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The association between ethical feedback delivery and student self-regulation

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ABSTRACT

Purpose

This paper examined the association between the ethical basis of feedback delivery and the student's ability to self-regulate learning.

Methods

A Prisma 2020 scoping review was conducted by entering "Ethics" and "Feedback" as the only two key words in the Medline (Web of Science), Pubmed and PsycINFO databases. No limitations were placed on the search to maximise the identification of ethical considerations that influence feedback. Duplicates, non-sensical publications and non-English articles were systematically removed. The remaining publication titles were screened for appropriateness and relevance. The search strategy required there to be some form of connotation to 1) feedback delivery 2) ethical considerations and 3) the impact on students' self-regulation in any teaching context. Articles were qualitatively analysed. Apposite quotations were recorded, and emerging themes were grouped under teacher and student-related factors.

Results

"Ethical" feedback delivery was linked to academic success and promoted the development of self-regulation amongst learners. Conversely an "unethical" mode of feedback delivery was linked to poor performance and a lack of growth. Respect, being autonomy supportive and the maintenance of confidentiality during feedback delivery could be linked to psychological safety, which encourages learning. The opposite behaviour created fear which is not conducive to learning, particularly amongst students with low self-esteem and self-regulating capabilities.

Conclusion

The associations drawn in this study may serve a s a conceptual model for staff development to provide constructive feedback with an ethical basis to induce self-regulation amongst students.

KEYWORDS

Ethics, feedback, self-regulation, psychological safety

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INTRODUCTION

The provision of feedback is critical to close learning gaps in dental education. Feedback is effective when given correctly.[1] Empirical evidence exists that good feedback improves self-regulation.[2] Unfortunately feedback is not always constructive. Feedback on the self is, in particular, discouraged as it negatively affects self-efficacy belief, motivation and learning.[1, 3] It can hence be argued that feedback on the self is unethical as it harms the student's self-esteem and may be counter productive in the learning process.

Undergraduate dental education can be a challenging endeavour for learners, with one of their main stressors being their interaction with teachers.[4] A sense of psychological safety is necessary to enhance personal and professional development.[1] Psychological safety is important for learning.[5] Thus, disparaging behaviour by the teachers that denigrates this could be considered academically and ethically unacceptable, especially in terms of their commitment towards beneficence and doing good.[3]

Feedback is often that interface between the teacher and the student and can either enrich or be detrimental to learning, depending on the mode of delivery.[1] The efficacy of feedback however does not only depend on the teacher's ability to appropriately convey their message, but also on the student's ability to self-reflect and then adapt accordingly.[3] Zimmermann believes that students regulate their learning through self-efficacy belief and motivation which elicits a goal orientation along with a distinct outcome expectation. Self-regulated learners exercise self-control and metacognitive monitoring to successfully complete a task. Thereafter, they are able to reflect on their performance, take responsibility for their own failures, and implement constructive changes.[6] It can be argued that because of the default power relationship that exists between a teacher and a student, the incorrect delivery of feedback maybe intentionally or unintentionally unethical as it works against the notion of contributing to the greater good.[7]

A need therefore exists to explore the relationship of ethics and feedback in education. This paper aimed to investigate the factors that inform on the ethical basis of clinical teaching. Understanding their relationship and how feedback delivery impacts on learning, may allow for improvements in the approach to feedback delivery in the clinical training environment. The establishment of a model may also systematically inform staff training through the conception of a standard against which staff can be evaluated.

MATERIALS AND METHODS

A PRISMA 2020 scoping review[8] was conducted to identify the ethical considerations that interface with feedback delivery, and then to synthesise these into a proposed model

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for staff development. "Ethics" and "Feedback" were entered as the only two key words in the Medline (Web of Science (WoS)), Pubmed and PsycINFO databases. No limitations were placed on the search to maximise the identification of ethical considerations that influence feedback. Identified citations were downloaded and organised in a Microsoft Excel dataset. The citation titles were alphabetically sorted, duplicates, non-sensical publications and non-English articles were systematically filtered out through a manual process.

The remaining publication titles were screened for appropriateness by the primary researcher (TCP) and later verified by the co-author (LMS). The only inclusion criterion at this stage was a clear connection to feedback delivery. The elimination process continued after reading the abstracts of the initially included titles. At this point the search strategy required a connotation to 1) feedback delivery 2) ethical considerations and 3) the impact on students' self-regulation in any teaching context.

The remaining articles were qualitatively analysed and focal ethical principles and considerations were identified and thematically grouped.[9] Ethical observations related to teacher behaviour were deductively analysed using the basic ethical principles (beneficence, non-maleficence, respect, integrity, tolerance, veracity, and confidentiality) as a point of reference, and at the same time allowing for the open-ended addition of related themes. Reference to students' self-regulation were deductively organised against the components of Zimmermann's model of self-regulated learning (e.g., self-esteem, self-efficacy belief, motivation, goal setting, outcome expectation, self-observation, self-control, self-monitoring, self-evaluation, self-reflection, attribution and adaptation),[6] similarly allowing for the open-ended (inductive) addition of related concepts and themes.

Emerging themes were used to synthesise a proposed model that demonstrates how the ethical basis of clinical teaching, combined with student characteristics could affect learning outcomes.

RESULTS

A total of 5351 documents were identified of which 1236 were from Medline (WoS), 3278 from Pubmed and 837 from PsycINFO (dated 3 June 2023). This was followed by the removal of one non-sensical document, 1256 duplicates and the remaining 56 non-English articles (Figure 1).

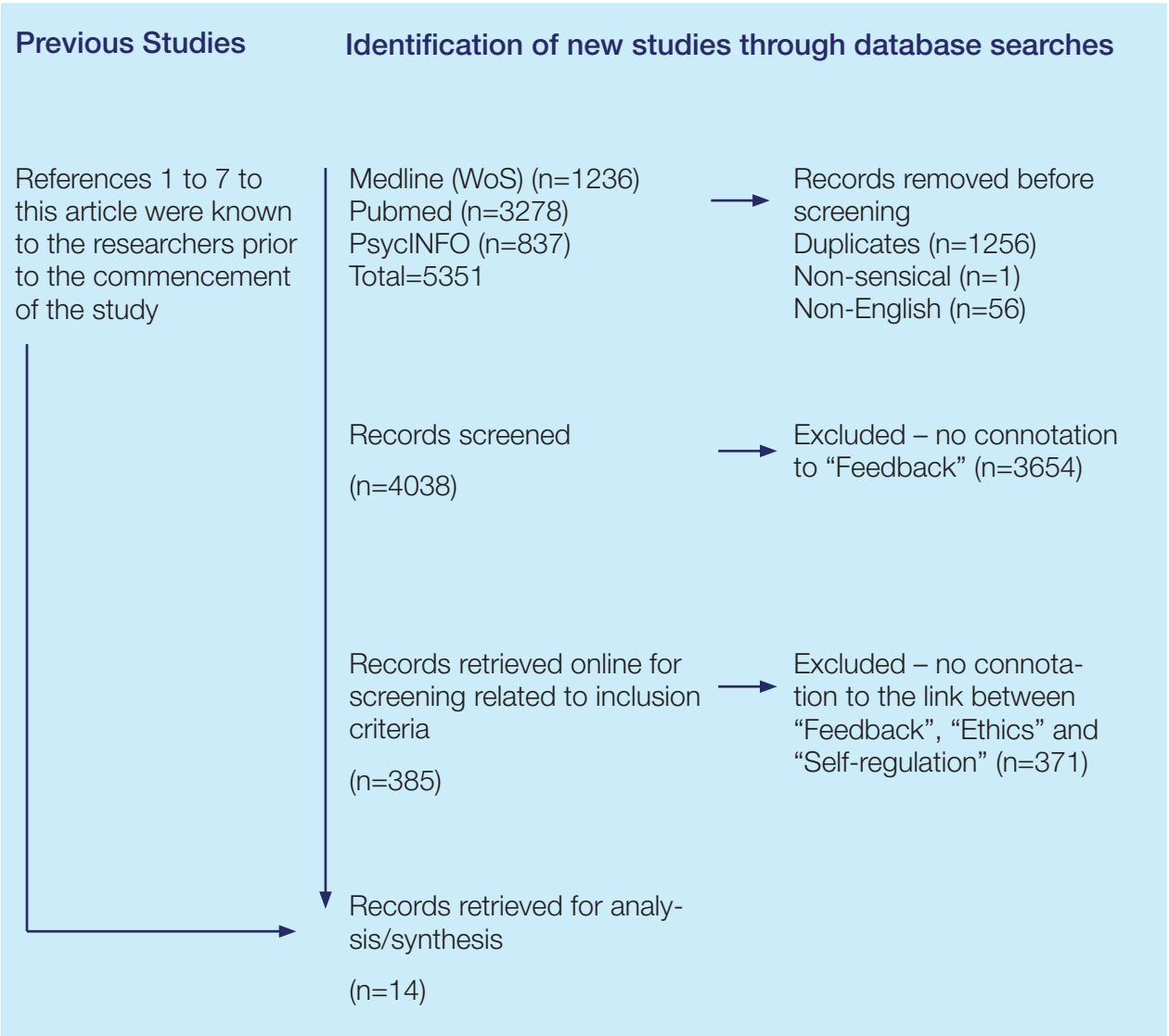


FIGURE 1: PRISMA 2020 flow diagram[8]

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The number of remaining titles with a connotation to feedback delivery and self-regulation totalled 385 of which 14 were kept (Table 1) for analysis after reading the abstracts and the articles.

TABLE 1. Articles included in the analysis and synthesis

1.	Braun V, Clarke V. Culture and understanding the role of feedback for health professions students: realist synthesis protocol.[9]
2.	Irlenbusch B, Rilke RM, Walkowitz G. Designing feedback in voluntary contribution games: the role of transparency.[11]
3.	Emke AR, Cheng S, Dufault C, Cianciolo AT, Musick D, Richards B, Developing professionalism via multisource feedback in team-based learning.[12]
4.	Johnson CE, Keating JL, Farlie MK, Kent F, Leech M, Molloy EK. Educators' behaviours during feedback in authentic clinical practice settings: an observational study and systematic analysis.[13]
5.	Eva KW, Regehr G. Effective feedback for maintenance of competence: from data delivery to trusting dialogues.[14]
6.	Herrmann-Werner A, Loda T, Erschens R, Schneider P, Junne F, Gilligan C, Teufel M, Zipfel S, Keifenheim KE. Face yourself! -learning progress and shame in different approaches of video feedback: a comparative study.[15]
7.	Fourie MM, Thomas KG, Amodio DM, Warton CM, Meintjes EM. Neural correlates of experienced moral emotion: an fMRI investigation of emotion in response to prejudice feedback. [16]
8.	Rösler IK, van Nunspeet F, Ellemers N. Falling on deaf ears: The effects of sender identity and feedback dimension on how people process and respond to negative feedback– An ERP study.[17]
9.	Larson EL, Patel SJ, Evans D, Saiman L. Feedback as a strategy to change behaviour: the devil is in the details. Journal of evaluation in clinical practice. 2013;19(2):230-4.[18]
10	Henry D, Vesel T, Boscardin C, van Schaik S. Motivation for feedback-seeking among pediatric residents: a mixed methods study.[19]
11.	Gong Z, Van Swol L, Xu Z, Yin K, Zhang N, Gul Gilal F, Li X. High-power distance is not always bad: ethical leadership results in feedback Seeking.[20]
12.	Moss SE, Song M, Hannah ST, Wang Z, Sumanth JJ. The duty to improve oneself: How duty orientation mediates the relationship between ethical leadership and followers' feedback-seeking and feedback-avoiding behavior.[21]
13.	Mouratidis A, Lens W, Vansteenkiste M. How you provide corrective feedback makes a difference: The motivating role of communicating in an autonomy-supporting way. Journal of sport and exercise psychology.[22]
14.	Harrison CJ, Könings KD, Dannefer EF, Schuwirth LW, Wass V, van der Vleuten CP. Factors influencing students' receptivity to formative feedback emerging from different assessment cultures.[23]

Table 2 displays the main emerging quotations, and Table 3 the teacher- and student-related themes. The emerging quotations highlights potential connections between ethical behaviour of the feedback provider as well as the self-regulation impacts the feedback has on the receiver.

TABLE 2: Emerging quotations (including philosophical interpretations of the authors)

Emerging quotations Includes the original authors' philosophical interpretation of the cited literature, literature review, results or discussion sections
Article 1:[10] "Confucius saw learning as a means of social change and to overcome social differences, but also placed much emphasis on personal effort. The Chinese philosophy of education also highlighted a mutually respectful relationship between teacher and learner, with the teacher guiding the learner, rather than pulling the learner along. This parallels the role of *guru (*teacher) seen in the Indian culture of education—with the *guru* nurturing the learner."
Article 2:[11] "Feedback shapes subjects' beliefs"
Article 3:[12] "A few individuals in the group consistently rated themselves highly while their peers rated them poorly"
Article 4:[13] Educators commonly provided performance analysis, described how the task should be performed, and were respectful and supportive. Many of the recommended feedback behaviours were rarely seen, such as clarifying the session purpose and expectations, promoting learner involvement, creating an action plan or arranging a subsequent review session
Article 5:[14] "Dialogue between peers or with a coach in a trusting relationship that aims at building on a physician's strengths more likely to be an effective mechanism for practice change and maintenance of competence." "Cognitive dissonance is the discomfort created by trying to maintain conflicting beliefs at the same time. We are motivated to lessen such discomfort and, in response, tend to alter one of the beliefs. Accepting and incorporating corrective feedback, even in the form of "objective" practice data, requires the acknowledgement that one is performing sub optimally. Such an understanding is, by definition, in conflict with the belief that one is serving one's patients well. Because it is easier to question the data than to question oneself, this pair of conflicting beliefs will often be resolved by discounting the feedback rather than altering one's sense of self as a competent clinician." "Literature on self-efficacy suggests that this discounting may have value. Having a belief that one can accomplish a goal increases the likelihood of accomplishing it. Thus, the drive to sustain a positive self-concept might be important to good performance, and threats to positive self-concept should be defended against."
Article 6: [15]"Feedback associated with different levels of shame in students with a simple checklist is likely to be perceived as the least embarrassing. Receiving feedback in front of a group of fellow students being perceived as most embarrassing."
Article 7:[16] "The paradigm induced intense moral-negative emotion (primarily guilt) in 22 low-prejudice individuals through preprogramed feedback indicating implicit prejudice against Black and disabled people. fMRI data indicated that this experience of moral-negative emotion was associated with increased activity in anterior paralimbic structures, Of significance was prominent conflict-related activity in the supragenual ACC, which is consistent with theories proposing an association between acute guilt and behavioural inhibition. A significant negative association between self-reported guilt and neural activity in the pregenual ACC suggested a role of self-regulatory processes in response to moral-negative affect. These findings are consistent with the multifaceted self-regulatory functions of moral-negative emotions in social behaviour."

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Emerging quotations

Includes the original authors' philosophical interpretation of the cited literature, literature review, results or discussion sections

Article 8:[17] "Subtle cues such as the social group-membership of a sender or the dimension addressed in a feedback message can modulate the cognitive processing of that message. This may explain why people are inclined to disregard negative feedback from outgroup senders."

Article 9:[18] "Authors developed the 'feedback intervention theory' (FIT), which is based on five assumptions:
1. behaviour is regul,ated by comparing practice with a goal or standard;
2. the goals or standards are rank ordered by importance;
3. only those gaps between feedback and goals that receive explicit attention will have an impact on behaviour;
4. attention by the learner is normally directed to a moderate level of control hierarchy (from task learning, task motivation and meta-tasks);
5. feedback affects behaviour by changing the locus of control so that the learner feels more 'in charge'.
The central explanatory theme to FIT is not how feedback affects one's learning or motivation to perform a task but rather how the feedback focuses one's attention."

Article 10:[19] "For effective self-directed life-long learning physicians need to engage in feedback-seeking, which means fostering such behaviour during training. Self-determination theory (SDT) posits that intrinsic motivation is fostered when the environment optimizes the individual's experience of autonomy, relatedness, and competence. Educational settings meeting these psychological needs may foster intrinsic motivation in trainees, enhance their desire for feedback, and promote feedback-seeking. Findings suggest that the relationship between motivation and feedback-seeking is complex and cannot be predicted by IMI scores. Career plans and relationships with feedback providers impact feedback-seeking, which can inform educational interventions."

Article 11:[20] "The results indicate that ethical leadership positively affected nurses' feedback-seeking. Ethical leadership influences feedback seeking through psychological safety. With high power distance, ethical leadership significantly positively influenced psychological safety and then positively affected feedback-seeking behaviour. In sum, in the context of high-power distance, ethical leadership is especially important for psychological safety and feedback-seeking behaviour."

Article 12:[21] "We tested our hypotheses using a sample of 249 followers across two waves of data collection. Results suggest that ethical leadership and leader competence interact to drive followers' duty orientation, thereby reducing followers' feedback-avoiding behaviours. Further, ethical leadership had a direct positive relationship with followers' feedback-seeking behaviours."

Article 13:[22] "Autonomy-supporting feedback can still be motivating even when it conveys messages of low competence."

Article 14:[23] "Students should be enabled to have greater control over assessment and feedback processes, which should be as authentic as possible. Effective long-term mentoring facilitates this process. The trend of curriculum change towards constructivism should be mirrored in the assessment processes in order to enhance receptivity to feedback."

TABLE 3: Emerging themes

Source	Teacher-related themes	Student-related themes
Article 1:[10]	Respect	Self-regulated learning as an expectation;
Article 2:[11]	The provision of feedback	Self-regulated learning; Belief
Article 3:[12]	Encouragement of self-evaluation/reflection	Self-regulated learning; self-reflection; self-assessment
Article 4:[13]	Basic ethical behaviour: Respect; Beneficence (supportive / lacked procedure); Autonomy (not autonomy supportive and lack of explanatory rationale)	Learner involvement (autonomous function)
	Basic ethical behaviour: Trust Threats targeting the self-esteem is unacceptable	Self-regulated learning; Self-efficacy; Outcome belief; Self-concept; self-reflection; self-assessment; internal attribution (acknowledgment of suboptimal performance)
Article 6:[15]	Basic ethical behaviour: Confidentiality	Self-regulated learning; Self-esteem (shame/ embarrassment)
Article 7:[16]	Basic ethical behaviour: Tolerance (prejudice)	Self-regulated learning: Self-motivation); Guilt feelings (lack of psychological safety)
Article 8:[17]	Cognitive bias	Self-regulated learning: External attribution; Prejudiced (culturally); Lack of psychological safety
Article 9: [18]	Basic ethical behaviour: Autonomy (allowing autonomy for behaviour change)	Self-regulated learning: Self-efficacy; Outcome belief; Self-motivation; Self-concept; Self-reflection; Self-assessment; Internal attribution (acknowledgment of suboptimal performance)
Article 10:[19]	Autonomy (self-determination theory)	Self-regulated learning: Self-motivation); Self-adaptation/ reflection (Feedback seeking)
Article 11: [20]	Ethical leadership (during power relationship)	Self-regulated learning: Self-esteem (psychological safety); Self-adaptation/ reflection (Feedback seeking)
Article 12: [21]	Ethical leadership	Feedback seeking and avoiding behaviours
Article 13: [22]	Autonomy (autonomy supportive in pointing out gaps)	Self-regulated learning: Self-motivation (even with negative feedback)
Article 14: [23]	Autonomy (student should have greater control); Build knowledge through a constructivist philosophy	Receptivity to feedback (feedback seeking)

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DISCUSSION

This study examined the relationship between the ethical behaviour of teachers and the self-regulation ability of students using qualitative data obtained from the scoping review.

The learner's duty

Learners have a moral obligation regulate their own learning Article 1, Table 1).[10]

The teachers' duty

Building trust and respect: Teachers in turn should guide and nurture the student through a respectful relationship (Article 1).[10] Constructive feedback has the potential to instil self-belief in learners (Article 2).[11] The encouragement of self-evaluation and reflection is also likely to develop self-regulation (Article 3).[12] Feedback with an intention to do good and supports the autonomy of the learner is seen to be desirable and effective (Article 4).[13] Building trust between the teacher and learner tends to promote desired self-regulation behaviours such as self-efficacy, self-concept and internal attribution whilst negative remarks aimed at the learner's self-esteem is unacceptable (Article 5).[14] Maintaining confidentiality during feedback delivery is crucial to preserve the learner's self-esteem. For example, giving negative feedback in front of any other person about a person's inability causes extreme embarrassment and harms to the self-esteem (Article 6).[15] Feedback perceived to be prejudicial has a high likelihood to impact on leaner's self esteem eliciting a strong feeling of guilt, which is counterproductive (Article 7).[16] Receiving feedback from somebody who is perceived to be biased (e.g., culturally different) may result in a situation where the feedback is discarded due to a lack of trust (Article 8).[17]

Be autonomy supportive: Allowing students autonomy has a connection with self-regulated learning concepts such as self-efficacy belief, outcome expectation, self-motivation self-concept, self-reflection, self-assessment, internal attribution (acknowledgment of suboptimal performance) (Article 9).[18] Self-determination theory is key to develop feedback-seeking behaviours and to stimulate learners' intrinsic motivation that is needed to drive improvement (Article 10).[19] Feedback given in an ethical way encourages desirable feedback-seeking behaviours because it provides a basis of psychological safety, while the reverse is also true. It provides a basis for self-reflection and positive adaptation (Article 11).[20] Ethical guidance is directly linked with feedback seeking behaviours (Article 12).[21] Feedback that is autonomy supportive can be effective even if the message is that of incompetence (Article 13).[22] Gaps in performance should be highlighted discretely to allow the learner the autonomy to build on existing knowledge (constructivist approach) (Article 14).[23]

Proposed conceptual model

The above-mentioned were used together with the literature known to the authors to synsthesize a model to illustrate the potential impact of a teacher's clinical behaviour on a student's self-regulation and academic success.

Figure 2 contains a synthesised model of these relationships.

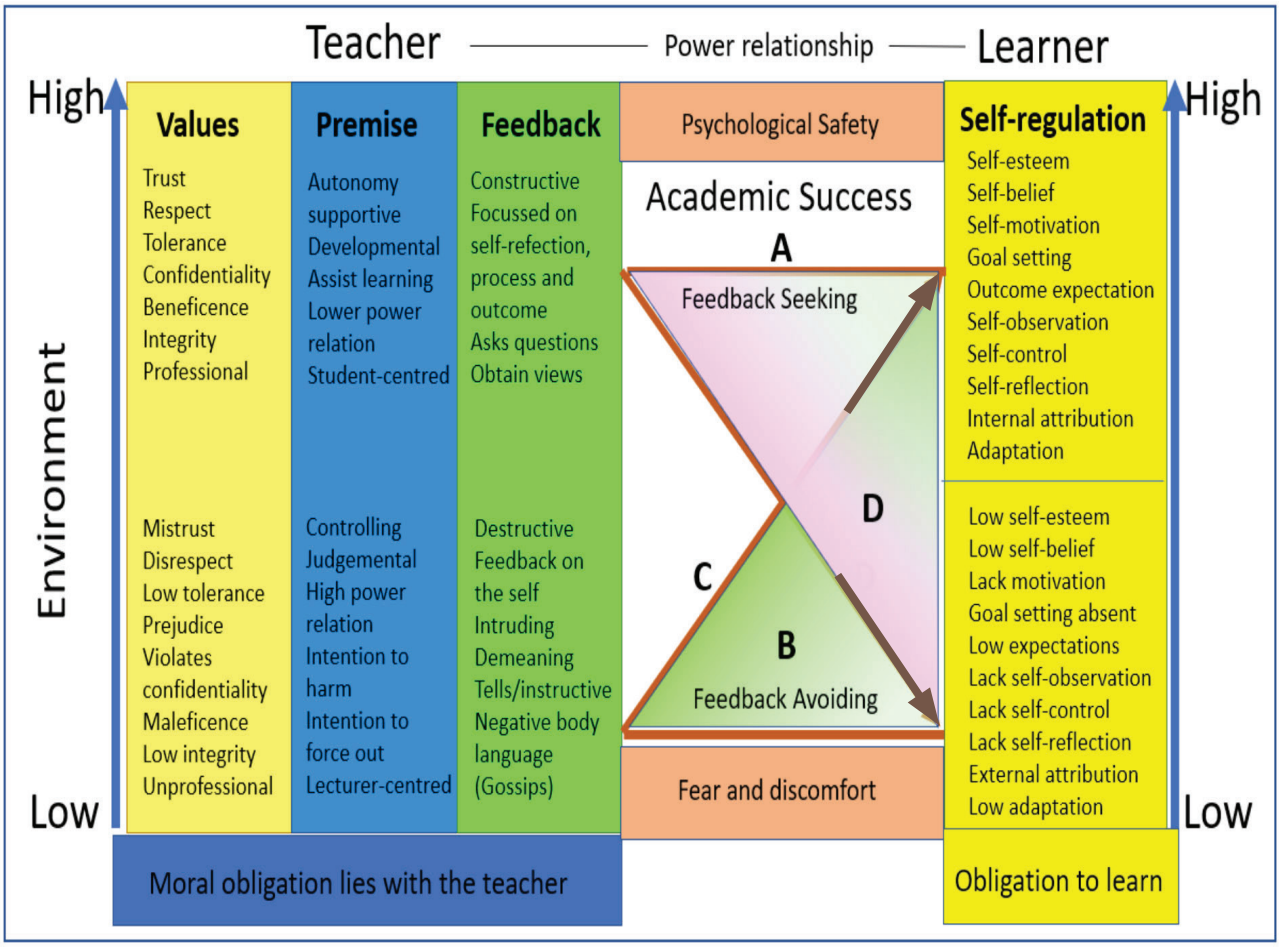


FIGURE 2. Proposed model to illustrate the potential impact of a teacher's clinical behaviour on a student's self-regulation and academic success.

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On the left side is the teachers who have an obligation to teach. At the same time, they have a moral duty to do so in a manner that will create an environment of psychological safety for the students.[24] On the right side are the students who have a need and desire to learn, as well as a moral obligation to put in the self-regulation,[10] effort and work required to gain maximum value from the opportunity afforded to them. The results of this review suggest that there may be an association between the manner in which the teachers impart their knowledge and provide feedback (their ethical behaviour) and the effect it has on promoting self-regulation abilities in the students.[10-23]

The lines A and B in the middle demonstrates the general relationships described in the literature. In scenario A there is a combination of ethical teachers who behave with professionalism and are student–centred in their approach. They deliver feedback with the aim of doing good by focussing on the gaps in understanding, allowing the students time and opportunity to self-reflect, and respecting their views whilst giving truthful feedback in a respectful way.[10] The teachers understand that the student is still learning and not yet competent, and thus strive to create a psychologically safe environment. If such educators are linked with learners who already have high levels of self-regulation, and feedback seeking behaviours, it will almost inevitably lead to academic success.

In scenario B the teachers mistrust the student and show little compassion for the fact that they are still new to the study material and will have skills and knowledge gaps. They are often judgmental and prejudicial even before the learning contact starts. They may shame the student in front of others people. This type of behaviour is even more morally reprehensible if they do so when interacting with students who they know have low self-regulation abilities or poor self-esteem. Such students will not perform well academically and avoid feedback because it affects their self-esteem negatively. They thus not only deprive themselves of the much-needed tuition, but may even become depressed and anxious, which further hinders their progress.

In scenario C, the upwards arrow indicates the situation where the teacher behaves as described in scenario B, but the student has high self-regulation ability and ignores the comments of the teacher or puts in more effort to prove them wrong. The student now enters the “Bermuda Triangle”. This is risky as it’s a large space (illustrated by the pink triangle) and there is no way of telling where they may end up within this triangle. Some may rise up the C arrow and achieve academic success, while others end up anywhere in between the top and bottom limits, achieving varying levels of clinical and academic success.

In scenario D, the downwards arrow represents the situation where the teacher behaves as described in scenario A but the student has low self-regulation and does not perform academically. Once again, few will directly follow the straight line, while most will fall within the green triangle of unknown outcomes.

CONCLUSION

Staff competence should be developed in the field of ethical feedback delivery to enhance student self-regulation and promote learning. Assessment of their skills in feedback delivery could even be used as a measure of their performance as educators. The above-mentioned model may serve as a framework for such development.

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None

DISCLOSURE

Nothing to disclose

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