the 'triggers' used in such exercises are usually directly related to a

specific case (Rowan et al. 2008). The midwifery format lends itself to ensuring that all students are able to relate to the broad topic and then critically relate the case to the topic when asked during question time in their presentation. In practical terms, PBL usually requires some form of visual stimulus, such as utilising a video in PowerPoint slides to present information. This form of presentation requires a reliable internet connection.

Aim

This paper demonstrates how one midwifery lecturer (the first author) used the GRC to describe the experiences and lessons learnt when mentoring midwifery students on an international clinical placement to India. The larger goal of this paper is to offer a real-world primer for other midwifery lecturers and undergraduate midwifery students to guide their own reflective practice.

Setting and outcomes

Ten undergraduate midwifery students took part in this study. The placement extended over four weeks in the south of Karnataka, India. The first two weeks were spent in a 50-bed hospital in a rural community, and the final two weeks were spent in a tertiary 380-bed hospital in a major city. The placement locations were chosen by a host who was a social worker connected to the Clinical Placement Office at UQ, who had local knowledge of the health care systems. A scoping visit to the hospital sites in India occurred nine months prior to the student experience. This scoping visit was an opportunity for the University staff to gain exposure in-country and meet with local senior health care staff to finalise details of placement requirements. The visit was valuable as the sites could explain and discuss expectations required from the placement. These included that the students be supported by the University supervisor but be allowed to perform skills with a clinician while remaining within their scope of practice. Details of accommodation, meal and transport preparations were also finalised.

The rural hospital operates a sustainable health care system that is owned by the community and managed by local tribal staff. Although small, the facility has departments including outpatient, surgical, medical, paediatric and obstetric units. Although a small number of births occur, approximately 94% of women give birth in this rural hospital rather than travel to a larger centre. Additionally, there are specialist services for sickle cell anaemia management, dental care, ultrasound, pharmacy and the blood bank.

This placement also provided an opportunity for students to engage in community development and health promotion and included visits to the only local primary school. Here, activities included teaching handball and playing outdoor games with the children. On community visits, the midwifery student group was immersed in assisting with the provision of primary health care activities, including recording of blood glucose levels, body measurements, foetal heart rates, early childhood checks and adult checks. The midwifery students were made to feel welcome. They were invited to a council meeting and festivals where local cultures and cuisines were introduced.

The tertiary city hospital also has the same services as the rural hospital plus high acuity units for dialysis, coronary, adult and neonatal intensive care. Additionally, in 2017, the tertiary hospital commenced a nursing school recognised by the State Board of Nursing in India, where obstetric nurses are trained. The tertiary hospital is

managed by a religious congregation and provides both public and private services. A strong caring philosophy remains evident at the site through a vision of health and healing. The hospital has approximately 300 births per month, with antenatal visits occurring on site. Both hospitals offered opportunities to conduct health visits to communities to conduct postnatal and baby checks.

The placement aligns with the aim of students achieving their clinical practice experience to consolidate midwifery skills learnt in Years 1 and 2 of their undergraduate program. The expected international clinical placement outcomes include:

1. participating in effective professional communication with multidisciplinary teams
2. applying the midwifery skills of monitoring, assessment and care of the woman and the baby
3. providing culturally-responsive appropriate woman-centred care
4. reflecting on practice using ethical and evidence-based professional guidelines and information.

Methodology

The GRC was adopted to critically appraise the experience of the project (see Figure 1). Wain (2017) affirms that the GRC is often used in higher education programs and that it affords students the chance to build on pre-existing knowledge. Additionally, the cycle portrays a mechanism of learning and informs future practice by systematically describing, analysing and evaluating learning (Wain 2017).

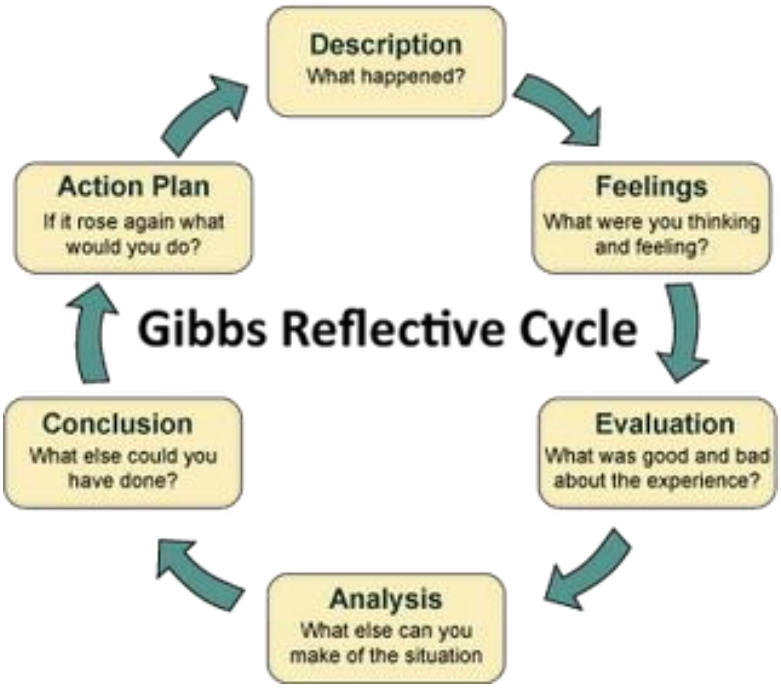

Figure 1. Gibbs' reflective cycle (Gibbs, 1988).

Gibbs (1988) theorises that reflection is needed to learn and that the experience alone is not enough. He espouses that experience can be quickly forgotten and hence, it is from the feelings and thoughts emerging from reflection that concepts can be generated and new situations can be approached more effectively. It was originally advocated that the cycle be used in repeated situations, which is why it is often applied to nursing and midwifery scenarios (Gibbs 1988).

A strength of the GRC is that although structured, the cycle provides enough freedom to add components and details specific to the situation (Gibbs 1988). In some quarters, this freedom is considered a threat to the process itself, since the ability to adapt the content means the reflection could be taken too lightly (Gower et al. 2017). However, this paper argues that this is outweighed by the model's flexibility and usefulness for tailoring the lessons learnt from one experience and applying these to another into the future. Subsequently, this is considered a scaffolded approach to lifelong learning (Gower et al. 2017). The GRC thus provides an ideal opportunity to reflect on and identify specific strategies needed to guide students when embarking on an international clinical placement.

Results

In what follows, the first author relied on the GRC to critically appraise how midwifery students were managed while on an international clinical placement to India. Each of the five stages of the GRC are used as a mechanism to provide new knowledge to inform future international clinical placements and demonstrate a real-world application of the GRC that can be used in the classroom as an example to guide reflective practice (Watkins 2018).

The first author kept a diary in which daily entries were written, which included both description *and* appraisal of student activities in specific hospital units, the education provided and student concerns. The diary also served as a repository for the information that has been examined to provide the results of this study. The results of reflection using the five GRC steps—feelings, evaluation, analysis, conclusion and action plan—are expounded in detail here.

Feelings

India was an unfamiliar destination to the first author. Despite having travelled extensively internationally and throughout regional/remote Australia prior to the placement, the first author was a little apprehensive about accompanying students on this placement. Preparatory workshops were arranged to showcase potential scenarios that students might likely encounter, and discussions were held with guest University staff who were of Indian origin and familiar with the Indian culture. However, a sense of the foreign and unfamiliar remained prior to departure.

There was also apprehension about how the students would interact with each other and with strangers as well as how they would ultimately cope with being away from home. Many of the students did not have prior shared classroom or clinical lessons or had work together, so to 'know each other' was imperative for making the placement succeed.

Although the first author could not ascertain internet reliability during placement, it was anticipated that connectivity would be limited. This mattered because a critical component of planning relied on the PBL 'triggers' being presented in a PowerPoint format. In anticipation of potential internet instability, learning resources now

needed to be in paper format, such as using photocopied pages from texts and journal papers. Prior to departure, extensive planning was conducted around PBL topics. The 'trigger' topics were modified to accommodate scenarios of women in an Indian setting. This step was deemed to enhance the experience for students who could research the expected issues in the international setting and identify appropriate care.

Being chosen for the placement also gave the impetus to students to engage in fundraising projects to 'give back' to the community or hospital. The placement host assisted students in email communications with local nominated representatives, who responded with suggestions to the requests. This mattered because the students were initially keen to provide hard supplies, such as tympanic thermometers and oxygen saturation machines. While these supplies were important, consideration had to be given to battery shelf life and the availability of an electrical input as these were required to keep the equipment operational. The hospitals and community instead preferred smaller packs of birth products and cash donations. The rural community were very happy to receive play equipment for attending children and local community students. The midwifery students were pleased with these responses and proceeded to compile birth bundles comprised of a baby blanket and shirt, soap, nappy and moisturiser. There was extensive discussion about providing a disposable nappy but as these were easily available in India, the nappy option was dropped. The students raised A$1000 over eight weeks by conducting a sausage sizzle and bake sale at a local hardware store as well as an India Independence Day-inspired dinner with auction.

There were some reservations about how the midwifery students would engage with patients and staff in both the rural and city hospitals. Being culturally appropriate with communication, time constraints and attire mattered. At group discussions, aspects such as using respectful language, being tolerant of each other and remaining calm were reinforced. Additionally, listening intently and being interested and open to cultural differences were encouraged.

The first author anticipated that students might experience culture shock, which is typically understood negatively and defined as confusion when exposed to a foreign environment (Maginnis & Anderson 2017). Not understanding behavioural cues or customary norms from another ethnic group can lead to frustration as the student midwives attempt to address their own prejudices or systems of values. Culture shock can be overwhelming and inhibit learning in a new environment (Maginnis & Anderson 2017). Thus, understanding the reality of culture shock mattered. At times, students did feel unaccepted and did not know how to interact with hospital staff. In an effort to allay apprehensions, the first researcher was able to draw on her previous experience with different cultures in under-resourced areas. Consequently, steps were taken to explain to the students that the staff were indeed very interested in them, but there was a language barrier, and so the students needed to accept that communication was difficult. Additionally, the first researcher reminded the midwifery students to consider the resources that were provided to the women by the hospital. Doctors at the hospital informed us that there was little capacity to care for women, postnatally once they went home. Hence, communicating with women about the procedure of cutting an early episiotomy in second stage of labour was paramount, in order to avoid a third degree tear. Managing the care required postnatally, when a woman receives a third degree tear to her perineum would be very difficult in the community. As the clinical placement unfolded, conversations such as managing a third degree tear, emerged between midwifery students and hospital staff and mutual understanding was forged. Time was also spent talking through the way other health conditions were managed in an effort to better

understand why certain practices occurred. Experiences like this challenged students' thinking.

Evaluation

The focus of the placement for students was to have them immersed in the birthing experiences *with* women. The model of midwifery care in the rural hospital was woman-focused, encompassing inclusion of family and particularly the woman's mother. Rarely was there involvement from the doctor. In contrast, in the tertiary city hospital, all the births witnessed by the students were conducted by doctors and there was less reliance on the woman's mother or family. This rural–city dichotomy mattered because the students found reliance on medical intervention challenging. The midwifery students carried with them their paradigm of practice focused on providing care that was woman-centred and inclusive of the family.

Formal lesson times for the student midwives were timetabled into the weekly placement schedule. The students did find the limited internet connectivity an issue as it affected their learning. As part of the feedback cycle in PBL, students individualised the mechanism for how they each presented their findings to the group. In the face of limited internet capability, traditional and some innovative methods were used, such as using butcher paper, artwork diagrams, tables, action flow charts, quizzes and even role play—to convey information in a teaching forum to other students in the group.

On matters related to being away from home, the students were active on video calls (such as FaceTime) with the consequent effect that students did not report being too homesick. The lack of internet connectivity due to limited Wi-Fi bandwidth at the accommodation did evoke some minor distress among a small number of students. The first author was able to intervene, promoting respectfulness for each other's needs and encouraging book reading or conversations with each other. To counter this problem, students also purchased subscriber identity module (also known as 'SIM') cards to connect to the local phone system. One student even received a 'snail mail' letter, which actually excited the group.

Students consulted with the hospital and community representatives to ascertain details of the gift presentations. Steps were taken so that birth bundles were initially given to those women who birthed with a midwifery student present, and then any remaining bundles were left for the staff to hand out at their discretion. The money raised through fundraising was presented in a planned, formal meeting with local and hospital representatives. This formal handover was accompanied by UQ certificates and photos to record the occasion. The actual handover of money was made via international bank transfer.

Students were immersed in the care of pregnancy-related conditions, including multiple caesarean sections and interestingly, management of sickle cell anaemia. They also witnessed confronting situations such as cardiac arrest and a surgical amputation. For some students, this was the first opportunity to enter an operating theatre or emergency department. Debriefing about these situations occurred in the daily discussion time and was imperative to clarify and consolidate information. The debriefing sessions were a valuable exercise because they stabilised the group's emotions and promoted group cohesiveness. The debriefing included researching what the condition was, how the condition should be managed in the Indian setting compared to back in Australia and how the student felt immersed in the situation. A final step saw each student researching a topic around a relevant health care issue they had witnessed. This research was then presented back to the student group in an effort to improve preparedness for the next day of the placement.

Analysis

Students are exposed to different health care settings to purposefully implore them to understand aspects of illness or disease across the globe and be more culturally aware of associated issues (Gower et al. 2017). Educational institutions are keen to promote international clinical placements with an intent to produce culturally sensitive future health care clinicians (Gower et al. 2017).

Findings in the literature substantiated what was experienced by this cohort of students. For instance, Lewis (2017) described care in a Vietnam location that was similar to the placement in India. Hence, it is not unusual in developing countries to have limited resources or encounter practices that differ from one's own.

As was the case in India, in the Vietnamese city hospital setting, families were not allowed in the birthing suites with the woman. Likewise, in both countries in the city hospital setting, oxytocin was used for stimulating labour and administered without a mainline or infusion pump. In India, the midwifery students witnessed women being discouraged from making any noise during labour and pushing from 8 cm dilatation instead of the readily recommended 10 cm (Pairman et al. 2019). The practice of early pushing was also noted in the literature describing the Vietnam setting (Lewis 2017).

Elsewhere, Saravanan et al. (2011) note that traditional Indian birth attendants are trained to position a woman on her back, portraying a medical 'women as object' perspective, rather than as a person who requires support and encouragement in childbirth. Alongside the specific cultural practices encountered, the first author encouraged the students to do what they had also learnt in theory and practice in Australia. This included discussing birthing in different positions with the woman, inclusive of and through the local midwife. Mostly this meant discussing side lying and back rubbing, which are recognised as instrumental as a coaching method to help women progressing through their labour (Pairman et al. 2019). The students were proactive and used opportunities to discuss with mother and staff regarding maternal aspects of care like the 'skin to skin' technique—such as the mother holding her baby after a birth (Pairman et al. 2019). The staff were receptive to this activity and interested in supporting the woman in this way, while the women were eager to hold their baby.

Recognising an in-country experience would be very much about exposure to health care differences. During the selection interview process, students were asked about what they perceived would be cultural concerns while in India. This mattered because the students who demonstrated an understanding of the cultural differences were chosen over those who could not. For example, students were asked about the appropriateness of a male student midwife caring for a labouring woman in India. This type of questioning sought to make an initial determination about how a student might act or respond to the varying circumstances they were likely to be exposed to while in India. Additionally, an awareness of one's own beliefs matters as it influences the essence of the therapeutic relationship and highlights that communication styles need to be culturally appropriate (McGee 2011).

In-country, the students generally became better listeners and took opportunities to seek clarification around practices they did not understand. On this placement, the students worked in pairs each day, which provided them with peer support and 'check-ins' with each other. This strategy, along with daily debriefs, provided a time to voice their concerns or questions and analyse their developing cultural competence.

The students' orientation to the placement was similar to other international clinical placement preparations and included workshops—which incorporated specific regional geographical and political information; advice around visa and immunisation requirements; briefings about possible encounters in the hospitals; what to wear; and behaviour and safety issues during free time (Pettys et al. 2005). In addition, on arrival in-country, further specifics were formally discussed on what to expect with tipping, greetings, the general cost of food items, obtaining maps of the local areas and availability of food and retail outlets.

In the preparation period leading up to departure and while in India, the first author shared her experiences and lessons learnt from 25 years of clinical practice. Across time, this included direct clinical instruction and prescriptions for professional and social behaviour. Through this guidance, students were able to make good choices, enact good actions and demonstrate respectful behaviour to local staff and the broader community. Fostering student awareness of cultural differences within the health care system and in daily activities was imperative for the first author (as the supervisor) to ensure the students were respectful. This is an intrinsic quality of nurses and midwives evidenced by kindness, concern and interest in the people they are looking after (Tuckett 2014).

Conclusion

Overall, the international placement was an enriching and stimulating experience for the midwifery students. Even with unpredictable internet connectivity, continuing with PBL lessons in an informal setting was well received by the students. Students remained engaged with the class content and utilised local textbooks. The students presented their critical PBL feedback using innovative methods that did not necessarily require e-based technology. Especially important, and of great benefit, was the time spent by students researching topics of interest, accompanied by reflection and debriefings.

On the group's return to Australia, the first author had further opportunity to think about the planning involved and the experiences that occurred while on the clinical placement. On hindsight, possibly over-monitoring and over-supervision of students may have been stifling and restrictive for them. At the same time, being acutely aware of and monitoring dress restrictions and the display of culturally-appropriate gestures and language was taxing on the first author. Nevertheless, the students exhibited a great deal of maturity. They displayed a great capacity to cope. Despite not knowing hospital routines and only conversing in English with hospital staff who were culturally and linguistically diverse, students managed to care for a large number of patients. Despite the short four-week duration, the professional and personal growth witnessed in the students will be valuable in preparing them for future challenges in their midwifery career and also general life experiences.

Action Plan

In a final debrief workshop at the home university, the students were given an opportunity to discuss and reflect on what they had observed and experienced. The period of time (six weeks) between returning and the workshop was useful. Students spoke of being challenged by witnessing the birthing practices in the tertiary hospital. They considered the rural hospital much more woman-centred and care-focused. Time had not changed these feelings. They did express a gratitude to the hospitals for accommodating the placement and remembered the kind hospitality shown to them by the communities.

Practical feedback and reflective thoughts from the students included such things as how much money to take to India and how much money to tip a 'tuk tuk' (a three-wheeled commercial vehicle) driver. Also aspects of how good will the internet be, where are the local food stores and where are the best local sites to visit. Since this was the first placement of its kind for School of Nursing, Midwifery and Social Work at UQ, practical 'daily-living' information was unavailable for this group prior to departure. However, their travel information and synopses of experiences have been compiled into a travel guide for the benefit of future student groups to India. Funding has been received for a further placement.

Discussion and conclusion

This paper demonstrates the use of the GRC to describe the experiences and lessons learnt by the first author when mentoring midwifery students on an international placement to India (Gibbs 1988). Specifically highlighted is the methodical progression of recruitment of the students and an application of the GRC to systematically recollect what happened while the group was away and how issues were managed or overcome. The larger goal of this paper was to offer some direction for lecturers and undergraduate midwifery students in their own reflective practice.

There were the expected issues such as language barriers, cultural differences in food and dress and the experience of observing confronting health conditions (Tuckett & Crompton 2014). Two clinical realities were at best, underestimated. These were (i) anticipating broader hospital systems whereby large numbers of patients were cared for while relying on very limited resources, and (ii) the initial reluctance of local hospital staff to communicate with the midwifery students.

Attending this clinical placement provided students with the opportunity to consider international experiences when they returned to their local hospitals. The student reflection recorded here provides new insights and reinforces existing knowledge into international clinical placements, especially those involving midwifery students. Since it is encouraged to benchmark experiences against existing research (that documents like placements), the results of this study offer a model that can be applied to future international clinical placements. While the reflections recorded in this study provide practical advice for lecturers, it importantly also provides students with a glimpse into what to expect when preparing for and embarking on an international clinical encounter.

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Conflict of Interest

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