JUTLP
Journal of University Teaching & Learning Practice

# Finding effective feedback strategies for rural medical students in their first clinical year

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## Abstract

Feedback is a central part of learning and teaching in all University courses, including for medical students. But can we improve the impact of feedback by using a consistent model across different types of feedback delivery? This project was designed to see if, by using a consistent model of feedback, delivered in multiple modes, students would be better able to adjust and improve their skill and knowledge development throughout the year, especially after two years of predominantly online learning due to the COVID-19 pandemic. We also explored whether Clinical Skills Lecturers would be more confident to give targeted feedback to students in a way that yields positive change if they were provided with a model that can be used in different modes and for different activities. What we found was that the consistency and intentionality of the feedback was highly impactful, with face-to-face in real time feedback being more effective that video feedback. Having a feedback model improved feedback literacy and confidence for both students and educators.

**Editors**

Section: Curriculum and Assessment Design
Senior Editor: Dr Alison J. Purvis

**Publication**

Received: 3 July 2023
Accepted: 13 August 2024
Published: 19 August 2024



## Citation

Hall, L., Jefferis, A. & Wanefalea, L. (2024). Finding effective feedback strategies for rural medical students in their first clinical year. *Journal of University Teaching & Learning Practice, 21*(9). https://doi.org/10.53761/ars3yr63

# Introduction

Feedback is almost universally regarded as a key element of successful teaching and learning in Higher Education. The international 'explosion of literature about feedback' (Henderson 2019, p. 4) supports the ubiquitous nature of feedback in learning (Andrews et al., 2010; Boud & Molloy, 2013; Carless & Boud, 2018; Hattie & Timperley, 2007; Henderson et al., 2019; Nicol, 2010; Orsmond & Merry, 2011). Within this literature several studies are asking questions about what feedback is for and how can it be done more effectively (Henderson, 2019). Feedback has specifically been identified as an area of importance and attention in health professionals education internationally (Begley & White, 2003; Chicca, 2022; Clynes & Rafferty, 2008; Wilkinson et al., 2013), and even more specifically as a crucial element of medical education (Aggarwal et al., 2016; Bhosale et al., 2013; Burgess et al., 2020).

Finding effective feedback strategies can be challenging under normal circumstances. However, in the last few years university students globally have been significantly impacted by the COVID-19 pandemic (Hasan & Bao, 2020). Many international studies have been completed on the impact the pandemic has had on medical students (Alsoufi et al., 2020; Anwar et al., 2020; Ferrel & Ryan, 2020; Papapanou et al., 2022). The pandemic experience of medical students in a rural medical education program (Martin et al., 2022; Hoang et al., 2022; Hall, 2021) and the types of adaptation required in response (Cheng & Liu, 2020; Jones and Hall, 2022; Remtulla, 2020) have also been the subject of study and reflection in recent years. Monash University medical students beginning their Foundational Clinical Year (FCY), the first of 3 years spent on placement in a clinical setting, in 2022 had spent the best part of two years restricted to online learning. This meant that prior to beginning their clinical years, these students had not spent any significant time in a clinical setting or face-to-face with actual patients leading to a potential deficit for these learners. Getting enough feedback was also identified by FCY students in internal course evaluations as an area of need in 2020 and 2021.

Conscious of both the need for effective feedback for all students, combined with the additional stressors created by the pandemic, we were interested in the benefits of developing and using a consistent feedback model with this cohort of students throughout an entire academic year to produce cumulative improvement. In response we designed a model that would give teachers and students a shared language about feedback to use together. In evaluating the effectiveness of this model, we explored the following research questions:

1. Does using a consistent model of feedback, delivered in multiple modes, result in students will be better able to adjust and improve their skill and knowledge development throughout the year, especially after two years of predominantly online learning?
2. Will Clinical Skills Lecturers be more confident to give targeted feedback to students in a way that yields positive change if they are provided with a model that can be used in different sites and modes?

# Background

## Why focus on feedback?

Monash Rural Health Bendigo (MRHB) is the largest site of the Monash University School of Rural Health, providing medical education to around 130 students each year in their clinical years in a rural setting. It is an 'apprentice based' model of learning where the students get access to rural clinical sites and rural health experts as well as a state-of-the-art Clinical Skills and Simulation Centre (CSSC) to undertake their clinical education. For the educators at MRHB, the role feedback was front of mind for several reasons when considering the cohort of students undertaking their first or Foundation Clinical Year in 2022.

Internal course evaluation questionnaires conducted in 2020 and 2021 ‘receiving more feedback’ was identified by the respective cohorts of FCY students as something that would improve the learning experience in Bendigo. Learning how to give more effective feedback had also been identified as a professional need by Clinical Skills Lecturers teaching clinical skills at MRHB. Additionally, Professor Michael Henderson gave the keynote address and ran a workshop on feedback at the 2021 Monash University Education Symposium and this provided ideas and impetus to utilise and adapt some of those feedback techniques to our rural clinical context. The students undertaking FCY in Bendigo in 2022 had spent the previous 2 years learning online due to the pandemic restrictions and consequently had little to no exposure to the clinical environment prior to this, with many having never touched or spoken to a real patient. All these elements combined led us to focus on feedback as a central way of supporting these students in 2022.

## Feedback in the clinical learning environment

Clinical education for undergraduate medical students follows a trajectory which begins with two years on campus in traditional classroom and lab-based learning. The third year is their Foundation Clinical Year (FCY), which is the first of three years in which students incorporate both procedural and clinical skills into their learning. Students learn clinical skills in a scaffolded way, being required to perform tasks in a ‘simulated environment under close supervision’, then in a ‘simulated environment Independently (or with minimal prompting)’, followed by in a ‘clinical environment under close supervision’ and finally by the end of their medical degree in fifth year in a ‘Clinical environment Independently (or with minimal prompting)’ (Monash University, 2019). While completing their FCY students learn clinical skills in several environments. Primarily they are embedded in a clinical team as per their rotation in the hospital where they attend clinics, case-based tutorials and bedside teaching sessions. These rotations include medical, surgical, ambulatory and speciality care. In addition to this a list of specific psychomotor procedural skills is taught quite separately from clinical skills by Clinical Skills Lecturers, initially in the MRHB CSSC, using a standard approach to skills development. Since these skills are easily reduced to a set of sequential reproducible steps, they lend themselves to prescriptive performance standards and assessment checklists. They are assessed using procedural assessment rubrics. The Clinical Skills Lecturers are experienced nurses, who have completed post graduate studies, drawn from areas including emergency, medical and intensive care backgrounds. Once the

students have reached an acceptable level of proficiency in performing the procedural skill in the simulated environment, they then move into performing this skill in the hospital as part of treating patients under direct supervision.

Moving from a ‘simulated environment under close supervision’ to ‘performing this skill in a clinical environment independently’ is an ideal opportunity to provide feedback to students, as it allows them to engage in reflective practice and helps them focus on specific areas for improvement. It is also valuable in highlighting the complexity of practising both procedural and clinical skills concurrently. When considering the physical environment, time constraints, the cognitive load on the students and the learning context in the clinical setting, the mode of feedback needs to be taken into consideration.

## Literature

Significant research has been done in the field of education on the important role of feedback. Orsmond and Merry (2011) suggest that feedback is inseparable from the learning process. Other studies highlight high quality feedback as having the most significant impact on student achievement (Hattie & Timperley, 2007). One reason for this, suggested by Nichol (2010), is that an effective feedback process acknowledges students as the main agents of their learning process and active constructors of feedback meaning through interaction and dialogue. Boud and Molloy (2013) agree that effective feedback moves the focus away from what the teacher does and onto something that the student has control over and uses as a tool for learning.

Feedback as part of learning in a health setting is also well researched (see for example Surjan et al., 2021) and feedback is also regarded in the literature as one of the most important aspects of education in a clinical setting (Burgess et al., 2020; Clynes & Rafferty, 2008; Howard & Will, 2018; Lloyd-Penza, Rose and Roach, 2019). The giving and obtaining feedback is an effective way for Clinical Skills Lecturers to gauge the level of student progression, which improves student learning whilst strengthening the academic-practice partnership (Lloyd-Penza et al., 2019) and promote students’ professional growth, confidence, motivation, and self-esteem (Begeley & White, 2003).

Despite the value of feedback being widely recognized, there is little consensus on the best way to provide feedback (Kistler et al., 2021). Traditionally written feedback has been given when it can only be useful for subsequent assessments. It can also be used very effectively as a core component of formative assessment and promote learning by informing the student of their progress, advising them on the need for improvement based on observed learning and motivate students to engage in activities that will help them make these improvements (Burgess et al., 2020). This is reinforced by Archer (2010) who notes that formative feedback is particularly important to clinical instruction because it provides an assessment of how students are performing while they are learning.

Video feedback has been used as a reflection tool for students (Lewis, Moore & Nang, 2015) and for educator development to observe and reveal habits, behaviours, or events that may have previously gone unnoticed (Baecher, 2011). Henderson and Phillips (2015) advocate for the use of video feedback with university students instead of the traditional written approach suggesting that students find it to be more personalised and individual, more supportive, clearer and more

constructive. There are also multiple advocates for the use of peer-to-peer feedback techniques, especially in a clinical education setting (Burgess et al., 2020; Chicca, 2021; Kistler et al., 2021; Roux, 2020). De Mello Heredia, Henderson and Phillips (2023) remind us that peer feedback has been recognised as a powerful mechanism for enhancing students' future performance.

**The feedback model**

Through this project we wanted to see if, by using a consistent model of formative feedback delivered in multiple modes including face-to-face, peer-to-peer and video feedback, students would be better able to adjust and improve their skill and knowledge development throughout the year, especially after two years of predominantly online learning. We believed that Clinical Skills Lecturers would be more confident to give targeted feedback to students in a way that yields positive change if they were provided with a model that can be used in the various learning environments (e.g. on the wards in the hospital or in the simulated clinical environment) and in various feedback modes (e.g. face-to-face or video feedback). The FCY feedback model was developed based largely on the work of Henderson and Phillips (2015), illustrated in Figure 1 below. While their work offered a good structure, it had largely been developed as a form of giving video feedback, often linked to a summative task. We knew that our model needed to be adapted to multiple settings, including face-to-face feedback in a clinical setting and peer to peer feedback, and needed to focus on formative points of learning. Thus, we drew on other research around feedback in the clinical setting (Burgess et al., 2020; Wilkinson et al., 2013) as well as models for peer-to-peer feedback (Chicca, 2021; Kistler et al., 2020; Roux, 2020).

**Figure 1**

*Foundational Clinical Year (FCY) feedback model*


## FCY feedback model – elements explained

**Salutation** – this is just a simple personal way to start the feedback. The research suggests that something as simple as using the student's name helped the student feel like the teacher really knows and recognises them (Henderson and Phillips (2015)

**Relational Work** - the purpose of this is to build the student teacher relationship and recognize and value the student, including personal circumstances you may be aware of (Henderson and Phillips (2015)

**Objective and Evaluation** – This is an opportunity to reinforce the learning objectives of the activity and then make some general evaluations of the overall strengths and weaknesses (Henderson and Phillips 2015). Be clear and to the point. In the peer-to-peer feedback sessions student might also like to invite their peer to start with some of their own reflections on how they did (Kistler et al 2021)

**Specific Strategies for improvement** – The purpose of this section is to feed forward – make specific suggestions about how students can improve their performance and knowledge into the future, including examples (Henderson and Phillips 2015). Suggest next steps for a plan to address their learning goals and needs (Kistler et al 2021).

**Invitation** – Finish again with a relational element. Use the student's name. Thank them for their efforts. Then make specific invitations to them about what they can do in response to this feedback e.g. "I'd invite you to make a time to come and speak to me", 'A good idea would be to book a time in the lab to practice this" (Henderson and Phillips 2015; Kistler et al. 2021).

Prior to the development of this model, we had assumed that feedback was being delivered as part of the procedural and clinical skills teaching but had no evidence of how, when and in what form this was occurring. Feedback was very reliant on the individual educator and their previous exposure/experience which meant that students were unprepared to receive and therefore act upon the feedback they received. We wanted to observe and measure the impact of using a consistent approach to feedback across a year level, as well as evaluating the benefits of teaching students how to be active participants in the feedback process. We aimed to ensure that feedback was flagged explicitly to the students, then review how this was received by the students and if it made a positive impact on their progress.

## Method

Once ethics approval was received at Monash University (HREC 31903), work on the project commenced. At the start of the academic year, education sessions were conducted with both students and staff to teach them the FCY feedback model, as well as inducting the Clinical Skills Lecturers into the use of screen recording software, Loom (Loom, 2024), as a video feedback tool. When giving video feedback, the Clinical Skills Lecturers recorded a brief two to three-minute video on using the FCY feedback model, then sent this to the students email account. Face-to-face feedback also took about two to three minutes but was given immediately after the clinical encounter using the same model. The aim of the session with the Clinical Skills Lecturers was to embed a common approach and language to be used by all staff when giving feedback to students and to ensure the same feedback model was being used consistently. All staff using the model were given prompt cards to carry with them and were encouraged to trial a mock feedback video to make sure they felt confident in the process. The aim of the session with the students was to signpost to the students that this feedback model would be used throughout the year, to increase their feedback literacy and encourage them to use this model with their peers. This approach is in line with research that suggests the best results come from a combination of a focused workshop on effective feedback models with regular use of feedback (Andrews, Bobo & Spurlock, 2010).

Validity and reliability are an important but challenging aspect of qualitative research methods (Drost, 2011; Whittemore et al., 2001). In the field of education research, the recognition of the need to capture the emotional reactions of students to their education experience has resulted in several tools that attempt to provide valid and reliable measures of this experience (White, 2012), however many of these tools are designed for large cohort evaluations. Kember and Leung (2009) note that there are few available instruments that assess students' perceptions of university teaching and learning environments and can be used to provide diagnostic feedback, at the degree or program level. In response to the size of the study and the cohort and the specific nature of the problem, it is not unusual for studies such as this to develop their own questionnaire instruments (Aggarwal et al., 2016; Bhosale et al., 2013). In line with Drost (2011, p. 109) a 'test-retest' approach was used to develop reliability of measurement in this study. A pre-placement questionnaire was developed and distributed using the Qualtrics platform. The questionnaire contained a total of 7 questions using a Likert 5-point scale on a range of areas including level of confidence and level of comfort with giving and receiving feedback. This formed a baseline metric for student data. We then repeated the questionnaire process mid-year and end of year to measure the 'maturation' over time as per Drost (2011, p. 108). The mid and end of year

questionnaires included the same 7 questions, plus an additional 5 questions - 4 using a Likert scale and one multiple choice question. These additional questions gauged the usefulness of feedback in different modes and environments. We note that this deviates from Drost (2011) in the test did not remain strictly the same over the three survey points.

Once the Clinical Skills Lecturers had completed the education session on feedback and had spent one month teaching this cohort of students these educators were invited to complete an initial questionnaire consisting of six questions using a Likert 5-point scale to provide an impression of the student skills and confidence level at the start of the year, as well as the educators views on the importance of feedback. This questionnaire was also developed and distributed using the Qualtrics platform. It was originally intended that the 'test-retest' approach (Drost, 2011) would be used to establish reliability of the educator responses as well'. However, before the first educator questionnaire there was significant disruption and turnover to sessional clinical education staffing in the MRHB CSSC. This resulted in most of the clinical education for the FCY program being taken on by the 3 fixed term Clinical Skills Lecturers, rather than sessional lecturers. As a result of this it was decided to forgo a second questionnaire with the entire group of Clinical Skills Lecturers, who would have little to contribute due to minimal teaching, and instead move directly to a 60-minute focus group interview with the three main Lecturers in August of 2022. A focus group interview is an established tool used in medical education research (Joshi et al., 2017; Stalmeijer et al., 2014) and was always part of the research design that received ethics approval. The questions/prompts used as the basis for discussion are included in Table 1 below:

**Table 1**

*Questions/prompts for educator focus group interview:*

| Educator focus group interview: |
| --- |
| 1. How do you think the Foundation Clinical Year students are going generally?<br>2. What were your expectations of this group of students and how is your experience different to those expectations?<br>3. Tell me about the students' clinical knowledge and skill levels on the wards.<br>4. Tell me about the students' clinical skills development in the Clinical Skills and Simulation Centre.<br>5. Has the feedback you have provided to students helped in any way? If so, how? If not, why?<br>6. Which kind of feedback do you find the most/least useful?<br>7. Do you feel there are changes that could be made to how the feedback is provided that would improve it? |

Two of the listed authors participated in both the educators' questionnaires and the focus group interview. To avoid bias and subjectivity the data analysis of the educator questionnaire results and the focus group transcripts was completed by the Chief Investigator alone.

## Results

A total of 14 out of 33 students responded to the initial questionnaire. At the mid-year point 12 of the 33 students responded, and at the end-of-year there were 11 responses. A total of 37 responses were received from rural medical students completing their Foundation Clinical Year

in Bendigo, representing a 37% response rate overall. The response rate for the questionnaires ranged from 33-42%, shown in Table 2.

**Table 2**

*Student sample size and response rates*

| | Response (n) | Response rate |
|---|---|---|
| Q1 | 14/33 | 42% |
| Q2 | 12/33 | 36% |
| Q3 | 11/33 | 33% |
| Total | 37 | 37% |

The initial staff questionnaire was distributed to a total of 10 Clinical Skills Lecturers of which there were 6 responses. The data from the focus group interview conducted with the 3 main Clinical Skills Lecturers helped build a qualitative picture of the benefits and limitations of the feedback model being employed.

### The value of feedback

Students were asked in all questionnaires about how highly they value feedback. Over 80% of students' responses showed that they find receiving feedback 'Very' to 'Extremely' important as a tool for learning. Students considered feedback to be most important in the middle of the year. There was one result indicating it is 'Not important at all' at mid-year. This result is most likely because the student had not received any feedback at that point, so was unable to state its importance to them. Overwhelmingly, students indicated in response to this question that they like, want and are happy to receive feedback from educators. The Clinical Skills Lecturers were similarly asked in the first questionnaire about the importance of feedback and all respondents said it was either 'Very' or 'Extremely' important.

### Confidence levels

When the Clinical Skills Lecturers were asked at the start of the year how the 2022 intake of FCY students compared to previous years in terms of their initial confidence in learning and working in a clinical environment half of educators thought the 2022 students were 'Average', 2 respondents thought the students were 'Somewhat above average' and one respondent suggested they were 'Far below average'. When asked how the 2022 intake of FCY students compared to previous years in terms of their initial confidence in performing clinical skills again 3 respondents answering 'Average' with one 'Somewhat above average' and one each choosing 'Somewhat below average' and 'Far below average'. All 6 respondents believed that restrictions placed on learning by the COVID-19 pandemic was responsible to some extent for decreased confidence levels in students.

When the students were asked about their confidence in learning and working in a clinical environment, no one responded 'That doesn't describe me', indicating that all students had at least some confidence in their ability to learn and work within this setting. It was evident from the questionnaire responses that students felt slightly more confident about learning and working in a clinical environment initially as compared to mid-year. Encouragingly, by the completion of 2nd

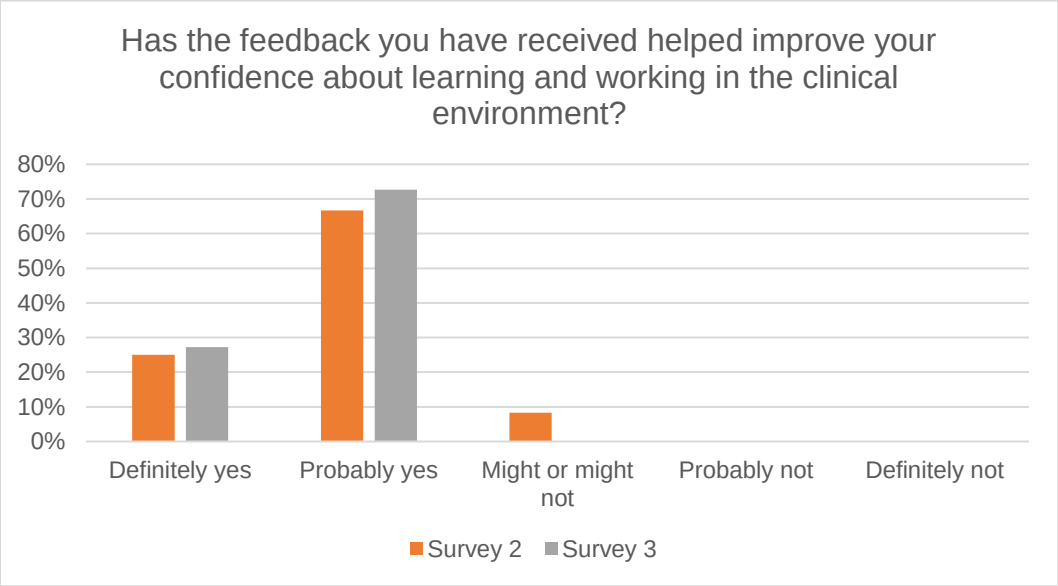
semester, two thirds of students felt ‘very confident’ or above which shows an increased trajectory over the year. In fact, by the end of the year all students indicated that they were feeling more than slightly confident about learning and working in a clinical environment.

As could be reasonably expected, none of the students felt ‘Extremely confident’ about their clinical skills at the beginning of the year. Increased confidence is evident in the questionnaire responses by mid-year, moving from ‘Does not describe me’ or 'Slightly well’ to greater than 65% of students saying it described them ‘Very well’ or above by the end of the teaching year. Some students started the year with minimal to no confidence. There was a clear and steady improvement in confidence levels in clinical skills over the year.

In questionnaires 2 and 3 the students were asked if the feedback they had received helped to improve their confidence in learning. There was positive growth at the end of the year. 100% of students said that it ‘Probably’ or ‘Definitely’ helped with their confidence in learning in the clinical environment, as shown in Figure 2.

**Figure 2**

*Increased student confidence because of feedback*

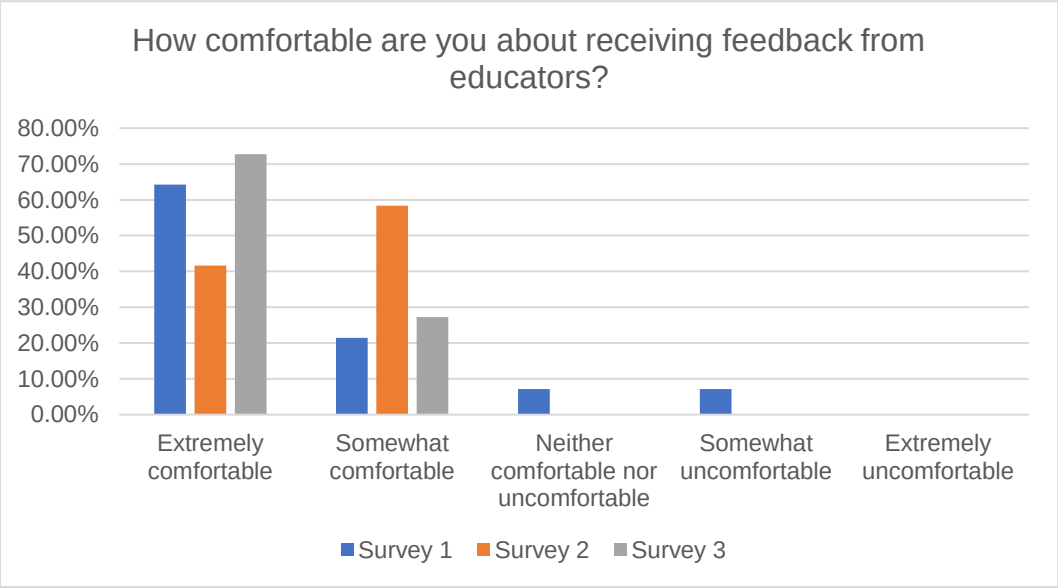



**Comfort regarding feedback**

The feedback model used and the way it was delivered by educators was perceived by students as being encouraging and constructive rather than threatening, reflected by increasing comfort with receiving feedback over the course of the year, shown in Figure 3.

**Figure 3**

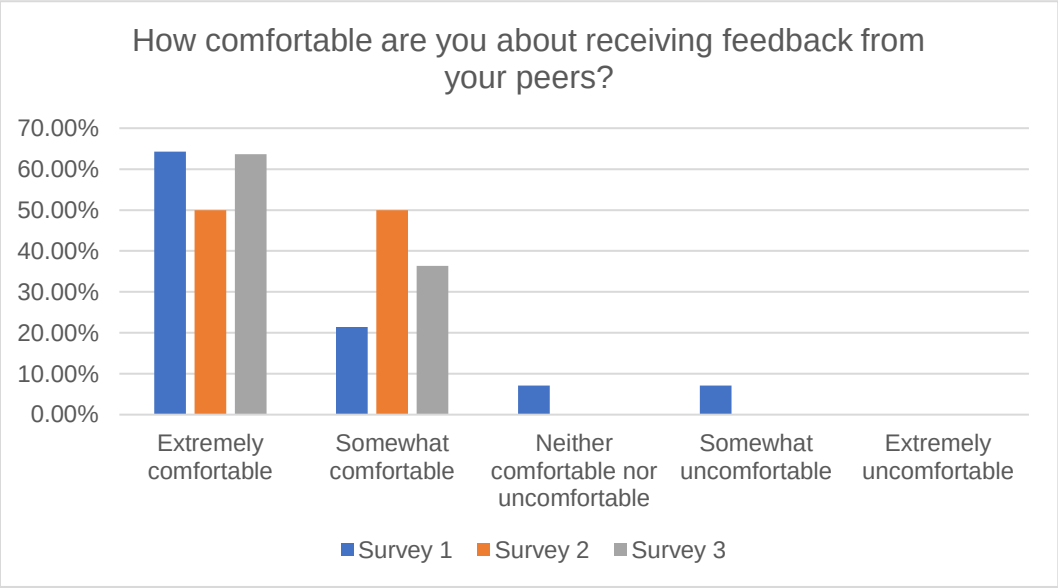
*Student levels of comfort in receiving feedback from educators*




Students also received similar education to the educators about how to use the feedback model. This was reflected in their confidence and comfort levels in receiving feedback by mid-year, with 100% of students indicating they felt ‘Extremely’ or ‘Somewhat’ confident. Students possibly develop a more realistic and holistic understanding of what it means to give and receive feedback once they were able to practise the model. Results demonstrated that the students were less comfortable overall with giving feedback to others than receiving it themselves. This was also reflected in less overall growth of comfort in this across the year but by the mid-year questionnaire most students felt that they had some level of comfort in doing this shown in Figure 4.

**Figure 4**

*Student comfort in receiving feedback from peers*




**Types and impact of feedback**

Students were asked about the usefulness of receiving video feedback in both questionnaire two and three. Midyear almost two thirds of students found this form of feedback to be 'Not at all useful' but this percentage dropped to one third for the final questionnaire. Two thirds of students found it to be 'Moderately useful' or above by the end of the year, shown in Figure 5.

**Figure 5**

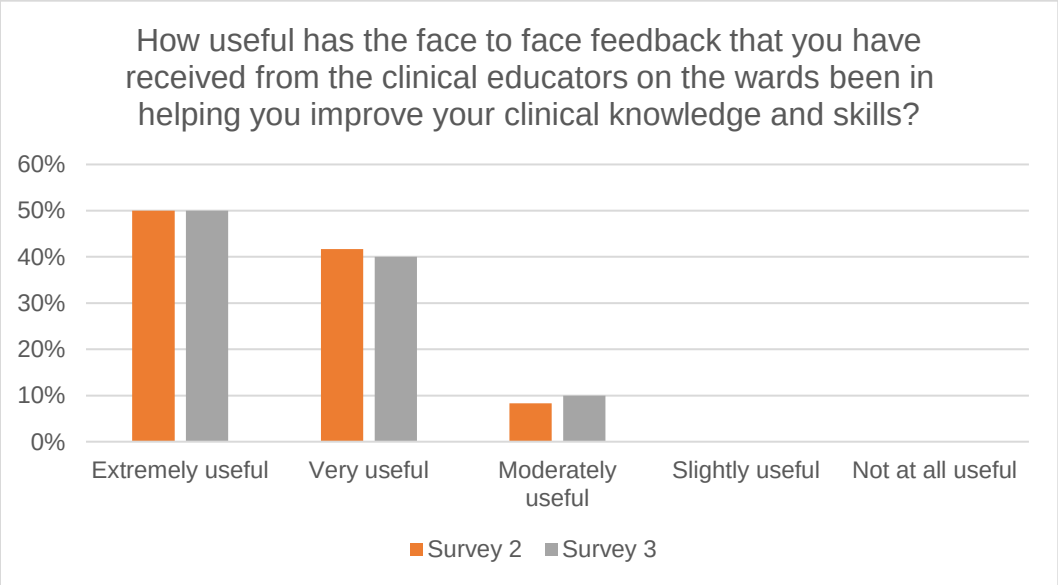
*Usefulness of video feedback*

This perception was reinforced by the Clinical Skills Lecturers who agreed that the use of video feedback had been less useful than face-to-face with one educator commenting, “the video feedback I don't mind doing I just found it found I am sporadic with it, I find it more effective giving it in real time.” For the educators this was in large part due to it being ‘another thing’ to do and they ended up defaulting to using video to reinforce learning for students they think would benefit most from it. Specifically, the educators reflected, “I think we probably are leaving doing the videos for those who really needed it and …in my videos, I will start with ‘As we discussed, I just wanted to go back over what we discussed today’”. What tended to happen was that the educators were selective with how they used video feedback, using it to reinforce certain feedback for students who they felt would benefit from it. One educator reflected this as a potential way of using both modes into the future, “… I wonder if that's sort of where we end up, that we give the verbal, but if we think it was something really big or the person might not have appeared to take it on board at the time that we follow it up with a (video) recap, to reinforce?”

Face-to-face feedback was highly valued by students across both questionnaire two and three. All students stated that they found it to be 'Moderately useful’ or above and over 90% finding it ‘Very useful’ or above. The results were very consistent across the two questionnaires, shown in Figure 6.

**Figure 6**

*Usefulness of face-to-face feedback*




The in-person, face-to-face feedback was also preferred by the Clinical Skills Lecturers. One of them said, “I believe it works really well on the wards, when they're practising skills or even just interacting with patients, I find it’s great because that's when you want to give them feedback and see where they can improve”.

When asked how useful peer to peer feedback was the students' responses demonstrated a positive growth across questionnaire two and three. Over 80% of students found peer to peer feedback to be ‘Moderately useful’ or above by the end of the clinical year. By the end of the year

not one student responded ‘Not useful at all’. 14% of students identified near peer feedback as the most useful feedback they received throughout the year.

Finally, the students were asked in questionnaire two and three about where the most useful feedback they have received has come from. In the middle of the year the students found that the ward visits with the Clinical Skills Lecturers were where they received the most useful feedback. By the end of the year the students identified that bedside tutorials and hospital staff teaching were highly beneficial. This may be broadly reflective of students having increased confidence in their medical knowledge in the second half of the year and therefore gaining more from their sessions with doctors on the wards.

**Using a consistent feedback model**

All 6 of the Clinical Skills Lecturers who responded to the initial questionnaire rated feedback as either ‘Very important’ or ‘Extremely important’ as part of learning in the clinical environment. All six were also comfortable to varying degrees with both giving feedback to others and receiving feedback from others, with no one expressing discomfort in either of these areas. One of the intents of using a shared model for feedback was to provide consistency for both educators and students. The focus group data revealed that this was effective, with one educator saying “I really like the feedback model. It's helped me a lot in the way I deliver feedback. It gives me a framework that means it's consistent. Another said, I love the verbal model. It means they (the students) know what to expect and I found it really easy to use, because I already use a similar model without realising it in my nursing feedback.”

The Lecturers observed that having a consistent model of feedback has anecdotally increased student engagement and self-reflection in learning these clinical skills in a clinical context. They made the following direct observations:

> I'm not sure that the feedback, in particular, has increased their (the students’) level. What it has done is they (the students) seem to be more interested in receiving and actually interactive and engaged when you give them feedback.
>
> ...sometimes they’ll (the students) do a bit of self-reflection at the time and then give you a response back and say, ‘oh yeah thanks for that, you’re right, that is what happened and I am going to work on that so that's been valuable’

This was also reflected in the following unsolicited email received by one of the Clinical Skills Lecturers by one of the FCY students after receiving feedback:

> Thanks so much for the feedback. Completely agree I think I need to get more confident and quicker with my setup. Look forward to practicing that and would also like to practise my IDC next week. Thank you. (personal communication)

This brief interaction shows us several things. The student is appreciative of the feedback given, is reflective about what it means for their learning and has also identified and articulated additional areas they feel they need to develop. These are all excellent signs that the model is working.

## Discussion

Overwhelmingly, these medical students in their first clinical year indicated that they like, want and are happy to receive feedback from educators. This is very likely due to the feedback being presented within a framework that uses empathy and structure to present the information in a way that is comfortable to receive. This is important when delivering feedback to medical students who are very focussed on achieving high results and are generally very critical of their own performance. Clearly face-to-face feedback is valued by students and is the most useful, time effective and timely form of feedback in a clinical learning environment. The educators observed that feedback was most effective when it was clearly signposted by the educator so that the student recognised it and was attentive to what was being said. This is in line with Burgess et al (2020) who remind us that receiving feedback is not a passive act.

The study also observed that students' confidence reduces if they don't have opportunities to practise skills learned early in the year. Interestingly, as the year progressed and students' confidence in clinical skills increased, they may have required the same level of feedback. Mid-year seemed to be the most effective time for feedback, which is broadly reflective of the literature around feedback which suggests that feedback is most effective when it supports learners to progress over a time period and work toward a goal (Dawson et al., 2018; Wilkinson et al., 2013). Students also identified feedback as more important in the middle of the year than at the end. This is likely due to the nature of clinical skills development whereby students develop competence and confidence in the skills over time and therefore require and receive less feedback as they develop mastery over these skills. This aligns with what Clynes and Rafferty (2008) assert, that it is important for students to receive both formal and informal feedback, as well as practical information and advice on how to improve their performance. By the end of the academic year, the level of feedback for improvement decreased and it became more about repetition of tasks to demonstrate competence. The focus then quite naturally moved to summative assessment.

Students overall typically saw themselves as receivers of feedback, but did not necessarily expect to have to provide this to others or feel empowered to do so, particularly if they have a personal relationship with the other party. Some students indicated they felt neutral about giving feedback while others expressed a lack of comfort in this area. This lack of comfort with providing feedback to others could be connected to their relationships as a small student cohort. It may also reflect the concerns expressed in the literature on peer-to-peer feedback about the honesty and accuracy of peer feedback (Burgess et al., 2020). These observations strengthened the rationale for delivering explicit education and instruction on how to deliver feedback as learners are more accepting of feedback if they perceive the provider has credibility and if it is provided using a structured model (Burgess et al., 2020). We wanted to normalise the process of ongoing feedback in the routine of clinical education (Howard & Will, 2018) because medical students need to understand feedback as an integral part of learning and in their future practice as professionals. Creating an awareness that feedback is not a personal criticism to be given or received, but rather a skill that can be used to improve knowledge and practice is fundamental to students' success in their ability to deliver and receive feedback.

The student feedback surrounding the usefulness of video feedback was reflective of the small number of students who received a video. While the initial intent of the study was to use video feedback equally to face-to-face feedback, the time limitations in the busy clinical teaching environment meant that this just never happened. The time required to record the video was a barrier as well as ensuring that the student watched the recording. The constrained nature of educators' work, particularly in relation to time, is one of the key challenges identified in feedback practices in the broader literature (Ryan, Henderson & Phillips, 2019). However, we came to recognise that video feedback did have a place in the clinical skills education setting particularly to reinforce verbal feedback for later reflection. We found the most effective use of the feedback model was direct observation and feedback at the time of the clinical activity (Burgess et al., 2020), and then with a small sample of students a video was then useful to reinforce what had been already discussed. This is in line with the work of Henderson et al. (2019) on multiple modes of feedback that showed that students who received multiple modes of feedback found it more usable when one of the modes was a digital recording. This also aligns with the finding that feedback in combination with reviewing a learnt skill via video has been shown to increase the ability for students to self-assess and reflect on their performance (Gelula & Yudkowsky, 2003) as well as being an excellent way to respond to the changing needs of the teaching and learning environments in current age of technological advancement (Stanley & Dougherty, 2010). The reduced number of video feedback recipients also made it more realistic for Clinical Skills Lecturers to subsequently follow up with students.

By the end of year students valued receiving feedback from those working outside of the Clinical School as increasingly useful, compared with questionnaire 2 results where the Clinical Skills Lecturers based at the Clinical School provided the most valued feedback. This could be attributed to the students' increased confidence with receiving feedback, or perhaps also their development of relationships with other practitioners, such as their supervising doctors in the hospital setting, who they deem to be highly credible in the clinical setting (Burgess et al. 2020). The students may have begun to engage more in bedside tutorials and feel confident to ask questions and seek feedback and explanations from the doctors they were shadowing.

**Practical implications**

What the results of this study show on a small scale is that feedback given formatively, early in the academic learning timeline helps build student confidence in their abilities. Then as the students' confidence in the clinical environment grows across the year the students are completing more clinical skills with their allocated rotation team which may result in feedback from a greater range of sources compared with the first semester when they are still at a consolidating level and mostly getting feedback from the Clinical Skills Lecturers. The consistent model of feedback seems to empower students to seek out and be willing to receive that feedback in more productive ways as the year progresses. This is certainly in line with the literature on the impact of feedback literacy (Molloy, Boud & Henderson, 2020; Carless & Boud, 2018). One of the aims of this project was to instil the importance of self-reflection in feedback for the students. Self-reflection is yoked to formative feedback; it shapes how the feedback process unfolds and whether students integrate the information into their practice (Archer, 2010). We observed that, in addition to greater levels of confidence, students also become more self-reflective as the year went on. This is powerfully reflected in the unsolicited feedback provided by one student at the

end of the results section. As Mirlashari and co-authors (2017) remind us, engaging in regular and self-reflective dialogue, that is strategy rather than problem focused, embeds ongoing feedback in the routine of clinical education, which will help guide these students long after their Foundation Clinical Year has ended.

These findings were generated within a regional clinical school with a relatively small cohort of students, but all clinical schools share the common components of procedural skills being taught initially in a clinical skills lab and then progressing into the clinical setting with increasing input from clinicians in the field. Therefore, these findings would certainly be useful for other clinical schools operating within Australia who are using feedback as a central tool for learning. According to the Australian Medical Council there are 21 accredited medical school programs in Australia (Australian Medical Council n.d.). Each of these programs would include a number of clinical school sites where medical students attend clinical placements during their clinical years. Similar programs run in the two medical schools in New Zealand that are also accredited by the AMC, and therefore these findings would have applicability there also.

### Limitations and possible further research

This was a single site study with a small cohort of students so the findings should be seen in this light. The students involved in the study recognised feedback as one of the components which helps develop their confidence in learning and working in the clinical environment. However, this study did not look at the other aspects which students identified as contributing to building their confidence, such as repeated clinical practice and exposure to patients. The findings of this discrete study work well if seen as part of a continuous quality improvement process for teaching and learning at this site. However, there is potential for trialling the approach that worked at this site at other sites across the rural health landscape, and possibly even in urban clinical teaching settings, such as those mentioned above across the Australia-New Zealand medical school footprint. There would also be scope for seeing if this feedback approach worked better in medical education or if, given the clinical skills focus, it was also applicable to other health professions educational settings such as nursing and allied health. Finally, in this study the peer-to-peer feedback was only completed face-to-face and the video feedback was only done from clinical educator to student. DeMello Heredia, Henderson and Phillips (2023) suggest a video peer feedback model that combines peer feedback with audio-visual elements that could be a useful pedagogic approach to consider for future iterations of this project.

## Conclusion

The aim of this study was to identify effective feedback strategies for rural medical students in their first clinical year. The giving and receiving of feedback for rural medical students is an important skill to be learnt by both educators and students alike. The results of the study showed feedback is essential to reflective learning and that feedback is highly valued by medical students. Face-to-face was identified as being the most effective way of receiving feedback. Feedback that was recorded, particularly via video, was seen by both students and educators as useful to reinforce key points for some students. The importance of receiving feedback in a timely manner and within a specific framework was shown to have greater impact across both face-to-face and video feedback. While overall student felt more confident in receiving as opposed to giving

feedback to their peers, the act of increasing feedback literacy by clearly flagging the conversation as feedback helped to set the tone and improve receptiveness and this resulted in a noticeable increase in students' confidence in their clinical skills developed alongside their confidence in giving and receiving feedback, including receiving feedback from a wider range of sources. Teaching the skill of giving and receiving feedback within a framework model gives it consistency and structure and reinforces feedback as a central component of learning.

## Acknowledgements

The authors wish to acknowledge and thank the contribution of Gabrielle Jones in the early stages of this research. The authors disclose that they have no actual or perceived conflicts of interest. The authors disclose that they have not received any funding for this manuscript beyond resourcing for academic time at their respective university. The authors have not used artificial intelligence in the ideation, design, or write-up of this research as per Crawford *et al*. (2023).

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