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# Student and instructor perceptions of feedback in veterinary clinical education, part II qualitative analysis

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**Introduction:** Feedback is a critical component of clinical and professional skill development in veterinary medical education that is influenced by hierarchical, structural, and psychosocial factors. Prior work suggests a disconnect between student and instructor perceptions of what constitutes feedback, how it is delivered, and how it is received.

**Methods:** Guided by cognitive evaluation theory (CET), this study provides insights into similarities and differences between Clinical Year Students (CYS) and Instructional Faculty/Staff (IFS) perceptions of feedback during the clinical portion of veterinary medical training. We conducted a cross-sectional, mixed-methods survey of CYS and IFS across accredited U. S. veterinary schools to explore perceptions of feedback. The survey included Likert-type items and open-ended prompts; for this paper, the thematic analysis was utilized to explore the written responses of 178 students and 162 instructors. Three researchers individually coded and identified emergent themes, then came to consensus through regular meetings and discussion.

**Results:** Three overarching themes emerged: (1) similarities between CYS and IFS perceptions of feedback, including the importance of timeliness, specificity, and constructive balance between strengths and areas for growth; (2) CYS-specific perspectives, such as heightened awareness of hierarchical barriers, greater tendency to view feedback as linear and opinion-based, and short-term skill-focused goals; and (3) IFS-specific perspectives, including concerns that students fail to recognize unlabeled feedback and greater emphasis on long-term professional development when receiving feedback themselves. Both groups reported limited formal training in giving and receiving feedback and expressed interest in such training. Differences in openness to feedback were influenced by delivery style, rapport, and context, with hierarchical dynamics and cognitive biases further complicating perceptions.

**Discussion:** Although CYS and IFS share many perspectives regarding the purpose and qualities of effective feedback, misalignments in recognition, definitions, and openness, exacerbated by hierarchical structures, may limit feedback's educational impact and directly affect student motivation. Addressing these gaps through targeted, context-specific training for both learners and instructors, fostering bidirectional feedback culture, and clarifying definitions may enhance feedback effectiveness and, ultimately, clinical learning outcomes in veterinary education.

## KEYWORDS

clinical feedback, clinical training, communication, competency-based education, feedback training, health professions education, instructor perceptions, student perceptions

## 1 Introduction

In the last phase of veterinary medical programs, students in most schools enter clinical rotations that provide them with the opportunity to apply the knowledge and skills they have gained in the pre-clinical years of their curriculum. Rotations vary in length from program to program, and while students often can select certain rotations of interest, others are required and may not align with the individual student's interest.

The veterinary clinical teaching workplace is a highly complex environment that can be challenging for novice trainees to navigate (Fullerton et al., 2022). A key contributor to trainee growth of clinical and professional skills in this environment is the provision of feedback from clinical instructors (Bok et al., 2013). Feedback is used widely across personal and professional situations and is a term that has a variety of meanings, depending upon the person using it and the context within which it is being applied (Warman et al., 2014; Fullerton et al., 2022).

By the strictest definitions, feedback is solely formative; it serves to guide the learner towards a goal rather than to assess the extent to which the goal was achieved (Brookhart, 2018). This definition takes a more instructionist approach to education, where assessment is seen as the endpoint, and is consistent with early definitions of feedback in medical education (Ende, 1983). Assessment for learning as a concept came about in the 1990s and takes a more constructivist perspective, making the case that assessment and feedback can be intertwined when the assessment process is used to further the learning process (Black and Wiliam, 1998; Hattie and Timperley, 2007).

More recent approaches to feedback emphasize the dynamic give-and-take between instructors and students, where dialogue and reflection are used to enhance performance (Ajjawi and Boud, 2017). In doing so, feedback becomes a multidimensional construct, incorporating context, social structures, culture, and psychology (Fullerton et al., 2022; Fuentes-Cimma et al., 2024). When situated in the clinical learning environment, feedback is additionally complicated by unpredictable patients, time constraints, hierarchy, and both experience and training associated with giving and receiving feedback (Fullerton et al., 2022).

These various factors influence both instructors' and students' views of feedback, including what constitutes feedback, how feedback is being delivered or received, and how feedback is emotionally processed. Research already demonstrates that there is a significant disconnect between what instructors and students think about what constitutes feedback (Warman et al., 2014; Gates et al., 2024). While instructors believe they give feedback often, both students and residents perceive it as infrequent (Perry et al., 2020; Gates et al., 2024).

Due to the complexity of the clinical workplace, expectations and milestones can be unclear or even conflicting across rotations, instructors, residents, and students (Hughes et al., 2013; Perry et al., 2020; Gates et al., 2024). Without clear benchmarks, it can be challenging for instructors to deliver specific guidance to trainees on their progress. This lack of clarity causes frustration and confusion in students,

which can lead to heightened anxiety, self-doubt, reduced confidence in their abilities, and may potentially decrease motivation (Deci and Ryan, 2012; Hughes et al., 2013; Perry et al., 2020). Similarly, instructors can experience frustration or lack of motivation when the evaluation methods they are told to use feel insufficient or more like checking a box (Gates et al., 2024).

Feedback delivery can also have a profound impact on its content and how it is received. A portion of clinical feedback is delivered in written form on end-of-rotation evaluations, which may not be made available until days, weeks, or longer after the point of observation. Under these circumstances, not only is it challenging for instructors to remember interactions well enough to provide specific and actionable comments, students may not be able to apply the feedback as the opportunity to do so has passed. Written feedback may also be compiled by an individual who did not directly observe the student, so they must rely on collected comments from faculty and staff (Gates et al., 2024). Even if feedback is delivered in the moment, many instructors lack training in providing it, a situation which could result in comments that are bias-ridden, overwhelming, or simply reflective of the feedback they received during their training (Perry et al., 2020; Carr et al., 2023).

While it is not inherently wrong to model feedback delivery on one's supervisors' practices, doing so does not always foster a positive workplace culture. In a case study of veterinary residents, supervisors' previous experiences of not receiving much feedback during their own residency and not being expected to deliver feedback regularly to previous residents made those supervisors appear unapproachable and unwilling to change (Perry et al., 2020). Additionally, instructors may emphasize a certain hierarchy that does not value two-way dialogue between instructors and learners (Lane et al., 1995; Bok et al., 2013; Perry et al., 2020). Such hierarchies can deter students from feedback-seeking due to feelings of intimidation or fear of repercussions which might be reflected in the grade (Bok et al., 2013; Warman et al., 2014; Buchner et al., 2018; Gates et al., 2024). This dynamic is not always the fault of the instructor; the structure of the workplace and institutional expectations of faculty can pose a barrier (Bolt et al., 2010). External pressures to see more cases such as economics, perceived urgency from clients, and/or a general increase in caseload can reduce the available time for meaningful feedback conversations. Additionally, when research and clinical service are valued more than teaching for tenure and promotion, faculty may feel compelled to focus on those responsibilities instead of clinical teaching (Bolt et al., 2010; Warman et al., 2014; Perry et al., 2020; Gates et al., 2024).

Feedback is not just pedagogical but also deeply psychological, making giving and receiving feedback a potentially emotional experience. Negative feedback is stressful to receive and can damage confidence, self-esteem, and motivation. Students may be more inclined to believe negative feedback while ignoring positive feedback, especially when the delivery is perceived as not effective (Deci and Ryan, 2012; Hughes et al., 2013). Some individuals are unable to view feedback objectively, instead feeling like their personal identity is being attacked. These circumstances can make it difficult to receive feedback, and can even make students avoidant, non-receptive, reluctant,

or unable/unwilling to use feedback as an opportunity to grow. These habits were noted in particular in students with lower self-regulated learning skills, arguably the group of students who may benefit the most from feedback (Carr et al., 2023). While a lack of self-regulated learning skills poses a barrier to seeking out and using feedback, the instructor has a role in further developing these skills by encouraging self-reflection (Adaca, 2023). For these reasons, feedback can affect student motivation both positively and negatively (Deci and Ryan, 2012). This mechanism is the premise of cognitive evaluation theory (CET), an offshoot of self-determination theory (SDT), and is particularly pertinent to this study.

SDT is about motivation—notably, internal or intrinsic versus external or extrinsic—and has been shown repeatedly to be related to autonomy, competence, and relatedness. In other words, people want to be able to make their own decisions without being coerced into doing things they prefer not to do, be perceived as and feel competent in their daily work, and to feel a sense of belonging within their community (Deci and Ryan, 2012). With CET, the focus is primarily on the second piece of SDT – competence. How feedback is provided and perceived can, according to CET, affect the intrinsic motivation of our students (Deci and Ryan, 2012). To explore these theoretical constructs in the context of veterinary clinical education, we designed our survey to elicit participants' perceptions of feedback through both definitional and experiential lenses. By asking participants how they define feedback, we could examine whether they conceptualize it as competence-affirming (formative, growth-oriented) or competence-threatening (evaluative, judgmental). Questions about experiences with feedback and openness to receiving it allowed us to assess how perceived threats to competence might influence receptiveness. This approach aligns with CET's premise that while different students may respond to feedback differently, the nature of the feedback delivery matters. This relationship is important to note, as while individual students may respond to feedback differently, students tend to appreciate positive feedback but find specific feedback most useful (e.g., "you did an excellent job with your discharge instruction on Sadie today" versus "you did great today!"). Negative feedback is far more challenging for students to accept without feeling it is personal (Carr et al., 2023).

In studying feedback given to students, we must also consider those giving the feedback, both in how they view the feedback they provide, and how they view the feedback they receive. While this study started off specifically aiming to better understand how veterinary students perceive feedback during their clinical learning experiences, we discovered a gap in the literature regarding the mindsets and/or motivations of those primarily responsible for providing the feedback. While there is robust research into the student aspect, the instructor/feedback-provider aspect is less well documented (Bok et al., 2013). Our findings align with previous literature indicating that instructors' mindsets can influence student learning. Those with growth mindsets (see further exploration of this concept below) tend to promote student-centered learning, dialogue, and reflection, while those with fixed mindsets often favor teacher-centered approaches, discourage feedback seeking, and fall back on ego-protective behaviors (Guttin et al., 2023; Bardach et al., 2024). Instructors who provide feedback also receive feedback from students, albeit usually in anonymous written, and delayed form.

Carol Dweck's 2011 theory of growth mindset relabeled the previously recognized incremental theory as a belief that one's intelligence is fluid; it can increase with attention and work, and improvements

can be made in any area with effort. This concept contrasts with fixed mindset, Dweck's relabeling of the previously recognized entity theory, where one believes that people have innate abilities and intellect and for which there is limited capacity for growth. A growth mindset leads, in theory, to individuals setting mastery goals—goals that are challenging but can be attained after consistent effort and practice. A fixed mindset, on the other hand, is theorized to lead individuals to pursue performance-approach goals, which will affirm their own positive attributes, or performance-avoidance goals, which are aimed at avoiding negative judgements of their skill knowledge, or ability (Dweck, 2012; Bardach et al., 2024).

An understanding of how students perceive both positive and negative feedback is important for clinical instructors. Anecdotally, clinical year instructors perceive student motivation to be higher during clinical training. However, the manner or method of feedback delivery could inhibit some students' intrinsic motivation. Through personal conversations and individual experiences, the authors perceive a drop in motivation following the release of the North American Veterinary Licensing Examination (NAVLE) results, particularly for those who achieved passing scores. At this stage of learning, it could be even more important to provide high quality feedback that concurrently fosters motivation.

Using SDT and growth mindset theories as the theoretical frameworks for our study, we viewed the responses of both instructors and students as related to their perceptions of feedback. We then investigated how those perceptions might have affected their motivations by looking at the impact of feedback on their perceived competence. We employed Dweck's theory of growth mindset to interpret the paradoxical findings we discovered between student and instructor responses, especially those asking about openness to feedback.

Based on the literature and anecdotal experiences, we view feedback in the clinical workplace as a complex, multidimensional construct that incorporates hierarchical, structural, and psychological factors. To explore this concept further, we performed a cross-sectional survey of clinical year students, instructional faculty, and teaching staff across U. S. colleges of veterinary medicine. The survey consisted of quantitative and qualitative items, each providing their own unique insights into feedback dynamics in veterinary medicine. In this paper, we explore the qualitative findings, with a focus on the following questions:

- 1 How do instructors and students define feedback?
- 2 What, if any, is the gap between instructor perceptions of giving feedback and student perceptions of receiving feedback?
- 3 How open do instructors and students perceive themselves to be to receiving feedback?
- 4 How much training have instructors and students had regarding both giving and receiving feedback?

## 1.1 Investigator positionality

It is important to disclose that the three principal authors who were involved in data analysis hold various academic ranks and titles at three different veterinary programs. The primary author, SDL, is a clinical associate professor and currently works as the clinical skills laboratory coordinator at a midwestern institution. He is a board-certified small animal internist and has worked with veterinary learners across the entire curriculum, including 11 years of experience training interns and residents. As a prior clinical instructor, he worked

closely with clinical year students during the small animal internal medicine rotation where he frequently engaged in feedback discussions and continues to provide feedback to students during clinical and professional skills training. Given this background, he recognizes several potential biases which may influence how the data is examined. He proposed the initial research question to the group wondering if students included unlabeled feedback like exams, quizzes, corrections on assignments and other works as feedback or if students only counted labeled feedback as feedback. During data analysis, he found himself more frequently identifying with faculty comments than student comments, possibly due to the temporal proximity of his experiences. He acknowledges that the hierarchical nature of academic relationships may affect the quality of student feedback, with anonymous feedback sometimes being less constructive, which could influence his interpretation of student comments.

The second author, KF, is the founding dean at a proposed new veterinary program in the western US; she is a general practitioner whose area of expertise is education; she was trained in a traditional VTH model program. She has over a decade of small animal clinical practice, 15 years of experience in academia, and her clinical teaching has been limited to mentoring fourth-year and new (1–5 years out) graduates working in small animal general practice and emergency clinics, both private and corporate. As a previous academic dean, KF worked directly with students and faculty in VTHs and observed first-hand the challenges—for both students and faculty—associated with giving and receiving feedback in a traditional, hierarchically structured system. Given that the majority of her observations centered on problem-solving, her biases going into this research likely colored her initial interpretations of the data. However, through ongoing conversations with the co-authors, it quickly appeared that even with different experiences in different institutions, the authors were fairly well-aligned in their perceptions and interpretations of the data.

The third author, AHB, is an assistant teaching professor of clinical skills in the northeastern US, who primarily works with pre-clinical students in a laboratory setting. Due to the nature of the laboratory setting, the provision of feedback is a large component of her in-person teaching time. The development of critical reflection skills is one of the two overarching goals of her clinical skills course, so she instructs students on what constitutes feedback and requires students to routinely reflect on the feedback they receive during lab sessions. Her area of expertise is education, and she is currently working towards a master's in veterinary education. Much of her administrative service is focused on curriculum development, and assessment is a significant component of her research activities. Since AHB's career focus is education, she did not seek specialty training in a clinical discipline and only practices clinically part-time in a general practice setting. As a result, she feels somewhat removed from the workplace learning environment and brought her biases associated with helping prepare students for entry into the workplace to her interpretation of the data.

## 2 Materials and methods

### 2.1 Survey instrument

A mixed-methods survey was created using Likert-type questions for which respondents could select one of five options. Several

Likert-type items were followed by open-ended questions to elicit additional context for each respondent's chosen responses. The survey was distributed via several methods to reach the target populations. Those included distribution through the listserv of the Academy of Veterinary Educators, an international group of individuals interested in veterinary education with a membership of around 600, the American Association of Veterinary Medical Colleges (AAVMC) Associate Deans of Academic Affairs listserv with a request to relay the survey to clinical year instructional faculty, staff, and students, and lastly the National President of the Student Chapter of the American Veterinary Medical Association was asked to distribute a link to the survey to local chapters with a request that it be passed on to student members.

### 2.2 Approach to data and data analysis

Thematic analysis (TA) is a commonly used qualitative approach that is “accessible, flexible, and increasingly popular” (Cooper et al., 2012). Although widely used prior to 2006, it was poorly defined. In 2006, Virginia Braun and Victoria Clarke formalized TA, and since then it has been increasingly recognized as a distinct qualitative method, taking its place beside other established approaches, such as grounded theory and D(d)iscourse A(a)lysis (Cooper et al., 2012).

TA focuses on gaining meaning from data sets as a whole, which provides the researcher(s) the opportunity to absorb, interpret, and make sense of themes that are identified from across the data. Importantly, unlike quantitative data, it is not necessarily the most common phrases, words, etc. that are considered thematically important; rather, it is the patterns of meaning in relation to the topic and question(s) at hand that emerge as the focus of the eventual themes (Cooper et al., 2012). This method is not to imply that commonalities are not important, but rather to indicate that (1) counting the number of instances within a data set is not qualitative research, and (2) relevance to the questions and topics is imperative. In asking our questions about feedback, for example, the number of times the phrase “an opinion about performance” was expressed was numerous, but the importance of these types of phrases had nothing to do with the number of expressions and everything to do with the context—for example, we found it interesting that many respondents viewed feedback as an opinion.

Open-ended survey responses were alphabetized and de-identified by the primary author (SDL) and sent as an Excel workbook to the two co-authors (AHB, KF) who agreed to help with TA. There were separate sheets for the student and instructor responses. Coding was completed manually (AHB, KF) and through use of NVivo 14 (QSR International, 2020) by SDL.

Data were analyzed in chunks of 10–100 responses, always evaluating instructor and student responses together, and always focusing on one open-ended survey question at a time. Each coder used their own processes to analyze data and determine themes, which were then discussed during regularly occurring research meetings. For SDL, the process involved initially reading chunks of respondent comments and identifying common themes. Once these were identified, a code was created for each theme and comments were then coded to reflect the theme(s) each contained. Initially, constructed themes were narrowly constructed and then expanded to cluster similarly themed categories. For example, “feedback gets easier with age” was initially coded narrowly as “receptiveness

TABLE 1 Open-ended questions and the number of responses received.

Group	Question	# of responses
Student	How would you define feedback?	178
	Please provide any comments on how open you are to feedback and how you receive feedback.	80
	How do you recognize if you are receiving feedback?	95
	Please explain your reasoning to the statement “My faculty are open to receiving feedback from me.”	103
	Please provide any comments on training regarding giving or receiving feedback.	52
	What else would you like to tell us about giving and/or receiving feedback?	43
Faculty	How would you define feedback?	162
	Please provide any comments on how open you are to feedback and how you receive feedback.	104
	Please provide any comments on the following statement “Students are able to recognize feedback if they are not specifically told they are receiving feedback”	97
	Please explain your reasoning to the statement “Students are open to receiving feedback from me”	105
	Please provide any comments on training regarding giving or receiving feedback.	54
	What else would you like to tell us about giving and/or receiving feedback?	51

CYS, clinical year students; IFS, instructional faculty and staff.

improves with experience.” As analysis progressed and similar patterns emerged across the dataset, such as comments about learning to accept criticism or developing resilience over time, these narrow codes were more broadly clustered into “growth-oriented perspectives of feedback.” For AHB, this looked like reading each chunk of data straight through without making notes, reading through again while making notes in an Excel workbook, and finally organizing each response into non-mutually-exclusive related groups based on her interpretation of the explicit and implicit meanings of the responses. And for KF, the process was done via reading of the chunked datasets while marking phrases interpreted as being similar, re-reading the phrases and marking upon completion of the chunked dataset, grouping the phrases into thematic areas, and creating appropriate thematic titles that were brief while still reflecting the findings (e.g., “emotional intelligence level”, “opinion versus observation,” etc).

After each coder completed their individual analysis, the researchers met to discuss their findings. In keeping with the intentions of thematic analysis, this last step was important to check back in with the study’s research questions and consolidate isolated analysis with an overall impression of the data.

While the process produced numerous potential themes during the analytic process, preparation of the manuscript helped the authors realize that many of the themes identified fell under three larger thematic umbrellas: similarities between the two groups. The three final themes are identified and explored below.

### 3 Results

Both groups were asked six open-ended questions, as shown in Table 1. We found three overarching themes across the complete dataset: similarities among IFS and CYS perceptions of feedback; CYS perceptions of feedback; and IFS perceptions of feedback.

#### 3.1 Similarities among IFS and CYS perceptions of feedback

Both cohorts recognized the duality or balanced components of feedback, whereby the recipient is informed of opportunities for growth as well as areas for which they are doing well. Both groups also explicitly recognized that feedback during the clinical year was intended to improve performance on a given skill or task. Definitions of feedback, for example, often focused on improvement, growth, or enhanced future performance for those on the receiving end of the feedback, as stated by Student #10 who wrote “Review of performance. Ideally, constructive with a mix of positive observations for reinforcement and clear explanations of shortcomings with useful advice for improving.”

Both IFS and CYS also recognized that there were multiple delivery routes for feedback, including verbal, nonverbal, and written. They additionally noted that it could be formal (evaluations, grades) or informal in nature (in-the-moment, conversations). Most respondents across the two groups tended to narrow the focus of feedback to specific actions, tasks, activities, behaviors, or skills observed within a defined timeframe. It was particularly striking that both groups viewed timeliness of feedback delivery as important: “Providing timely and specific information on an individual’s performance; specifically identifying skills the individual has as well as way[s] they may improve; it should be constructive and actionable.” Instructor #134.

Another similarity between the IFS and CYS participants was that they both felt they were receptive to feedback, although they preferred to receive positive feedback and recognized that constructive and/or negative feedback was challenging and potentially could trigger negative emotions. Both groups also acknowledged that receptiveness to feedback, especially negative feedback, became easier with time and practice, as indicated by Student #160, who wrote “I believe this is the best and only way to learn and be better. If you cannot appropriately respond to feedback and implement it, you can never progress,” and Instructor #168, “I am much more open to feedback as I have gotten

older than when I was a house officer. Feedback is always a gift and I really try to take that information and process it to help me recognize my blind spots.”

The cohorts were similarly aligned in that their receptiveness to feedback was affected by how it was delivered: tone, phrasing, content, and the rapport with and/or respect they had for the individual providing the feedback. “I am open to all feedback, I think weather [sic] it’s precieved [sic] well is based in [sic] the way it’s presented, rather than what the feedback is,” stated Student #101. Instructor #103 encapsulated the importance of what they viewed as a difference between feedback and complaints in their comment, “I am very open to useful, actionable feedback. However, students have a tendency to sometimes provide feedback that is focused on things like hospital staffing that is outside my control.” This was echoed by Instructor #48, who stated that “Constructive feedback (specific, actionable) is helpful. General complaints couched as feedback is not helpful and I try to ignore it.”

How responsive an individual was to the feedback provided was viewed as variable between individuals, with much of this also depending on the rapport between the feedback giver and receiver, as indicated by this comment from Student #188, who stated “Based on how the veterinary teaching hospital is run (inefficient, not profitable, students used as technicians, feedback from interns/residents with little ‘real world’ experience), I don’t trust certain areas of feedback based on what I perceive as a skewed perspective on what life outside of academia should look like.” In general, students felt more strongly about this variability than did instructors, although instructors also regularly acknowledged that some students are less receptive than others. “There are some clinicians I would approach completely openly with whatever feedback I had, and there are some I would die before doing so. Generally reflective of how open they are to questions, how they teach, and how they themselves deliver feedback.” Student #140.

There is always a subset [of students], however, that are unreceptive. I find that these are most often the ‘most experienced’ students that have a veterinarian parent or have been a technician for many years and have a high level of confidence in their own knowledge and skills. Students with less veterinary experience seem more receptive to feedback, likely because they have fewer preconceptions. Instructor #141.

It should be noted that while this was a similarity, students tended to be viewed as more receptive to feedback by instructors than instructors were viewed as receptive to feedback from students.

Both IFS and CYS indicated a lack of training in giving and/or receiving feedback, and both believed that such training would be very valuable. For those students indicating they had received some training, they reported training has been covered within the veterinary curricula, though some also indicated they had outside training such as in their undergraduate coursework. Instructors who had received such training had done so in large part because they looked for it and engaged in it outside their regular duty hours/assignments. Perhaps unsurprisingly, some expressed shock that such training even existed (“I wasn’t even aware there was training on this topic!” Instructor #55). Some recognized that they were following anecdotal advice, such as Instructor #82, “No formal training on receiving feedback specifically. Everything is anecdotal and probably not the best advice (i.e., Sit down with a glass/bottle of wine before reading your course evaluations...)”

Others felt it would be helpful: “I think that having instructions on how to give and receive feedback would be beneficial for students in the clinical rotations and prepare them for the feedback they will receive in their clinical practice.” Student #152 and “I would really like to receive this training. I think everyone in a clinical environment should receive this training.” Instructor #167.

In looking at the similarities between IFS and CYS regarding students being able to identify unlabeled feedback, there was a small cohort of students who reported they had some struggles with this and a much larger cohort of instructors who believed this to be a challenge. Those students who reported struggling to recognize feedback were explicit in their response to this question, with Student #49 providing a good exemplar for this small cohort of respondents: “I find that I am much less likely to recognize feedback if it’s given without some kind of precursor, e.g. ‘Just some feedback on how that went...’. If something is said off the cuff I’m not often ready to receive it and find that I often don’t internalize that it was meant as feedback and something I was meant to internalize and work on.”

Thus, while there is some overlap between the two cohorts regarding students’ ability to recognize unlabeled feedback, there were greater differences noted and as such this topic is more fully explored in the following section.

### 3.2 Differences between IFS and CYS perceptions of feedback: students

Students across the dataset appeared to be more cognizant of and concerned about the hierarchical structure of the feedback system, often clearly stated within the response:

There is a pretty obvious totem pole in veterinary medicine with students being at the bottom of this hierarchy. There is not much room or any situation where I would feel comfortable giving feedback to a faculty member (unless positive feedback). I would feel extremely out of line and would probably be reprimanded if I gave feedback that wasn’t strictly positive to a faculty member. The only feedback I would feel comfortable giving to a faculty is through anonymous end of rotation evaluations. Student #185.

This is an interesting finding, as while students often expressed a desire to provide feedback to faculty, students also tended to define feedback as being linear and unidirectional more often than instructors, which seems to correspond with the concerns students had regarding the hierarchical structure of the clinical environment.

On several occasions where I or other students have tried to give feedback, the faculty has not been receptive to it and in some cases have responded in a rather hostile manner. The school requires students to provide feedback for each class and clinical rotation, however some faculty have admitted they do not even read the student feedback because they believe it is not worth their time. Student #13.

The student perceptions of the purpose of feedback also leaned toward more short-term impacts and were more endpoint focused, i.e., improvement of a specific skill or task rather than overall development of professional identity or career success and/or continued growth as a veterinarian.

While students viewed feedback from the perspective of being the lowest rung of the clinical ladder, they also often defined it as an opinion and tended toward feedback being more formative than summative. This perception is illustrated by Student #80, who defined feedback as “someone’s opinion on how you performed.” Student #156 implied that their experience with feedback was often viewed as opinion rather than something that was useful to them: “I respond better to feedback that is unforced and that remains constructive. Feedback to change my actions just to fit the preference of a clinician in a non-essential task is not received well.”

It is important to note that while most students responded that they were able to identify feedback, even when it was not explicitly labeled as such, it does appear there is a disconnect between this group of students and the instructors who responded to the survey. Instructors, by a large consensus, viewed students as struggling to recognize feedback, unless it was explicitly stated by the feedback provider.

### 3.3 Differences between IFS and CYS perceptions of feedback: instructors

Instructors were fairly uniform in their perception that students struggled to identify unlabeled feedback. Instructors appreciated students who sought out feedback, but for students who shied away from it or did not actively seek it out, IFS expressed concerns about their ability to recognize that feedback was being delivered.

Most of my students seek feedback, which is helpful, but when I give unprompted feedback I often feel it goes in one ear and out the other because students are focused on the task at hand at the cost of everything around them. They get better at receiving/recognizing on-the-fly feedback with more practice and fluency in a specific task so their brains can focus on other things. Instructor #112.

To mitigate this and help improve students’ understanding of how feedback is provided, some instructors reported telling students they were about to give them feedback. Others took this even further by asking the learner’s permission before sharing their observations, as one instructor noted “It helps to say to a student ‘I would like to give you some feedback’ and then making your comments, even better is to ask ‘can I please give you some feedback’ – this speaks to the fact that there is a time and place that is best...” Instructor #96.

Regarding definitions of feedback, instructors generally provided lengthier, potentially more nuanced, definitions of feedback when compared to students, even while they also viewed the feedback they provided to students as more summative, as stated by Instructor #96: “Feedback is bi-directional. Intended to improve performance – tell someone what they are doing well and should keep doing, as well as telling someone what areas they might improve in. Can occur by quantitative data – scores or grades, or can be qualitative data – more narrative in nature.”

This perception of the summative nature of feedback appeared distinctly different when applied to feedback instructors received, however; in this situation, instructors leaned toward metacognition about the feedback and how it might help them improve broadly on a professional (most often with respect to teaching) level. This introspection is apparent in Instructor #145’s comment that “after several

years, I learned to listen (still working on it) and enjoy now the exercise of seeing others’ perspectives.”

Interestingly, with regards to receiving feedback from students, colleagues, and/or supervisors, IFS who were truly open to it viewed it in light of its potential long-term benefits and how it might impact their professional identity and/or career, exhibiting more of a growth mindset. However, the overriding sentiment from instructors was that while they recognized the value of feedback, they, just like students, preferred it to be positive. IFS tended to be more self-aware than students, though, as seen in this statement by Instructor #31, “I am open to receiving feedback but can take it personally sometimes. I am improving on also seeing it as an opportunity for growth and improvement for me.” Some were explicitly self-aware with how they viewed feedback, like Instructor #100, who lamented that they “wish I could say I am good about receiving feedback, but honestly, I only want positive feedback,” and Instructor #152 who openly admitted that “As a perfectionist that occasionally experiences imposter syndrome, I tend to focus on the few, sometimes minor aspects that are brought up during feedback for further improvement.” This respondent admitted to struggling with negative feedback but expressed a willingness to engage with it to further their instructional skills. These comments demonstrate the metacognition that was less apparent in the student responses regarding their receipt of feedback.

## 4 Discussion

Both students and instructors agreed that feedback is a complex and dynamic construct that is context-dependent and quite challenging to learn to both give and receive. Additionally, both cohorts were noted to lack formal training in giving and receiving feedback and both largely expressed an openness to and interest in receiving such training. While programs do exist to train these skills, it seems that they are either elective, infrequent, or insufficient to address the needs identified in veterinary clinical training.

Both cohorts are also subject to the institutional culture in which they operate. While they explicitly and implicitly expressed a desire or preference for bi-directional feedback, unidirectional feedback is currently much more common in veterinary clinical education. It is primarily the instructor who provides feedback and the learner who receives it. While all colleges solicit student feedback, this evaluation often occurs at the conclusion of rotations, is written, and is submitted anonymously. This prevents conversational, explanatory, and timely discussions about the feedback. Furthermore, the anonymous nature of the feedback could shift the responses away from feedback and towards complaints, which instructors may be more likely to discredit, thus perpetuating the belief that instructors are not receptive to feedback.

Power dynamics probably also play a role in student perceptions of motivation, particularly through their impact on autonomy. Hierarchical differences are necessary and expected in this learning environment, as students require direct supervision during most of their clinical activities. There is a broad range of individuals who serve in an instructional role, from veterinary assistants and nurses to veterinarians and specialist veterinarians. Learners may be evaluated by any or all of them on any given day, and each evaluator sits in a different place within the hierarchy. Learners might be more receptive to feedback from veterinarians, who they perceive to be less threatening

to their autonomy than from non-veterinarian staff. The latter may pose more threat to the students' professional trajectory or be at odds with their emerging professional identity. This perceived mismatch between self-identity and the feedback source's credentials may trigger greater threat than feedback from veterinarians. Similarly, this idea could be further expanded to include stratification between types of veterinarians involved in providing feedback including interns, residents, or specialists and potentially include perceived years of experience with greater threats to autonomy coming from those individuals who more closely resemble the students themselves. Instructors, including instructional staff, may expect some degree of deference from students, given their more senior role to the learner. Similarly, learners may hold high expectations of responsiveness from instructors. Any question posed by a learner could be misinterpreted as push-back rather than engagement in feedback by an instructor. Conversely, instructor explanations could be perceived as dismissiveness of student thoughts or as an unwillingness to change.

CET and growth mindset theories together might help to explain these dynamics. According to CET, external events like feedback affect intrinsic motivation through their impact on perceived competence and autonomy. When individuals with more fixed mindsets encounter feedback that challenges their self-concept, they may experience threats to both competence and autonomy, leading to defensive responses.

For students, this manifests when feedback from sources they perceive as hierarchically below them creates dual threats to competence (the content) and autonomy (the source legitimacy). Students' tendency to dismiss feedback as "opinion" or express concern about hierarchical appropriateness may reflect these protective mechanisms. This perception may also occur when students receive feedback from those who are hierarchically equal to or above them, but for whom they have little respect.

Faculty also demonstrated fixed mindset patterns that create reciprocal autonomy and competence threats. Some instructors admitted they are more resistant to constructive feedback "I wish I could say I am good about receiving feedback, but I only want positive feedback." Instructor #100. Others responded with hostility to student input: "...They are not qualified to know what they do or do not need to know." Instructor #92. Through the CET lens, faculty dismissal of student feedback may represent their own competence protection, viewing student criticism as threatening to their professional identity or expertise. This dynamic creates autonomy threats for students, who may perceive their legitimate concerns as unwelcome, further reinforcing the hierarchical behaviors.

Conversely, growth mindset characteristics in both groups enabled more resilient processing of potential threats. Instructors demonstrating growth mindset showed metacognitive awareness, while students with similar orientations viewed feedback as developmental rather than judgmental. The presence of both mindset patterns in each cohort suggests that effective feedback culture requires addressing fixed mindset barriers at all levels.

Learners may be overconfident in their ability to recognize feedback, instructors may be underestimating learners' abilities, and learners and instructors may be utilizing different definitions of feedback. Several psychological mechanisms may contribute to these perceptual differences. There are also several cognitive biases that may play a role. While the study began by asking respondents to define feedback, further questions were guided by a definition that we provided. It is possible that despite being instructed otherwise, respondents clung to

their definition of feedback when answering questions, rather than that which was provided. Additionally, illusory superiority is likely a factor, where individuals tend to overestimate their abilities or rate themselves as better-than-average but see others in a more realistic light.

The retrospective or backwards-looking design of this study lends itself to recall bias. Respondents may only remember their more negatively skewed interactions with each other, and this may influence their responses. There may also be some component of confirmation bias combined with institutional memory, particularly as it pertains to students' perspectives. Students often pass down their experiences and perspectives to underclass students. When those individuals then progress into their clinical rotations, they could enter with preconceived ideas/bias. Learners may then be set up to look for evidence that confirms their beliefs, resulting in confirmation bias.

The student findings indicate some cognitive dissonance regarding feedback. They view it as formative and often believe it is an opinion while also feeling it is linear, flowing primarily in one direction from instructor to student. Their perceptions are likely impacted by the hierarchical nature of the system within which they are expected to learn. While it is true that inherently feedback involves someone's opinion, the choice to disregard feedback for this reason may be because receiving feedback is uncomfortable, and this is their way of compartmentalizing it. When viewed through the CET lens, the tendency of students to categorize feedback as an opinion might be a strategy to maintain intrinsic motivation whenever feedback threatens their sense of competence. By reframing this from objective assessment to subjective opinion, students may preserve their internal sense of competence while still processing the information. Perhaps similarly, an argument could be made that instructors' choice to occasionally disregard student feedback may also have roots in impostor syndrome or other manifestations of vulnerability. Alternatively, this could be viewed on a meta level as indicating an overall lack of growth mindset, related to feedback affecting motivation with the negative outweighing the positive, or both. More in-depth study of these individual variations might be very helpful in creating training programs designed to help both IFS and CYS better give and receive feedback in a clinical setting.

There may also be some students who are simply not capable of believing they need input from instructors, particularly those who are poorer performers in general and are more likely to suffer from the Dunning-Kruger effect (Dunning, 2011). It may be interesting to further explore under what circumstances could information intended as feedback be received as an opinion by recipients. This phenomenon may occur when there are multiple correct methods or approaches to a task, and an individual expresses their preference. In these cases, the distinction between preference and opinion is nuanced and multifactorial and care should be taken during communication to clarify the message. If this is merely an opinion on another way to accomplish a task, it should be stated that this is a preference. However, if the true intent of the message is corrective feedback one must ensure that sufficient justification is provided so that the recipient can draw a distinction between approaches or risk that message being miscategorized as opinion.

Beyond hierarchical and psychological factors, communication style preferences and context may also affect reception of feedback. Preferences regarding how feedback is delivered (i.e., face-to-face versus written), timing, and setting can shape openness to feedback. Some may prefer to receive feedback in a more private setting, but the

clinical environment often necessitates immediate feedback delivery in public spaces, particularly when patient safety is involved. This mismatch may lead to embarrassment in the recipient and contribute to perceptions of reduced openness to feedback. The timing of feedback also needs to be considered when trying to understand openness to feedback. Openness may fluctuate when an individual is stressed, busy, or at certain times in the academic year. Rushed feedback could be misconstrued as dismissive, even when well-intentioned, and may potentially impact the receiver's motivation, leading to a negative feedback loop. There may also be some element of fixed or growth mindset impacting the reception of feedback, for both IFS and CYS, which would be interesting to explore further. Perhaps not surprisingly, the factors that influence an individual's openness to feedback are potentially as numerous as individuals themselves; we have explored just a few in this study. Our findings, together with the paired quantitative study, reveal the complex dynamics of feedback in veterinary clinical training and highlight priorities for future research and targeted training.

## 5 Conclusion

Effective feedback in clinical veterinary education requires shared definitions, explicit training, and mindful attention to hierarchy. Our findings indicate that the students and instructors value similar feedback qualities but diverge in how they define, recognize, and emotionally process feedback. Small shifts, such as explicitly labeling feedback, inviting student input, and framing critique through growth mindset can transform feedback from an evaluative product to a shared learning process. On a larger scale, building a feedback culture that is dialogic, psychologically safe, and explicitly bidirectional might strengthen perceived competence, motivation, and achievement of learning outcomes in veterinary clinical education.

## Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

## Ethics statement

The studies involving humans were approved by Kansas State University Institutional Review Board. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

## Author contributions

SL: Conceptualization, Formal analysis, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing. KF: Formal analysis, Methodology,

Writing – original draft, Writing – review & editing. AH-B: Formal analysis, Methodology, Writing – original draft, Writing – review & editing. MC: Methodology, Writing – review & editing. JHF: Methodology, Writing – review & editing. JSF: Methodology, Writing – review & editing. JH: Writing – review & editing. RS-T: Methodology, Writing – review & editing.

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