Medical Science Educator (2022) 32:1219–1229
https://doi.org/10.1007/s40670-022-01597-8

REVIEW

The Practice of Feedback in Health Professions Education in the Hierarchical and Collectivistic Culture: a Scoping Review

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Accepted: 15 July 2022 / Published online: 4 August 2022

Abstract

The global trend in student assessment is moving towards outcome-based assessment that requires multiple systematic data points and continuous feedback. However, in hierarchical and collectivistic cultures, one-way communication is practised more often, leading to less dialogical feedback. This scoping review explored feedback practice in Asian educational setting. Based on the 17 articles selected, the findings were categorised into four themes, i.e. inhibiting or facilitating factors of feedback, influences of cultural factors on feedback, discrepancies between students' and teachers' perceptions of feedback and impact of feedback. Hierarchical and collectivist cultural aspects, such as preference for group feedback, are pertinent to feedback practice, which likely influence the readiness for programmatic assessment.

Keywords Collectivist culture · Feedback · Hierarchical culture · Outcome-based assessment · Programmatic assessment

Introduction

The emphasis of assessment in medical education has been on the assessment of all previous learning processes. In 1989, Martinez and Lipson introduced the concept of assessment for learning [1]. To allow assessment to have an impact on learning, it needs to focus more on periodic reflection and feedback, based on various data regarding learning and assessment activities, to assist students in planning further learning [2]. One of the appropriate approaches to achieve this is through programmatic assessment.

Programmatic assessment is defined as 'a specific approach to designing assessment program to simultaneously optimise the decision-making and learning function of assessment' [3, p. 7]. It is embedded in the educational process and assesses students longitudinally using various methods [4]. As a concept of assessment, programmatic assessment has several essential characteristics that differ from those of other assessment approaches, i.e. meaningful triangulation, the proportionality of decision-making and diversity of quality assurance processes [4]. Meaningful triangulation is achieved when students' performance is compiled based on various assessment methods that allow reliable judgement, while proportionality is applied when decisions regarding performance are made using adequate information appropriate for the stakes of the decision. The quality assurance process comes into play to ensure that all data or information are robust and the decision-making process has accountability.

Since high-stakes decisions about students' performance in programmatic assessment are based on longitudinal data and continuous feedback on students' progress, we argue for the importance of feedback. Feedback is defined as 'specific information about the comparison between trainees' observed performance and a standard, given with the intent to improve the trainees' performance' [5]. An integrative review by Schut et al. [3] has shown how pivotal feedback is in the programmatic assessment concept. In particular, the review demonstrates that a routine feedback process is included in the strategy to optimise programmatic assessment since feedback allows for rich and meaningful triangulation and facilitates student learning. Despite its powerful function, delivering helpful feedback to students still poses significant challenges.

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Feedback will be regarded as high-quality feedback if it stimulates the learning process and deep reflection [6]. Institutional culture is also argued to influence effective feedback through the factors of quality, credibility, and acceptability [7]. The culture is characterised based on residents' perceptions, including a lack of clear expectations around feedback, difficulty in providing honest feedback, perceptions of feedback as one-way communication, relationships between residents and supervisors, and the importance of creating a continuing professional development culture. Consequently, challenges in delivering effective feedback may arise from the cultural context.

One of the characteristics of Asian students as highlighted by Shimizu et al. [8] is the tendency to learn only with the purpose of achieving good results in an examination. Teacher-centred pedagogies are quite common in Asia, and students' self-efficacy originates from acknowledging their educational achievements. A scoping review of Asian healthcare professionals' clinical reasoning process showed that aspects of Asian culture such as hierarchy and uncertainty avoidance may be associated with the clinical reasoning process [9]. Hofstede's serial studies of cultural characteristics found several domains distinguishing country-based cultural categories [10]. Most non-Western countries, including those in Asia, Africa, Latin America, and the Mediterranean, fall into the hierarchical culture: the social distance between people is highly acceptable to maintain social harmony and avoid conflict. Consequently, one-way communication is more familiar than a partnership style with dialogical conversation. Most of these countries are also found to be more collectivistic in decision making, wherein family, relatives, and even community may influence individual decisions rather than individual responsibility. We argue that these characteristics will influence how feedback is delivered, sought, and responded to.

To our knowledge, no scoping review specific to the feedback process in the Asian setting has been conducted thus far. One systematic review by Saedon et al. [11] examined the role of feedback in improving workplace-based assessment effectiveness, whereas Bing-You et al. [12] conducted a scoping review and identified the lack of evidence-based recommendations for the feedback process. Therefore, our scoping review aims to explore how feedback is delivered and received in the cultural context of Asian health professions education, one of the most populated regions in the world in which large power distance/hierarchical and collectivistic culture is prominent, based on cultural characteristics described in Hofstede's study [10]. Our approach in this review is to analyse feedback process within certain cultural contexts which may exist in different societies and countries. The above attributes characterise Asian medical students; however, we believe that they are also universally applicable to medical students in general; thus, the results of the current scoping review may, to some extent, relate to other settings as well.

Methods

A scoping review aims to map the existing knowledge from the literature regarding certain concepts to understand the contents of the literature and is more flexible than a systematic review [13]. In this study, we mapped and synthesised feedback practices in the context of Asian medical education based on the available studies in this area. The scoping review was conducted in line with the steps outlined by Arksey and O'Malley [14].

Search Strategy and Screening of Articles

Based on the research question, the relevant keywords, i.e. feedback, formative assessment, medical education, and Asia/Asian, were entered into major databases (PubMed, EBSCOhost, ScienceDirect, and Springer) to search for and identify relevant journal articles, with the assistance of a librarian. We argued that our search was comprehensive although we did not specify the country names as keywords, since the exploration of feedback process is often based on the cultural context not the country. We only included articles written in English between 2010 and 2020. This period was selected to include the latest evidence regarding feedback given there has been changes in feedback paradigm in the last 10 years, from unidirectional to a more bidirectional feedback process [15, 16]. Figure 1 illustrates the stages of filtering and selecting the identified articles based on the inclusion criteria. We identified 482 articles from the four databases, of which 74 articles remained after the elimination of duplicates and title screening. The abstracts of these 74 articles were screened for the terms 'feedback' or 'formative assessment', resulting in 32 articles. We excluded studies in the form expert opinions/reviews, letters to the editor, and secondary sources such as literature/narrative/systematic reviews, to enable direct interpretation and synthesis from primary sources in this current scoping review. The full text of the remaining 32 articles was assessed using the Joanna Briggs Institute (JBI) quality standards for research checklist which consists of eight items concerning the study methodologies and existence of bias or confounding factors [17]. Based on the assessment, 15 articles were excluded due to limitations in the methodologies, and 17 articles were included in the current scoping review.

Data Extraction and Analysis

Seventeen articles were included based on the selection process; the next steps involved collating, summarising,

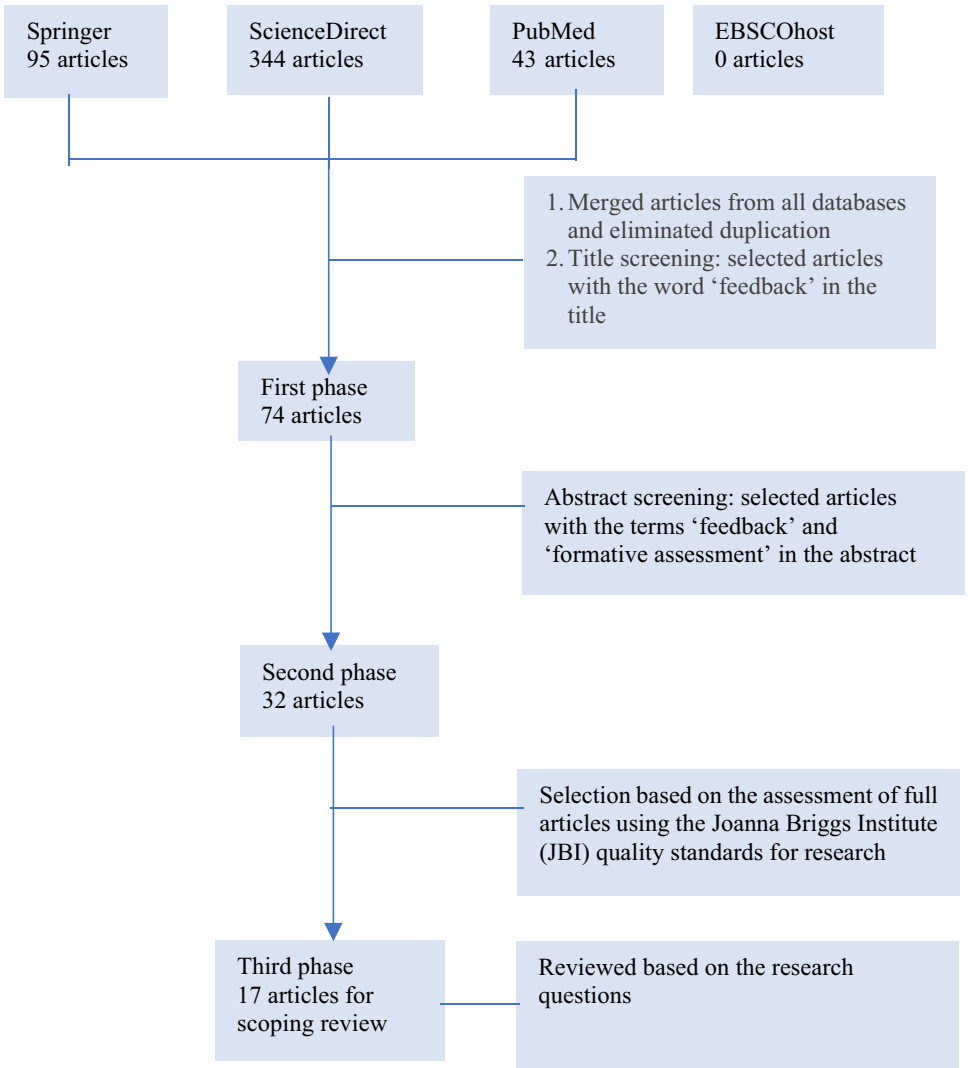

Fig. 1 Overview of the article search and screening process

and reporting the data extracted from each article. A table template was developed as a tool to extract and summarise the data and findings from each article. Apart from details such as the authors, title, and year of publication, the table required reviewers to identify the focus and meaningful results of the study and how ready students or teachers (the study population) are for feedback.

All authors acted as reviewers who read, reviewed, and extracted data from the 17 articles based on the two guiding questions of how ready the students are to respond to feedback and how ready the teachers are to deliver feedback that can stimulate learning. First, all reviewers independently read all articles; this process was followed by six consecutive meetings of all reviewers in 6 weeks to discuss the results. All reviewers discussed the meaningful and essential findings of each article regarding the feedback process. The reviewers discussed any disagreements that arose, for example, those related to the extent of study participants' readiness for feedback and the format of feedback included in the study, at the aforementioned meetings to obtain similar perceptions and come to an agreement. The final consolidated results were compiled and presented in a table.

Results

The information in the 17 studies included in this scoping review was extracted into Appendix 1, which lists the important findings of each article. Of the 17 studies, two examined the feedback process in a postgraduate setting, one study specifically discussed feedback among healthcare workers, and most studies involved undergraduate medical and health professions students. Based on prior understanding of feedback process and its related components, the focus of each study in relation to one or more components of feedback process was extracted. Similar focuses were then categorised into a particular component of feedback process, which is presented as a theme in this review. The four themes which

represent components of feedback process are as follow: (1) inhibiting or facilitating factors of feedback, (2) influences of cultural factors on feedback, (3) discrepancies between students' and teachers' perceptions upon feedback, and (4) impact of feedback. The synthesis of all the findings from each included study suggested that both students and teachers were not optimally ready for more formative assessment, to have a continuous, dialogical feedback process and reflection, and to develop learning plans together.

Inhibiting or Facilitating Factors of Feedback

Several studies explored the influencing factors, either inhibiting or facilitating, of the feedback process. In the clinical setting, the provision of feedback competed with patient care responsibilities [18]. Sudarso et al. [19] demonstrated that the consequences of feedback affected students' responses to feedback. Another influencing factor found by Fu et al. [20] was the value of feedback as perceived by the trainees; when it is high, trainees will seek feedback. Several studies demonstrated that students were ready to receive feedback to some extent, especially high-achieving students, who were more receptive and responsive to feedback [21], and when feedback was delivered through a live video-assisted feedback format [22].

Influences of Cultural Factors on Feedback

The study by Suhoyo et al. [23] showed how culture influenced the feedback process. It found that group feedback was perceived to have higher learning value and more action plans. Related findings were also identified in the studies by Suhoyo et al. [24] and Oktaria and Soemantri [25], in which culture played a role in giving or responding to feedback or seeking feedback. In the former study, feedback from a graduate specialist was more valued and positive feedback was not a focus since the goal of feedback was to correct performance, whereas in the latter study, there was clear hesitance among the students to ask teachers for feedback, most likely due to their hierarchical relationship.

Culture also influenced how specific formats of feedback delivery are considered 'safer', as proven in the study by Oseni et al. [26], in which video-assisted feedback was not regarded as criticism, in contrast to direct feedback given to the students. Similarly, the study by Kim et al. [27] did not find any differences in the team performance of those in the focus and corrective feedback group and those in the structured and debriefing group. A possible explanation is that students were not comfortable talking to the facilitators in the structured and debriefing group, likely due to the hierarchical barrier in Asian culture. Cultural factors such as hierarchical and collectivistic characteristics may inhibit appropriate responses to feedback and the willingness of students to ask for feedback [23–25]. Students were not ready for two-way communication in the feedback process [27] and received mostly negative feedback [28].

Discrepancies Between Students' and Teachers' Perceptions Upon Feedback

Discrepancies between teachers' and students' perceptions upon feedback were also highlighted in many studies. A study by Yanting et al. [29] demonstrated such a gap regarding the perceptions of negative feedback, wherein teachers felt that students were defensive upon receiving such feedback, but students disagreed. Kim and Lee [28] revealed that students' understanding of feedback may not be accurate, and on the other hand, teachers may not be ready to deliver feedback in a way that could enhance students' performance. The study by Al Haqwi [30] also showed that students expected feedback but did not receive enough feedback from the teachers.

Both Prastiyani et al. [31] and Nugraheny et al. [32] identified differences in the perceptions and expectations of feedback between students and teachers and suggested that these differences may hinder the feedback process. More studies examined students' readiness than that of teachers. However, at least two studies, by Nugraheny et al. [32] and Yanting et al. [29], revealed that teachers were not ready to give feedback and had different perceptions regarding feedback compared to students, which may hinder the delivery of feedback that students can accept.

Impact of Feedback

The goal of feedback is improved performance. Several included studies also touched on the impact of feedback. For example, Yang et al. [22] and Oseni et al. [26] demonstrated the effects of video-based feedback on improving students' knowledge and performance. Mitra and Barua [21] developed a computer-based formative MCQ, and this formative assessment increased students' performance in summative assessments. However, a single formative Objective Structured Clinical Examination (OSCE) in the study by Alkhateeb et al. [33] did not positively impact students' summative OSCE scores. Apart from knowledge and performance, peer feedback and reflection also improved students' emotional intelligence [34].

Discussion

The current scoping review sheds light on the complex process of feedback, particularly in the Asian educational setting where hierarchical and collectivist culture plays a significant role. Our review shows that the influences of

culture on the feedback process are real and may hinder the readiness of students and teachers for two-way, reflective feedback to some extent.

The first theme in this scoping review encompasses three inhibiting or facilitating factors outside of cultural values for giving feedback in Asian settings, namely patient care responsibility, consequences of feedback, and the value of feedback [18–20]. Regarding patient care responsibility, it is widely accepted that there are competing interests between clinical services and clinical teaching, including the conflict between the need to provide feedback and the limited opportunities to do so. One of the barriers to directly observing students' performance and providing feedback in the clinical setting is the time constraint, given the high workload of both teachers and students [35, 36].

For Asian students, feedback is still essential and influences how they respond to feedback, in line with the study by Watling [37], which emphasises that credibility and constructiveness are critical attributes of feedback that determine its meaning and usability. However, our scoping review found that students would likely take feedback when it has a summative consequence [19]. This finding contradicts the principle of the centrality of feedback within formative assessment [38]. Perhaps it can also be explained by the characteristics of Asian students, who are more examination-oriented due to their hierarchical culture [8].

This scoping review also highlights the predominant influences of culture, specifically hierarchical and collectivism, on the feedback process in the Asian medical and health professions education setting as the second theme. Students in Asia show reluctance to ask for feedback, their receptivity to feedback depends on the level of seniority of the feedback provider (the more senior the provider, the more valuable the feedback), and they also prefer group feedback [23–27]. Asian students are dependent on authority figures [8], and feedback coming from these figures may be perceived as having more value. Direct inquiry behaviour is also not encouraged [39]; thus, video-based feedback is considered 'safer', face-to-face interaction is avoided, and there is hesitancy in seeking feedback from superiors.

In the collectivist culture, group needs are prioritised over individuals and underlie the preference for group feedback [39]. We argue, for example, if the institution implements 360-degree feedback among peers, students will cooperate with each other in providing a better report for everyone but may forget that 'every datapoint is optimised for learning by giving meaningful feedback to the learner' [40, p. 3]. Feedback among peers should be intended to encourage an individual to do better next time by exploring the problems and discussing better learning plans. However, in a hierarchical and collectivistic culture, instead of improving individual learning, the 360-degree feedback approach may only be used to maintain harmony and avoid conflict. Therefore, based on the current scoping review, we argue that both students and teachers in the Asian educational setting, with a hierarchical and collectivistic culture, are not ready for more dialogical and formative assessment.

Equipping both students and teachers with a correct understanding of feedback and ensuring similar expectations is important for a successful feedback process. In our study, differing perceptions between students and teachers regarding the feedback process form the third theme. Stagini and Peres [41] found that teachers perceived that they had given adequate feedback, but students did not feel that they had received it. Soemantri et al. [42], in their study examining feedback practices in an Australian medical school, demonstrated the need for both students and teachers to learn how to contribute to two-way communication in the feedback process.

The last theme identified in the current scoping review is related to the impact of feedback. A few studies have started to produce the desired effect of feedback on student performance [21, 22, 26, 34], for example, by improving students' emotional intelligence [34]. Most of these studies utilised a video-based feedback format, which is likely to be a friendlier format in the setting under study but may limit the interaction between teachers and students. Therefore, more studies investigating the effect of reflective and facilitative feedback provided within a dialogue between teachers and students are required.

The findings of this scoping review indicate the need to train the students to look for feedback, both from teachers and peers and properly respond to it, in line with the emphasis of programmatic assessment, which is that every learning opportunity should be optimised to get constructive feedback to plan further learning processes. It would also be challenging in this hierarchical and collectivist culture to empower teachers for more dialogical learning with students. Therefore, more evidence from faculty development and student training should be pursued.

We acknowledge the limitations of this scoping review, in which studies in languages other than English are not included. Despite our best efforts to retrieve all related studies, the possibility of having missed certain articles cannot be ruled out. However, we believe that the findings of this scoping review have increased our comprehension of current feedback practices in different educational settings throughout Asia. We would also like to acknowledge that cultural characteristics are dynamic and although they are likely to shape the behaviour of individuals in a particular society, individual or group variations may occur depending on many internal and external factors, such as upbringing and globalisation [43]. Our review may give rise to more questions instead of solving the problems related to feedback provision; nevertheless, understanding the current feedback process in Asian health professions educational settings is

a step towards implementing more formative learning and programmatic assessment. Acquiring a comprehensive understanding of feedback allows us to develop the necessary measures to improve feedback practices. Further studies to formulate the most appropriate feedback model in this setting may be worthwhile, which can then be extended into other different settings.

Conclusions

Our scoping review does not delve into the specific measures required to improve feedback practices but rather highlights and puts forward the critical factors related to feedback practices in a hierarchical and collectivist culture. Students' and teachers' readiness to engage in feedback dialogue will, to some extent, influence their preparedness to engage in programmatic assessment. Based on our scoping review, four main components of feedback process in the Asian educational setting are cultural values, perceptions regarding feedback, inhibiting or promoting factors for feedback and the impact of feedback. Therefore, training to prepare both students and teachers is required to enable a more optimum and dialogical feedback process.

Appendix 1 List of included articles and related findings

Article details	Study focus and meaningful findings	Readiness for feedback
Theme: Inhibiting or facilitating factors of feedback		
Chaou, C.H., Monrouxe, L.V., Chang, L.C., Yu, S.R., Ng, C.J., Lee, C.H., Chang, Y.C. (2017). Challenges of feedback provision in the workplace: a qualitative study of emergency medicine residents and teachers. Medical Teacher. 39(11):1145–1153. https://doi.org/10.1080/0142159X.2017.1366016	• Competing interests between the need to provide feedback and clinical duties in a real, busy clinical setting, represented by an emergency unit setting • There are 'thresholds' for delivering feedback in a busy clinical setting, and these thresholds are influenced by the factors of teachers, residents, and context	Overall, residents (students) and teachers are ready for feedback in a busy clinical setting; however, the provision of feedback may compete with patient care responsibilities
Mitra, N.K., Barua, A. (2015). Effect of online formative assessment on summative performance in integrated musculoskeletal system module. BMC Medical Education. 15:29. https://doi.org/10.1186/s12909-015-0318-1	• The use of an online (computer-based) formative Multiple Choice Question (MCQ) with automated feedback led to increases in summative assessment performance • Students with higher academic ability attending the online formative tests obtained higher scores compared to a similar group attending the paper-based formative tests	High-achieving students may be more receptive and responsive towards feedback, thus gaining more benefit from the online formative tests. The feedback in the formative tests facilitates students' self-regulated learning
Sudarso, S., Rahayu, G.R., Suhoyo, Y. (2016). How does feedback in mini-CEX affect students' learning response? International Journal of Medical Education. 7:407–413. https://doi.org/10.5116/ijme.580b.363d	• In the Mini-CEX setting under study, the feedback provided influenced students' learning responses through various internal processes • External factors such as the consequences of the Mini-CEX affect how students respond to feedback and their action plans	Given that external factors such as consequences affect the students' responses, it can be concurred that students are not fully ready for feedback
Fu, R.H., Cho, Y.H., Quattri, F., Monrouxe, L.V. (2019). 'I did not check if the teacher gave feedback': a qualitative analysis of Taiwanese postgraduate year 1 trainees' talk around e-portfolio feedback-seeking behaviours. BMJ Open. 9(1):e024425. https://doi.org/10.1136/bmjopen-2018-024425	• The study identified inhibiting and facilitating factors for feedback-seeking behaviour of foundation-year doctors (trainees) in relation to e-portfolio development • These factors are learner-related, teacher-related, process-related and technology-related	When the 'value' of feedback is high, then trainees will seek feedback. Therefore, when the facilitating factors are more prominent than the inhibiting factors, the level of feedback-seeking behaviour will be higher (trainees are ready to seek feedback)
Yang, X., Xie, R.H., Chen, S., Yu, W., Liao, Y., Krewski, D., Wen, S.W. (2019). Using video feedback through smartphone instant messaging in fundamental nursing skills teaching: observational study. JMIR Mhealth Uhealth. 7(9):15,386. https://doi.org/10.2196/15386	• The use of a smartphone-based video feedback approach increased nursing students' performance in the skills of bed making, aseptic procedure, vital sign measurement and oxygen therapy	It is proven that teachers can deliver video-assisted feedback that can improve students' performance; thus, students are ready to receive and integrate feedback into their performance. However, the study shows that for more sophisticated skills, video feedback may not be useful because are not yet clear

Article details	Study focus and meaningful findings	Readiness for feedback
Theme: Influences of cultural factors on feedback		
Suhoyo, Y., Schönrock-Adema, J., Emilia, O., Kuks, J.B., Cohen-Schotanus, J. (2018). Clinical workplace learning: perceived learning value of individual and group feedback in a collectivistic culture. BMC Medical Education. 18:79. https://doi.org/10.1186/s12909-018-1188-0	• Group feedback is delivered more often and has higher learning value • Group feedback involves more action plans compared to individual feedback, whereas individual feedback focuses more on the weaknesses of students' performance	Students and specialist teachers are ready to give feedback but vary in terms of the type and domain of feedback according to the relevant influencing factors. Students perceive group feedback as having higher learning value
Kim, E.J., Lee, K.R. (2019). Effects of an examiner's positive and negative feedback on self-assessment of skill performance, emotional response, and self-efficacy in Korea: a quasi-experimental study. BMC Medical Education. 19(1):142. https://doi.org/10.1186/s12909-019-1595-x	• Feedback provided to the students impacted students' self-efficacy, emotional state, and self-assessment • Negative feedback results in more accurate self-assessment but triggers lower self-efficacy and negative emotional responses	Students may not be fully ready to receive negative feedback since it damages their self-efficacy and emotional responses, which will lead to the inability to improve their performance. Students' perceptions and understanding of feedback may not be accurate and teachers may not be fully ready to deliver feedback in a way that could enhance students' performance
Kim, J.H., Kim, Y.M., Park, S.H., Ju, E.A., Choi, S.M., Hong, T.Y. (2017). Focused and corrective feedback versus structured and supported debriefing in a simulation-based cardiac arrest team training: a pilot randomized controlled study. Simulation in Healthcare. 12(3):157–164. https://doi.org/10.1097/SIH.0000000000000218	• There were no significant differences between the methods of debriefing (between the focus and corrective feedback group and structured and debriefing group) in terms of the team dynamic and team clinical performance scores • A possible explanation for this finding is the culture of Asian students, wherein students are not comfortable communicating with facilitators in structured and debriefing groups	Students are not ready for two-way communication feedback that facilitates and encourages self-assessment and reflection
Suhoyo, Y., Van Hell, E.A., Kerdijk, W., Emilia, O., Schonrock-Adema, J., Kuks, J.B., Cohen-Schotanus, J. (2017). Influence of feedback characteristics on perceived learning value of feedback in clerkships: does culture matter? BMC Medical Education. 17(69). https://doi.org/10.1186/s12909-017-0904-5	• The influence of collectivistic and hierarchical culture on how medical students perceive the characteristics of feedback in the Mini-CEX setting and how these characteristics influence their perceived learning value of feedback • In this culture, 'mentioning strength' does not influence the perceived learning value of feedback, which is likely due to the expectations of students for teachers to tell them what they need to do or improve • 'Comparing performance to a standard' is a characteristic that is not frequently used, perhaps due to the goal of feedback delivery in collectivistic and hierarchical cultures, which is to correct errors; thus, teachers prefer to just communicate their expectations • In this culture, feedback from specialists is valued more, likely due to the importance of hierarchy	Both teachers and students may not be fully ready to deliver and receive feedback. The factors influencing their preparedness are closely related to the collectivistic and hierarchical culture (high power distance)
Oktaria, D., Soemantri, D. (2018). Undergraduate medical students' perceptions on feedback-seeking behaviour. Malaysian Journal of Medical Sciences. 25(1):75–83. https://doi.org/10.21315/mjms2018.25.1.9	• The factors inhibiting or promoting undergraduate medical students' feedback-seeking behaviour were identified in this study • Understanding these factors will be beneficial for teachers to apply teaching strategies that can encourage students' feedback-seeking behaviour, for students to practice the skills of seeking feedback, and for the institution to create a conducive atmosphere for feedback-seeking behaviour	Students are not ready to seek feedback for several reasons, such as the fear of getting negative comments from teachers, the existence of external motivations to seek feedback (for example, to impress others) and the reluctance to ask the teachers for feedback due to the hierarchical culture

Article details	Study focus and meaningful findings	Readiness for feedback
Oseni, Z., Than, H.H., Kolakowska, E., Chalmers, L., Hanboonkunupakarn, B., McGready, R. (2017). Video-based feedback as a method for training rural healthcare workers to manage medical emergencies: a pilot study. BMC Medical Education. 17(1):149. https://doi.org/10.1186/s12909-017-0975-3	• Video-assisted feedback contributes to improved performance in clinical knowledge, confidence, and quality of teamwork in the setting of medical emergencies • Video-based feedback is also more appropriate for use in the culture where the study was conducted because feedback delivered directly by the trainer may be regarded as criticism	Students' performance is influenced and improved through the video-based feedback provided in the study; thus, it can be implied that students are ready to receive feedback delivered in this format. However, it is important to note that students need to be more prepared for and responsive to feedback delivered through other formats, such as direct verbal feedback
Theme: Discrepancies between students' and teachers' perceptions upon feedback		
Yanting, S.L., Sinnathamby, A., Wang, D., Heng, M.T.M., Hao, J.L.W., Lee, S.S., Yeo, S.P., Samarasekera, D.D. (2016). Conceptualizing workplace-based assessment in Singapore: undergraduate Mini-Clinical Evaluation Exercise experiences of students and teachers. Ci Ji Yi Xue Za Zhi. 28(3):113–120. https://doi.org/10.1016/j.tcmj.2016.06.001	• Discrepancies between students and teachers on the perceptions regarding feedback in the Mini Clinical Evaluation Exercise (Mini-CEX) setting • Students are more receptive to feedback compared to when they were still at a junior level	Interestingly, there are discrepancies between the perceptions of students and teachers, some of which are contradictory; for example, teachers felt that students were defensive when given negative feedback but students did not agree with that perception. Thus, these discrepancies may hinder readiness to receive and deliver feedback
Kim, E.J., Lee, K.R. (2019). Effects of an examiner's positive and negative feedback on self-assessment of skill performance, emotional response, and self-efficacy in Korea: a quasi-experimental study. BMC Medical Education. 19(1):142. https://doi.org/10.1186/s12909-019-1595-x	• Feedback provided to the students impacted students' self-efficacy, emotional state and self-assessment • Negative feedback results in more accurate self-assessment but triggers lower self-efficacy and negative emotional responses	Students may not be fully ready to receive negative feedback since it damages their self-efficacy and emotional responses, which will lead to the inability to improve their performance. Students' perceptions and understanding of feedback may not be accurate and teachers may not be fully ready to deliver feedback in a way that could enhance students' performance
Prastiyani, N.H.N., Felaza, E., Findyartini, A. (2020). Exploration of constructive feedback practices in dental education chairside teaching: a case study. European Journal of Dental Education. 24:580–589. https://doi.org/10.1111/eje.12539	• There are three main themes related to feedback provision in the setting of chairside teaching, which are ways to provide feedback, challenges in feedback provision and challenges in feedback follow-up	The factors identified in the study showed that perceptions regarding feedback differed between students and teachers. These differences in perception may cause the goals of feedback to not be achieved
Nugraheny, E., Claramita, M., Rahayu, G.R., Kumara, A. (2016). Feedback in the nonshifting context of the midwifery clinical education in Indonesia: a mixed methods study. Iranian Journal of Nursing and Midwifery Research. 21(6):628–634. https://doi.org/10.4103/1735-9066.197671	• The non-shifting context of midwifery education calls for more integrated feedback, which is feedback delivered based on the observations of students when they have been performing all activities (for example, history taking, physical examination and midwifery care). The context also allows for more intensive feedback, given at any time when students and supervisors are available	Teachers/supervisors are not ready to provide feedback that is in accordance with guidelines. Expectations concerning feedback also differ between teachers and students
Alhaqwi, A.I. (2012). Importance and process of feedback in undergraduate medical education in Saudi Arabia. Saudi Journal of Kidney Disease Transplant. 23(5):1051–1055. https://doi.org/10.4103/1319-2442.100949	• Undergraduate medical students demonstrated positive perceptions of feedback, although they also perceived that they did not receive feedback regularly	Students can identify the needs and importance of feedback; however, in reality, they do not receive as much feedback as they expect. Thus, students are likely to be ready to receive feedback but teachers may not be as ready as expected to deliver feedback
Theme: Impact of feedback		
Alkhateeb, N.E., Al-Dabbagh, A., Ibrahim, M., Al-Tawil, N.G. (2019). Effect of a formative Objective Structured Clinical Examination on the clinical performance of undergraduate medical students in a summative examination: a randomized controlled trial. Indian Pediatrics. 56(9):745–748. https://doi.org/10.4103/efh.EfH_31_17.pdf	• Participation in a single formative Objective Structured Clinical Examination (OSCE) did not have a positive impact on the improvement of summative OSCE scores	Feedback was available in the formative OSCE; however, it did not affect students' performance. The quality of the feedback may reflect the teachers' ability to give feedback and hinder students' receptiveness towards feedback

Article details	Study focus and meaningful findings	Readiness for feedback
Mitra, N.K., Barua, A. (2015). Effect of online formative assessment on summative performance in integrated musculoskeletal system module. BMC Medical Education. 15:29. https://doi.org/10.1186/s12909-015-0318-1	• The use of an online (computer-based) formative Multiple Choice Question (MCQ) with automated feedback led to increases in summative assessment performance • Students with higher academic ability attending the online formative tests obtained higher scores compared to a similar group attending the paper-based formative tests	High-achieving students may be more receptive and responsive towards feedback, thus gaining more benefit from the online formative tests. The feedback in the formative tests facilitates students' self-regulated learning
Raut, A.V., Gupta, S.S. (2019). Reflection and peer feedback for augmenting emotional intelligence among undergraduate students: a quasi-experimental study from a rural medical college in central India. Education for Health (Abingdon). 32(1):3–10.	• Peer feedback and reflection, as personal introspection methods, can help improve undergraduate medical students' emotional intelligence • Medical students still have difficulty in conducting reflection due to limited protected time to reflect • Acceptance of peer feedback improved when students were assured that peer feedback is not a 'fault-finding' activity but rather a self-improvement process	Students will be ready to reflect and accept peer feedback when they have been assured that the processes are for self-improvement, not merely pointing out mistakes; thus, it is important for teachers to emphasise this and support the students
Yang, X., Xie, R.H., Chen, S., Yu, W., Liao, Y., Krewski, D., Wen, S.W. (2019). Using video feedback through smartphone instant messaging in fundamental nursing skills teaching: observational study. JMIR Mhealth Uhealth. 7(9):15,386. https://doi.org/10.2196/15386	• The use of a smartphone-based video feedback approach increased nursing students' performance in the skills of bed making, aseptic procedure, vital sign measurement and oxygen therapy	It is proven that teachers can deliver video-assisted feedback that can improve students' performance; thus, students are ready to receive and integrate feedback into their performance. However, the study shows that for more sophisticated skills, video feedback may not be useful because are not yet clear
Oseni, Z., Than, H.H., Kolakowska, E., Chalmers, L., Hanboonkunupakarn, B., McGready, R. (2017). Video-based feedback as a method for training rural healthcare workers to manage medical emergencies: a pilot study. BMC Medical Education. 17(1):149. https://doi.org/10.1186/s12909-017-0975-3	• Video-assisted feedback contributes to improved performance in clinical knowledge, confidence and quality of teamwork in the setting of medical emergencies • Video-based feedback is also more appropriate for use in the culture where the study was conducted because feedback delivered directly by the trainer may be regarded as criticism	Students' performance is influenced and improved through the video-based feedback provided in the study; thus, it can be implied that students are ready to receive feedback delivered in this format. However, it is important to note that students need to be more prepared for and responsive to feedback delivered through other formats, such as direct verbal feedback

Author Contribution MC, HN, and DS were responsible for the conception of this study. HN and NQ designed and conducted the search. All authors involved in selecting and reviewing the articles and subsequently in data analysis and synthesis. DS drafted the full manuscript. MC, HN, and NQ contributed substantially to the manuscript development and revision. All authors approved the final form of the manuscript.

Funding The study was performed with the grants from Ministry of Education, Culture, Research and Technology Republic of Indonesia (Grant No: 2005/E2/JM.03.02/2022).

Declarations

Ethical Approval This study has been given ethical approval by the Ethics Committee Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah Mada (No. KE/FK/0519/EC/2020).

Conflict of Interest The authors declare no competing interests.

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