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Article

Final-Year Veterinary Students' Perspectives on Professionalism Education at Select Veterinary Schools in Australia, New Zealand and the United Kingdom

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Abstract

The teaching and assessment of veterinary professionalism are essential components of veterinary degree curricula. The content of veterinary professionalism education programs has been informed by multiple stakeholders including educators, practitioners, and regulatory bodies. Since student perceptions also represent a powerful force in shaping the curriculum, the aim of this study was to explore the perspectives of final-year veterinary students on professionalism teaching and learning within their veterinary program. A mixed-methods study was conducted across three veterinary schools (Massey University–New Zealand; Murdoch University–Australia; University of Nottingham–United Kingdom). An online survey captured final-year veterinary students' opinions on professionalism teaching and the suitability of their current professionalism curricula. Subsequent focus groups explored perceptions in greater depth. Of 81 survey respondents, 66% perceived professionalism instruction to be essential, 79% agreed that their current professionalism instruction included appropriate content, and 58% perceived the instruction to represent adequate preparation for interaction with clients and professional colleagues. Only 39% of respondents, however, agreed that professionalism teaching was well integrated into the rest of the program. Three themes were identified following thematic analysis of the transcripts from the 11 focus groups conducted: 'the challenges associated with teaching and assessing professionalism', 'the influence of clinical teaching faculty on student professionalism development', and 'the importance of adopting effective teaching methods to teach professionalism'. Findings from both studies showed that students placed the greatest value on learning and assessing professionalism within an authentic clinical context, while also appreciating interactive teaching formats and group work. Educators should, therefore, consider integration, authenticity, and interactive delivery as they continue to develop their veterinary professionalism curricula.

Keywords: veterinary education; veterinary professionalism; final-year veterinary students; focus group; authentic clinical context; integration; interactive delivery

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1. Introduction

1.1. The Increasing Importance of Veterinary Professionalism

Whilst veterinary training has traditionally focused on the teaching of clinical skills and the delivery of content knowledge, the recognized importance of professionalism and professional skills has steadily increased to the extent that many are now established as core competencies expected by accrediting bodies (Royal College of Veterinary Surgeons, 2021; Australasian Veterinary Boards Council, 2024; American Veterinary Medical Association, 2025). Building on early work that identified a lack of these competencies and the potential impact on economic success (Brown & Silverman, 1999; Walsh et al., 2002; Lloyd et al., 2005), they have subsequently been flagged as critical from both a societal and employer perspective (Lewis & Klausner, 2003; May, 2008; North American Veterinary Medical Education Consortium (NAVMEC) Board of Directors (2011); S. Gordon et al., 2023).

Educational research has highlighted the importance of professional skills to the career success of both doctors and veterinarians (Arnold & Stern, 2006; Root Kustritz & Nault, 2010; M. A. Cake et al., 2016) and components of professionalism have been empirically shown to correlate positively with employability (Danielson et al., 2012; M. A. Cake et al., 2018; M. Cake et al., 2019; Hossain et al., 2020; Hosain et al., 2023).

Although professionalism is increasingly recognized as important, its role within veterinary curricula, and how to teach it, remains debated and continues to evolve (L. Mossop & Lymn, 2021; S. Gordon et al., 2021, 2023). This ambiguity is compounded by the inconsistent terminology used to describe 'professional skills,' which are often defined by exclusion as 'non-technical'. Consequently, the concept of 'professionalism' is interpreted in various ways, usually encompassing behavior, values, and ethical traits (S. Gordon et al., 2021; L. H. Mossop, 2012).

Professionalism was once assumed to be something students would acquire organically through clinical experience. Today, however, it is recognized as a developmental process that evolves alongside the formation of a professional identity. As a result, formal competency frameworks now include clearer learning objectives related to professionalism (Armitage-Chan et al., 2016). The Competency-Based Veterinary Education (CBVE) framework reflects this shift by outlining professionalism as a set of teachable skills, including ethics, time management, self-reflection, career development, and wellbeing (Ten Cate et al., 2015). It also encompasses allied competencies such as communication, collaboration, and financial and practice management—skills increasingly viewed as essential for employability and long-term career success in veterinary practice (M. A. Cake et al., 2016; S. J. Gordon et al., 2022, 2025a, 2025b). Consequently, veterinary educators are increasingly guided by evidence-based frameworks derived from experts and key stakeholders when designing professionalism curricula.

1.2. The Importance of Student Perceptions of Professionalism

Within this shifting contextual landscape, there remains a scarcity of literature on the most effective methods to teach and assess professionalism (Birden & Usherwood, 2013; Armitage-Chan, 2016; S. J. Gordon et al., 2025a, 2025b). Veterinary students' perceptions of how professionalism is taught should, to some degree, inform professionalism teaching and the development of professionalism programs. While Schull et al. (2012) examined final-year veterinary students' views on essential personal, interpersonal, and professional attributes for new veterinary graduates, S. J. Gordon et al. (2022, 2025a, 2025b) and S. Gordon et al. (2026) have more recently explored veterinary students' perspectives on essential professionalism attributes for clinical career success and on the effectiveness of professionalism teaching and assessment in New Zealand. Jensen et al. (2026) have also recently explored veterinary students' self-assessment of their skills and attitudes before

and after a structured clinical rotation. However, to the authors' best knowledge, there is no additional published literature specifically capturing veterinary students' perspectives on professionalism attributes important for clinical career success, or on the teaching and assessment of professionalism.

Byrnes (2022) emphasizes the importance of establishing a strong 'cognitive base' within the professional skills curriculum, suggesting that foundational conceptual teaching remains an important component of professional development. This view contrasts with the opinions expressed by some medical students who have questioned the value of formally teaching professionalism within the curriculum, instead arguing that such competencies are better developed informally through clinical experience later in training. These students have described didactic professionalism teaching as superficial, repetitive, trivial, and patronizing (Birden & Usherwood, 2013). Nevertheless, because students' professional identity can be strengthened by actively engaging them in their own understanding of what it means to become a professional (Armitage-Chan et al., 2016), it remains appropriate to incorporate veterinary students' perspectives when developing veterinary professionalism curricula (Hafferty, 2006; S. J. Gordon et al., 2022, 2025a, 2025b). At the same time, the argument for maintaining a structured cognitive foundation highlights the need to balance experiential learning with explicit curricular frameworks for professional skills development (Byrnes, 2022).

The aims of this mixed-methods study were twofold. Firstly, to evaluate the perceptions of final-year veterinary students regarding important professionalism and professional (employability) skills. Secondly, to explore students' perceptions of professionalism education within their program, particularly factors that enhance or reduce engagement or perceived learning. To ensure an international perspective, and to dilute the influence of local factors, students were surveyed, and focus groups were conducted, at three veterinary schools across NZ, Australia, and the United Kingdom (UK).

2. Materials and Methods

2.1. Research Design

A convenience sample of three veterinary schools (Massey University in NZ, the University of Nottingham in the UK, and Murdoch University in Australia) took part in this mixed-methods survey. All three veterinary schools run five-year Bachelor of Veterinary Science programs and deliver professionalism instruction across all five years of an integrated curriculum.

Quantitative data (through Likert-scale responses) were collected and analyzed via a survey sent out to all final-year veterinary students across all three veterinary schools. Focus groups were conducted with a proportion of the final-year students from each veterinary school to provide a more comprehensive picture of the final-year perspectives.

2.2. Survey Design and Distribution

An online survey (Survey Monkey 1999–2008, Portland, OR, USA) was developed to capture an international perspective of veterinary students' opinions of professionalism and the quality of its teaching.

The survey presented students with 24 veterinary professionalism attributes associated with career success, based on competencies identified by M. A. Cake et al. (2018). Table 1 outlines the 24 competencies and provides examples from one or more of the three veterinary schools studied, demonstrating how each competency may be delivered and assessed.

Table 1. The 24 competencies, along with examples of how each may be delivered and how they may be assessed.

Competency	Example of Delivery	Example of Assessment
Trustworthiness Honesty Integrity Empathy Respect	Informal delivery through informed positive clinician role models on clinical rotations	360 feedback from clinical supervisors, veterinary nurses/technicians, and peers on professional behavior of students within clinical rotations (e.g., during morning or evening rounds)
Collaboration/Teamwork	Small groups (4–6 students) with guided facilitation by clinical supervisors	Group assessment of a 'managing a clinical case scenario' or a 'business plan for a new veterinary practice'
Effective communication Acknowledges the human–animal bond Relationship-centered care towards clients	Simulated consultations using clinical scenarios and simulated clients	Communication skills in objective structured clinical examinations (OSCEs)
Accepts responsibilities Time management Commitment to quality care and welfare Diligence/Work Ethic Reliable/Punctual Work–life balance	Experiential learning in the Veterinary Teaching Hospital or on extra mural studies/externships/placements	Workplace-based assessments and reviews
Continual learning for best practice	Journal clubs involving students facilitated by clinical supervisors	Case presentations where students demonstrate how their thinking evolved with new evidence
Evidence-based approach to problem solving	Case-based or scenario-based learning where students must formulate clinical questions (e.g., PICO), search for evidence, appraise it, and apply it to patient decisions	Structured case assessments (written or oral) requiring justification of decisions using evidence
Accepts diversity	Clinical scenarios, role-plays, and discussions that involve diverse clients, colleagues, and contexts (e.g., cultural beliefs, socioeconomic differences, accessibility, language barriers)	Short case reflections or debrief discussions on managing difference
Adaptability/Flexibility	Supervised simulated interprofessional exercise with students given the task of jointly prioritizing a surgical list	360 feedback from clinical supervisors, veterinary nurses/technicians, and peers following the group exercise
Emotional regulation Motivation Resilience	Informal discussion with informed clinicians during clinical rotations	Reflective piece discussing challenges of regulating emotions/sustaining motivation/building resilience during
Reflection	Small group facilitated session discussing theory of reflection and its importance for development as a clinician	Reflective portfolio based on extra mural studies/externship experiences
Aware of strengths and limitations	One-to-one tutorial mapping final-year competencies against student's development including a reflective discussion on strengths and weaknesses	Reflective summary output from the tutorial

Using a four-point Likert scale (essential, desirable, less relevant, irrelevant), students rated the importance of each attribute for success as a clinical veterinarian.

Students also rated their current ability in each of the 24 attributes on a four-point scale (very high, high, intermediate, low), and the importance of including professionalism instruction for each attribute within the veterinary curriculum (very important, important, less important, not important).

Finally, students evaluated the suitability of their school's current professionalism teaching program (considering content, delivery, assessment, and integration) using a five-point Likert scale (strongly agree to strongly disagree) along with tick-box responses. In addition, participants' demographics were captured. A draft survey was pilot tested on four Murdoch University fourth-year veterinary students and two faculty members and

refined based on their feedback. The final survey was distributed via email communications (with one primary announcement and two reminders) to final-year cohorts at the three participating schools. A copy of the survey is shown in Supplementary Materials File S1.

2.3. Survey Analysis

Survey data were exported to Microsoft Excel (Microsoft Corp., Redmond, WA, USA) for analysis. Descriptive statistics were used to summarize responses. For Likert-scale items, responses were treated as ordinal data and analyzed using frequency distributions, reported as counts (n) and percentages (%) for each response category. No inferential statistical analyses were undertaken, as the study aimed to provide a descriptive overview of participants' perspectives.

2.4. Focus Groups

Each school followed up the survey distribution with a series of focus groups. Participants in the focus groups were recruited through an invitation presented at the end of the survey. During the focus groups, similar questions to those asked in the survey were offered to allow students' perceptions to be explored in greater depth. Emphasis was placed on gathering student opinions on the teaching of veterinary professionalism. A total of 11 focus groups were conducted across the three veterinary schools (four conducted at Massey University; three at Murdoch University; four at the University of Nottingham) with participants volunteering from the final-year cohorts who had previously participated in the survey. Students at each of the three universities were asked the same set of questions using the focus group discussion guide as shown in Supplementary Materials File S2. Focus groups were audio-recorded and transcribed verbatim for analysis.

2.5. Focus Group Analysis

Interview transcripts were imported into NVivo (Version 14; QSR International) and analyzed using an inductive reflexive thematic analysis (RTA) approach following Braun and Clarke (2006, 2021). The analysis followed the six recursive phases of RTA: familiarization with the data; generating initial codes; constructing the initial themes; reviewing the themes; defining and naming the themes; and producing the report. The process was iterative rather than linear, allowing movement between data, codes, and themes to support ongoing refinement.

Transcripts were read and re-read to ensure immersion prior to and during coding. Codes were generated inductively to capture patterns relevant to students' perceptions of professionalism (employability) skills, and professionalism education. Related codes were grouped to develop preliminary themes, which were further refined into overarching themes through continued review and interpretation.

The principal researcher (SG) conducted the primary coding and theme development, with all codes and themes reviewed by co-authors to enhance credibility. Illustrative quotations were included to ground themes in participants' accounts. Themes were initially identified at a semantic level and subsequently interpreted at a latent level to explore underlying meanings. The final themes represented patterned responses within the dataset and addressed the study's aims regarding students' perceptions of professionalism and professionalism education.

Thematic analysis was conducted within a critical realist framework, acknowledging the interpretive role of the researcher in coding (Braun & Clarke, 2006, 2021). To enhance the robustness of the coding framework, two co-researchers independently coded a substantial portion of the dataset, with discrepancies resolved through iterative discussion until consensus was achieved. Transcripts were verified against audio recordings and checked by participants. Coding was conducted systematically, supported by observational

memos to enhance transparency (Miles & Huberman, 1994), and the coding framework was reviewed against the full dataset. Credibility was further supported through peer review of the findings by co-researchers.

2.6. Human Ethics Approval

Ethical approval was obtained from each individual institution participating in the study (Human Ethics Approval: Massey University: NOR 18/45; University of Nottingham: 2263 180410; Murdoch University 2018_190). Consent was obtained from each survey and focus group participant.

3. Results

3.1. Survey Results

3.1.1. Demographics

A total of 308 final-year students were surveyed (135 from the University of Nottingham, 92 from Massey University, and 81 from Murdoch University). Of the 123 respondents (representing a 40% response rate), 68 (55%) were from Massey University, 30 (24%) from Murdoch University and 25 (20%) from the University of Nottingham. Most respondents identified as female (79%, n = 95), 21% (n = 25) identified as male, with three unspecified. Of the 121 respondents who answered this section, 85 (70%) were aged 20–25 years, 32 (26%) were aged 26–30 years, and only four (3%) were aged over 30 years.

3.1.2. Veterinary Professionalism Attributes That Are Important for Career Success

Respondents were asked to rate 24 professionalism attributes in terms of importance for career success on a four-point Likert scale (essential, desirable, less relevant, irrelevant). Table 2 presents the percentages and counts of students for attributes most frequently rated as essential and those most frequently rated as less relevant or irrelevant by final-year students.

Table 2. Professional attributes most frequently rated as essential and those most frequently rated as less relevant or irrelevant by final-year veterinary students using a four-point Likert scale (essential, desirable, less relevant, irrelevant).

Attribute	% (n/N) Rated Essential	% (n/N) Rated Less Relevant/Irrelevant
Communication skills	89% (81/91)	
Trustworthiness	79% (73/92)	
Empathy	76% (70/92	
Integrity	75% (69/92)	
Commitment to quality care and welfare	75% (68/91)	
Honesty	73% (67/92)	
Collaboration and teamwork	73% (67/92)	
Accepts diversity		13% (12/90)
Reflection		12% (11/90)
Relationship-centered care towards clients		11% (10/91)
Diligence/work ethic		8% (7/91)
Reliable/punctual		6% (5/90)
Time management		6% (5/91)

n = number of students who selected that Likert scale option(s); N = total number of students that responded; % = selection percentage.

3.1.3. Self-Assessed Levels of Competency in These Attributes

Respondents rated their perception of their current competency in each of the 24 professionalism attributes on a four-point Likert scale from low, intermediate, high, to very

high. Table 3 shows the percentages and counts of students for attributes in which they most frequently rated their competency as high or very high, and those in which they most frequently rated their competency as low or intermediate.

Table 3. Professionalism attributes in which final-year veterinary students most frequently rated their competency as high or very high, and those in which they most frequently rated their competency as low or intermediate using a four-point Likert scale (low, intermediate, high, very high).

Attribute	% (*n*/N) High/Very High	% (*n*/N) Low/Intermediate
Integrity	92% (81/88)	
Honesty	91% (80/88)	
Respect	90% (79/88)	
Trustworthiness	89% (78/88)	
Accepts diversity	89% (76/86)	
Collaboration/teamwork	83% (73/88)	
Acknowledges human–animal bond	83% (73/88)	
Punctuality/reliability	82% (70/86)	
Diligence/work ethic	81% (70/87)	
Empathy	80% (70/88)	
Work–life balance		59% (51/86)
Time management		56% (49/87)
Emotional regulation		49% (44/86)
Evidence-based problem solving		49% (42/86)
Reflection		48% (41/86)
Resilience		44% (38/86)
Relationship-centered care towards clients		43% (37/87)
Continued learning		42% (36/86)
Adaptability		41% (35/86)
Motivation		40% (34/86)

n = number of students who selected that Likert scale option(s); *N* = total number of students that responded; % = selection percentage.

3.1.4. Importance of Formal Instruction in Professionalism Within a Veterinary Curriculum

Respondents rated the importance of including professionalism instruction in the veterinary curriculum on a five-point Likert scale, from essential to not at all important. Two-thirds (66%, 81/123) rated teaching professionalism as essential, nearly one-third (30%, 36/123) rated it as important, and only 4% (5/123) were neutral.

Respondents rated the importance of formal educational instruction in each of the 24 professionalism attributes from not important, less important, important to very important. Table 4 presents the percentages and counts of students for professionalism attributes in which formal instruction was most frequently rated as important or very important, as well as those in which it was most frequently rated as less important or not important.

Table 4. Professionalism attributes in which formal instruction is most frequently rated by final-year veterinary students as important or very important, and those in which it is most frequently rated as less important or not important using a four-point Likert scale (not important, less important, important, very important).

Attribute	% (*n*/N) Important/Very Important to Teach	% (*n*/N) Less Important/Not Important to Teach
Communication skills	99% (86/87)	
Evidence-based problem solving	96% (83/86)	
Collaboration/teamwork	95% (84/88)	
Commitment to quality care and welfare	92% (80/87)	

Table 4. *Cont.*

Attribute	% (*n*/N) Important/Very Important to Teach	% (*n*/N) Less Important/Not Important to Teach
Empathy	87% (76/88)	
Acknowledges human–animal bond	85% (75/88)	
Work–life balance	84% (72/86)	
Awareness of strengths and limitations	84% (72/86)	
Continued learning for best practice	81% (70/86)	
Resilience	79% (68/86)	
Emotional regulation	78% (67/86)	
Reliable/punctual		56% (48/86)
Motivation		54% (47/86)
Accepts diversity		50% (43/86)
Diligence/work ethic		49% (43/87)
Trustworthiness		47% (41/88)
Honesty		39% (34/88)
Respect		33% (29/88)
Integrity		32% (28/88)
Adaptability		29% (25/86)

n = number of students who selected that Likert scale option(s); *N* = total number of students that responded; % = selection percentage.

3.1.5. Suitability of the Current Veterinary Professionalism Curriculum

When asked about their experience with the suitability of their current veterinary professionalism curriculum, only 81 of the 123 students responded. Of these, 79% (64/81) strongly agreed or agreed that the curriculum provided comprehensive instruction on all key veterinary professionalism attributes and only 4% (3/81) disagreed or strongly disagreed. Similarly, over half of the respondents (58%, 47/81) perceived that their professionalism training adequately prepared them for professional interactions with clients and clinical staff members during the final-year clinical rotations and external clinical placements. Unfortunately, only 39% (32/81) of students felt that professionalism training was well integrated into other veterinary subjects within their course.

3.1.6. Appropriate Formats for Veterinary Professionalism Teaching

Respondents were asked to select the most appropriate teaching formats for veterinary professionalism from a predefined list. Their responses are summarized in Table 5.

Table 5. Final-year students' (*N* = 81) selection of the most appropriate teaching formats for veterinary professionalism.

Teaching Format	% (*n*) Rated Appropriate
Real consultations with feedback	81% (66)
Work-integrated learning (placements, teaching hospitals)	78% (63)
Interactive workshops	74% (60)
Facilitator-based group tutorials	60% (49)
Scenario-based role-playing	49% (40)
Off-campus retreats	28% (23)
Classroom-based lectures	20% (16)
Online learning modules	4% (3)

n = number of students who selected that teaching format; % = selection percentage.

3.1.7. Appropriate Formats for Veterinary Professionalism Assessment

Finally, respondents were asked to select the most appropriate assessment formats for veterinary professionalism from a predefined list. Their responses are summarized in Table 6.

Table 6. Final-year students' (N = 81) selection of the most appropriate assessment formats for veterinary professionalism.

Assessment Format	% (n) Rated Appropriate
Direct observation in workplace with feedback	84% (68)
Role-playing scenarios with feedback	65% (53)
Peer assessment techniques	47% (38)
Self-assessment questionnaires	32% (26)
Reflective logbooks/journals	32% (26)
Reflective assignments	22% (18)
Work-integrated assessment rubrics	21% (17)
Portfolios/e-portfolios	10% (8)
Written examinations	1% (1)

n = number of students who selected that assessment format; % = selection percentage.

3.2. Thematic Analysis of Focus Group Transcripts

Students acknowledged the need for formal professionalism training in their veterinary program, with some arguing it may be even more important than traditional subjects. Three important themes emerged when soliciting student opinion on the teaching of veterinary professionalism, each described below: 'the challenges associated with teaching and assessing professionalism', 'the influence of clinical teaching faculty on student professionalism development', and 'the importance of adopting effective teaching methods to teach professionalism'.

3.2.1. Theme 1: The Challenges Associated with Teaching and Assessing Professionalism

Students identified the difficulties involved in successfully integrating professionalism studies into the curriculum, with the following four subthemes: integrating professionalism teaching across the entire veterinary program; providing professionalism revision in the final year of the veterinary program; questioning the objectivity of assessment methods; and questioning the relevance of professionalism teaching. Each is discussed below:

Integrating Professionalism Teaching Across the Entire Veterinary Program

Students stressed the importance of integrating professionalism throughout the curriculum and introducing training in the early years of study. Certain students, however, questioned the value of teaching professionalism too early when its relevance may not be fully appreciated: *"I think it's a good idea, but I think in first year I kind of . . . say, oh why do I need to know this?"* (Focus Group [FG]3, Massey, Student [S] 8). Students felt that the first-year curriculum was already overloaded and that this training added an unnecessary burden to their workload: *"It's maybe a bit unnecessary. . . it doesn't really feel important. There's already so many new things happening already. . . it's just another thing to add, and to worry about"* (FG2, Nottingham, S1). One student, however, regretted dismissing the early professionalism teaching: *"Yeah, it was only, like further on through the degree, when I started doing my own placements and things, that I really understood the relevance of it, and wished that I'd paid more attention really"* (FG3, Massey, S8).

Veterinary students from all three veterinary schools felt that the veterinary professionalism training program was insufficiently integrated into other courses across all undergraduate years. Students felt that the professionalism subjects would be seen as more

relevant if integrated into other veterinary courses: *"... I felt like if you could incorporate* [professionalism teaching] *in every single unit, and there was like something to do in every single unit. It would be more useful than a unit on its own"* (FG3, Murdoch, S6).

Providing Professionalism Revision in the Final Year of the Veterinary Program

Although students emphasized the importance of integrating professionalism instruction into all courses across all years of the program, they also identified a need for professionalism revision in the final year of study: *"It would be nice to have* [professionalism] *lectures where we all get back together and discuss something like mental health, or that kind of thing"* (FG2, Murdoch, S6) and: *"I feel like over fifth year, over rotation, you sort of identify things that you lack in, or things that you can improve on, that having some* [professionalism revision] *at the end would be ideal"* (FG2, Murdoch, S5).

Some students felt that it would be a great idea if they were allowed to specialize in final year in professionalism in much the same way as they are able to specialize in disciplines such as radiology, equine medicine and small animal surgery: *"Yeah, if there was a* [professionalism] *special topic that would be good"* (FG2, Massey, S6) and: *"A communication special topic would be great."* (FG2, Massey, S6).

Questioning the Objectivity of Assessment Methods

Students worried about how the assessment of professionalism was subjective. One student felt that professional behavior should be graded as either a pass or fail, which would stop competitive students chasing high grades: *"So, if you take* [grading] *away, then we can actually focus on, ok what do I have to do? Rather than, how do I get an A?"* (FG2, Massey, S1). Some students questioned the value of assessing professionalism at all. One student felt the assessment criteria were trivial: *"... it was like if you rocked up on time, if you wore your clinic coat and black trousers... you pretty much got a 95%, and that's not very helpful, because I would do that anyway"* (FG3, Murdoch, S4).

Questioning the Relevance of Professionalism Teaching

Certain students felt that the acquisition of professional behaviors and values should occur mainly through an informal socialization process, with relationships and role-models playing an essential part in the development of the behaviors and values expected of a veterinarian: *"I don't think I learnt like professionalism from vet school, I didn't learn to be empathetic from vet school. Like I think it's developed from personal stuff as well, not so much vet school"* (FG3, Nottingham, S3). Most students were, however, supportive of professionalism teaching and felt that it reinforced professional principles and provided a framework to scaffold their professional behavior: *"... you can't teach some of these things, but you can give a formula, and if somebody's got to use that formula for the first couple of years of their career, they'll get there"* (FG3, Murdoch, S2).

The difficulty of getting junior students to recognize the relevance of professionalism was underscored by the final-year students: *"... in first year when you've just started and you've not really been in practice and you're told all this stuff you think 'oh okay, I don't really see the relevance?'"* (FG4, Nottingham, S3).

3.2.2. Theme 2: The Influence of Clinical Teaching Faculty on Professionalism Development

The importance of clinical staff and external practitioners modeling appropriate professional behavior was underscored by the students, as was the destructive effects of negative role models within a clinical environment. Discussion on the qualities of the 'ideal veterinarian' revealed that students expected their clinical instructors to model professional competencies: *"I think it's something you learn by observing also. It's like observing different*

vets working, and just sort of, deciding: 'oh, I like that type of way of talking to clients'" (FG3, Murdoch, S4).

Students appreciated when veterinarians shared their mistakes and the lessons they had learned: *"I personally love it when vets I'm seeing practice with, or clinicians or anyone, will like to tell you about mistakes they made at any point in their career. Because you know that when you graduate, inevitably you will make a mistake, but that it's actually ok, and you can go and you can say: 'I've made a mistake, like help me fix it', rather than trying to cover it up, which would be dishonest"* (FG4, Massey, S1). Students also emphasized the necessity for clinical teachers to teach veterinary professionalism within a safe learning environment: *"... it's more about creating an atmosphere where you're allowed to admit your mistakes and you know you're not going to be punished for having made a mistake. But if you can come forward and be honest about what you've done, that that's ok"* (FG4, Massey, S3).

Students identified a disconnect between what is taught about professionalism and how clinical practitioners (both faculty and private veterinarians) often behave in the clinical environment: *"There's also I think, just like disconnect between what you guys teach us and what the clinician is teaching us out there"* (FG1, Massey, S7). Certain students underscored the destructive effect of the negative role models during their clinical rotations in the teaching hospitals or clinical placements: *"... it's only after starting to go to* [external placements]*... where you might occasionally see one that's not as professional, where you sort of realize there are people out there that you know, are maybe not as good as they should be in terms of the professionalism"* (FG2, Murdoch, S2). However, students showed a degree of resilience, claiming that they could learn from negative role models in the clinical environment: *"... meeting people along the way that are unprofessional, also helps you to learn what is professional"* (FG2, Murdoch, S4).

Finally, students highlighted the hypocrisy of advocating for work–life balance during wellbeing workshops while simultaneously expecting them to manage a content-heavy curriculum and demanding hours in clinics: *"I guess when, with a professional course, the topic of work–life balance is brought up a lot, but the university doesn't practice what they preach"* (FG2, Massey, S8).

3.2.3. Theme 3: The Importance of Effective Teaching Methods for Professionalism

Certain aspects of teaching were identified by the students as important to help foster the development of professionalism: receiving training in professionalism during clinical rotations and external placements; participating in group work; engaging in reflective exercises; receiving constructive feedback; using simulation-based learning for communication skills; and using peer-assisted teaching. Each is described below.

Receiving Training in Professionalism During Clinical Rotations and External Placements

Students recognized how valuable training was during clinical rotations and external placements, due to the opportunities available for hands-on experience: *"I think you end up learning stuff quite quickly on rotations when you're physically doing it"* (FG4, Nottingham, S1). Students also recognized that clinical rotations afforded them the opportunity to practice their professional skills and integrate them into the clinical environment.

Participating in Group Work

Overall group work was viewed favorably by students, especially when compared to didactic lectures. Students remarked on the support inherent in group work and how it allowed them to play on each other's strengths and take advantage of their diverse backgrounds: *"... you'd be the same group of people, so it was a really safe space... I came across this really upsetting situation this week, and we'd all talk about it and talk about how different people would handle it differently, if it was ok to feel that way"* (FG4, Massey, S2).

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Students remarked on how even a disruptive group environment could be beneficial as it required the students to demonstrate empathy, patience and humility and to deal with conflict resolution: *"... some personality conflicts... within each group, and you'd have to sort of work to do it, which is quite good practice, I think"* (FG4, Massey, S3).

Furthermore, the necessity for the facilitator in group work to be engaging and interactive was emphasized: *"You need like a hands-on* [facilitator]. *Like if you have a good, engaging person, yes I'm going to listen to them. If it's fun, it's interactive, yes, I'm going to listen"* (FG1, Massey, S1).

Engaging in Reflective Exercises

Various reflective activities employed by each institution included writing e-portfolios, self-reflective leaflets, or a 'letter to self'. Students confessed to not always appreciating the value of reflective assignments during early training: *"I definitely didn't appreciate the importance of it in first year... whereas now, I can be like: 'yep ok, being able to reflect on mistakes and how you would do things differently is really important,' and for a vet it's a really important skill"* (FG1, Nottingham, S4). Mention was made of the necessity to train first-year students on how to reflect effectively: *"... like maybe the first two years you just have a couple of sessions, you write one together maybe to teach you how to reflect, because we're always taught you need to reflect, not necessarily how"* (FG2, Nottingham, S1).

A few students felt, however, that written reflective assignments were a waste of time: *"Like I will naturally, as everybody does, reflect on things as I go through my week, but if somebody's telling me I need to write something about reflecting on something, I just get annoyed by it. I don't really achieve anything and kind of make up what I think people want to hear"* (FG2, Massey, S7).

Students stated that clinical rounds or de-briefing sessions should not only involve clinical discussions, but should also include reflection on professionalism: *"... something like, think about your interaction with the clinicians, think about your direction with the clients, what could you have done better?"* (FG4, Massey, S5). The benefits of informal reflection during clinical rounds were recognized: *"... just chatting about it and making it informal. Because I think when it's informal it's organic, and then you get something out of it. Whereas when you have a formal reflective thing it becomes a chore, and then it's not organic, and then... you don't get as much out of it"* (FG3, Massey, S4).

Receiving Constructive Feedback

The importance of providing constructive feedback was underscored: *"But it's just good to know where people see you should be adding effort, cause otherwise you're kind of like: 'am I doing a good job'? 'Am I the worst vet they've ever seen?'"* (FG3, Murdoch, S2); and: *"... the clinicians need to just give that feedback as soon as it's happened. And even if it's a passing comment, just say: 'that was good', or: 'you can work on that'"* (FG2, Massey, S8).

Using Simulation-Based Learning for Communication Skills

Most students commented favorably on the simulated consultation exercises using actors as simulated clients: *"I think as much as you dread simulated consults, they are really useful. Once you've done them you think: 'Oh okay'"* (FG4, Nottingham, S3). A few negative comments on the simulated consultations were also received: *"Three people in my group cried and had to stop. And I know for a fact those people then refused to consult for a while because they were so traumatized by the experience"* (FG4, Nottingham, S4). Some of the students perceived that the communication training was unrealistic: *"But it would be much better actually in a consult room by yourself with a vet. Like instead of in a room with seven other people staring at you, smirking. And with actually a patient, an animal... "* (FG3, Murdoch, S4).

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Using Peer-Assisted Teaching

Students recognized the value of using senior students to endorse the importance of professionalism to the junior years: *"... getting the seniors like us, to emphasize to the younger groups that this is really important"* (FG1, Murdoch, S1). It was felt that these senior students added a layer of authenticity to the professionalism instruction and could relate more to the junior students than lecturers and practitioners: *"Because like some of the vets, they've been out for long, they might have slightly different ideas to what a fifth year might have"* (FG2, Murdoch, S7).

Peer-assisted teaching also seemed to benefit the senior students when they acted as tutors: *"... we had a session on* [wellbeing] *in first year and I cannot remember any of it at all, then I helped teach it to the first years when I was in third or fourth year and when I was teaching it thought it was really useful stuff, especially going into rotations, when it was now really relevant about resilience and knowing how to cope, and what to do in each situation"* (FG4, Nottingham, S1).

4. Discussion

Despite the encouragingly high importance placed by student participants on professionalism training within the veterinary curriculum, engagement of veterinary students in professionalism learning remains challenging and in need of improvement. The present study found that students perceived communication skills, teamwork, and the classical pillars of professionalism, including honesty, integrity, trustworthiness and commitment, as important to be included in professionalism teaching. This closely matches rankings of importance from a meta-analysis of studies addressing similar research questions (M. A. Cake et al., 2016), including surveys of veterinary students in Australia (While Schull et al., 2012) and North America (Walsh et al., 2001; Kogan et al., 2004). However, in these studies, only communication skills, and to a lesser extent teamwork, were specifically regarded as being highly important and requiring formal instruction in the curriculum. In all studies, work–life balance and resilience emerged as increasingly important themes in the later years of the course. This rising prominence may reflect students' growing awareness of these issues over time—potentially intensified by a perceived contradiction between the course's emphasis on wellbeing and the heavy study workload and demanding training environment.

The students rated themselves highly in the attributes of integrity, honesty, trustworthiness and respect. One explanation for this may be that most have indeed come to strongly embrace and embody these attributes through professional identity formation within an effective professionalism program. An alternative explanation may be that they do not view these as competences to be developed, but rather as markers of inherent virtue or good character, thus particularly prone to positive self-evaluation bias. These attributes may, therefore, challenge the validity of self-assessment (Eva & Regehr, 2005). Either explanation, combined with some doubt about the value of formal instruction in these topics and changing perceptions over the duration of the program, may point to approaches based in professional identity formation, rather than didactic instruction as the most effective pedagogy for these crucial pillars of professionalism. The high perceived value of communication skills teaching exercises may provide a strategy for integrating those attributes seen as less 'teachable'. For example, embedded within communication scenarios (e.g., simulated client–student interactions with a coach/facilitator) there could be issues related to trust, respect, integrity, and honesty that need to be communicated, explored, and reflected on.

Some important professionalism and employability skills, such as appreciation of diversity, reliability, and a strong work ethic, were rated by students as less important or as

areas where they already felt capable and did not need more instruction. This is concerning, as these qualities are widely recognized as key to professional success (Ten Cate et al., 2015; Armitage-Chan et al., 2016; M. A. Cake et al., 2016). In particular, reliability and diligence, often judged by things like punctuality, appearance, and attitude, are commonly used to assess students during clinical and extramural placements (Armitage-Chan et al., 2016). It is important to note, however, that although some capabilities were rated as less important for career success, this should be interpreted with caution. When a Likert scale includes options such as 'less important', respondents are inherently prompted to make relative comparisons across items, which often leads them to rank some capabilities lower—even if they are still considered valuable in absolute terms. Indeed, if every capability were rated as 'very important', the scale would lose its discriminatory value. This suggests that what is marked as 'less important' may still be considered important, just not as comparatively critical as other attributes.

Reflection, a skill that some describe as the very core of professionalism (Adams et al., 2006), was also rated poorly. However, comments suggest this may be because students don't fully understand what reflection means, especially in the earlier years of the course. They tended to dislike formal or repetitive reflective tasks but were more positive about reflection when it happened naturally as part of learning from experience (Kolb et al., 2014). This feedback supports the idea that guided, purposeful conversations, rather than written reflections, may be a more effective way to teach and assess professionalism (Armitage-Chan, 2016; Jones et al., 2024).

In terms of delivery modes for professionalism teaching, students were most supportive of experiential learning using authentic scenarios (consultations, rotations, work placements, and realistic simulations or role-plays) but largely rejected didactic, passive, or self-taught instruction such as lectures or online modules. Interactive, social formats (workshops, discussions, group work) were also preferred. For assessment, students again supported experiential learning activities (simulations or role-plays) combined with formative feedback as the most appropriate mode of assessment and rejected more formal or written modes such as reflective assignments/journals, rubrics, e-portfolios or examinations. These student views align best with a constructivist (and particularly a social constructivist) view of professionalism learning via experiences seen as authentic and relevant to future application and reflected upon through interactive discussions within collaborative learning formats (L. H. Mossop & Cobb, 2013).

These student views also support the idea that learning happens best within a community of practice, where clinical instructors and workplace mentors act as role models and share real stories. Most of this learning seems to happen informally and by chance, which suggests that educators should provide more structure and support to guide it (Armitage-Chan, 2016). Furthermore, students said they often learned professionalism by reflecting on poor role models. While this could be helpful, they also pointed out that bad examples, especially in how stress and relationships are handled, can have negative effects.

5. Limitations

Consistent with a critical realist approach, coding and interpretation during thematic analysis of the focus group transcripts were inevitably shaped by the researchers' perspectives, and no single 'reliable' coding framework can be assumed. Although steps were taken to enhance rigor, including independent coding and consensus discussions, traditional measures such as inter-rater reliability are of limited applicability within this paradigm. The principal researcher's prior role in developing the professionalism curriculum may also have introduced potential bias, despite the use of reflexive bracketing to identify and manage pre-existing assumptions (Fischer, 2009). While these strategies were intended to

minimize bias and support credible interpretation, the influence of researcher subjectivity cannot be fully eliminated.

Although the sample size was limited, drawing opinions from only three veterinary schools, students across all three institutions expressed broadly similar perceptions, which strengthens the generalizability of the findings. Most students endorsed the suitability of their professionalism programs in terms of both scope and preparedness. However, they expressed a desire for stronger integration with other components of the veterinary program, despite all three schools intending their professionalism curricula to be delivered in an integrated manner. Student comments highlight challenges with the timing and vertical integration of professionalism training. Given its long learning cycle, it should be introduced early in the course, when students may not yet fully grasp its importance or relevance, to ensure a strong foundation. Conversely, student appetite for professionalism training is strong late in the course, when targeted developmental (or remedial) opportunities are seen as more appropriate than core learning.

6. Conclusions

The findings of the present study suggest that, among students, earlier debates about whether professionalism belongs in the veterinary curriculum have mostly faded. However, a gap remains between this perceived value and effective engagement, with current teaching and assessment approaches acting as key barriers. Students showed strong preference for authentic, integrated, and collaborative learning experiences (particularly those involving communication skills and teamwork) which also provide a practical route for embedding less tangible attributes such as honesty, integrity, and trust.

Skepticism persists around the formal teaching and assessment of certain attributes, especially reflective practice and core professional values. High self-ratings in areas such as integrity and honesty may reflect both genuine development and a tendency to view these traits as inherent rather than learnable. Together, these findings support a shift away from didactic approaches toward models grounded in professional identity formation. At the same time, essential employability attributes such as reliability, work ethic, and appreciation of diversity appear undervalued by students, highlighting the need to make these expectations more explicit within curricula and assessments.

Students strongly favored experiential and socially interactive learning formats, including simulations, placements, and facilitated discussions, while rejecting passive methods such as lectures and written assignments. Reflection was better received when embedded in authentic experiences and guided conversations rather than formal written tasks. Much professionalism learning occurs informally through observation in clinical environments, reinforcing the importance of structured support, positive role modeling, and guided reflection in workplace settings. Additionally, the increasing emphasis students place on work–life balance and resilience points to a need for professionalism curricula to better align with the realities of the training environment.

Overall, professionalism education is most effective when it is integrated, experiential, socially situated, and aligned with students' lived experiences. Curriculum designers should prioritize these principles, using authentic learning opportunities and communication-focused teaching to support the development of professional identity and practice-ready graduates.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/educsci16050791/s1, Supplementary Materials File S1: The Survey sent to Final-year Veterinary Students; Supplementary Materials File S2: The Focus Group Discussion Guide.

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Abbreviations

The following abbreviations are used in this manuscript:

CBVE	Competency-Based Veterinary Education
NZ	New Zealand
UK	United Kingdom
BVSc	Bachelor of Veterinary Science
OSCEs	Objective Structural Clinical Examinations
USA	United States of America
MS	Microsoft
AAVME	American Association of Veterinary Medical Colleges
CIVME	Council of International Veterinary Medical Education

References

Adams, C. L., Nestel, D., & Wolf, P. (2006). Reflection: A critical proficiency essential to the effective development of a high competence in communication. *Journal of Veterinary Medical Education*, *33*(1), 58–64. [CrossRef]

American Veterinary Medical Association. (2025). *Accreditation policies and procedures of the AVMA Council on Education (COE)*. AVMA. Available online: https://www.avma.org/education/center-for-veterinary-accreditation/accreditation-policies-and-procedures-avma-council-education-coe (accessed on 1 August 2025).

Armitage-Chan, E. (2016). Assessing professionalism: A theoretical framework for defining clinical rotation assessment criteria. *Journal of Veterinary Medical Education*, *43*, 364–371. [CrossRef]

Armitage-Chan, E., Maddison, J., & May, S. A. (2016). What is the veterinary professional identity? Preliminary findings from web-based continuing professional development in veterinary professionalism. *Veterinary Record*, *178*, 318. [CrossRef]

Arnold, L., & Stern, D. T. (2006). What is medical professionalism? In D. T. Stern (Ed.), *Measuring medical professionalism* (pp. 15–37). Oxford University Press.

Australasian Veterinary Boards Council. (2024). *AVBC accreditation standards for veterinary programs*. AVBC. Available online: https://avbc.asn.au/veterinary-education/accreditation-standards-2024/ (accessed on 4 August 2025).

Birden, H. H., & Usherwood, T. (2013). They liked it if you said you cried: How medical students perceive the teaching of professionalism. *Medical Journal of Australia*, *199*, 406–409. [CrossRef]

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77–101. [CrossRef]

Braun, V., & Clarke, V. (2021). Can I use TA? Should I use TA? Should I not use TA? Comparing reflexive thematic analysis and other pattern-based qualitative analytic approaches. *Counselling and Psychotherapy Research*, *21*, 37–47. [CrossRef]

Brown, J. P., & Silverman, J. D. (1999). The current and future market for veterinarians and veterinary medical services in the United States. *Journal of Veterinary Medical Education*, *215*, 161–183.

Byrnes, M. K. (2022). Professional skills teaching within veterinary education and possible future directions. *Journal of Veterinary Medical Education*, *49*, 686–692. [CrossRef] [PubMed]

Cake, M., King, L., Bell, M., Cobb, K., Feakes, A., & Hamood, W. (2019). *VetSet2Go: A collaborative outcomes and assessment framework building employability, resilience and veterinary graduate success* (Final report). Australian Government Department of Education.

Cake, M. A., Bell, M., Cobb, K., Feakes, A., Hamood, W., Hughes, K., King, E., King, L., Mansfield, C., McArthur, M., & Matthew, S. (2018). *Interpreting employability in the veterinary context: A guide and framework for veterinary educators*. Australian Government, Department of Education and Training.

Cake, M. A., Bell, M. A., Williams, J. C., Brown, F. J. L., Dozier, M., Rhind, S. M., & Baillie, S. (2016). Which professional (non-technical) competencies are most important to the success of graduate veterinarians? A Best Evidence Medical Education (BEME) systematic review: BEME Guide No. 38. *Medical Teacher*, *38*, 550–563. [CrossRef] [PubMed]

Danielson, J. A., Wu, T. F., Fales-Williams, A. J., Kirk, R. A., & Preast, V. A. (2012). Predictors of employer satisfaction: Technical and non-technical skills. *Journal of Veterinary Medical Education*, *39*, 62–70. [CrossRef] [PubMed]

Eva, K. W., & Regehr, G. (2005). Self-assessment in the health professions: A reformulation and research agenda. *Academic Medicine*, *80*, S46–S54. [CrossRef] [PubMed]

Fischer, C. T. (2009). Bracketing in qualitative research: Conceptual and practical matters. *Psychotherapy Research*, *19*, 583–590. [CrossRef]

Gordon, S., Gardner, D., Weston, J., Bolwell, C., Benschop, J., & Parkinson, T. (2021). Fostering the development of professionalism in veterinary students: Challenges and implications for veterinary professionalism curricula. *Education Sciences*, *11*, 720. [CrossRef]

Gordon, S., Janicke, H., Bradberry, K., Weston, J., Bolwell, C., Benschop, J., Parkinson, T., & Gardner, D. (2026). A navigational compass for veterinary professionalism: Integrating stakeholder perspectives to guide veterinary care and career success. *Education Sciences*, *16*(2), 316. [CrossRef]

Gordon, S., Parkinson, T., Byers, S., Nigito, K., Rodriguez, A., Werners-Butler, C., Haynes, J., & Guttin, T. (2023). The changing face of veterinary professionalism–implications for veterinary education. *Education Sciences*, *13*, 182. [CrossRef]

Gordon, S. J., Bolwell, C. F., Weston, J. F., Benschop, J., Gardner, D. H., & Parkinson, T. J. (2022). Using a card sort technique to determine the perceptions of first-year veterinary students on veterinary professionalism attributes important to future success in clinical practice. *Journal of Veterinary Medical Education*, *50*, 445–456. [CrossRef]

Gordon, S. J., Janicke, H., Weston, J. F., Bolwell, C. F., Benschop, J., Parkinson, T. J., & Gardner, D. H. (2025a). Final-year veterinary students' perspectives on key attributes for career success in clinical practice and on the teaching of professionalism—Findings from focus group discussions. *Veterinary Record*, *198*, e266–e277. [CrossRef]

Gordon, S. J., Janicke, H., Weston, J. F., Bolwell, C. F., Benschop, J., Parkinson, T. J., & Gardner, D. H. (2025b). Final-year veterinary students' views on essential professionalism attributes and their critique of its teaching. *Veterinary Record*, *98*, e253–e262.

Hafferty, F. W. (2006). Professionalism–the next wave. *New England Journal of Medicine*, *355*, 2151–2152. [CrossRef] [PubMed]

Hosain, M. S., Mustafi, M. A. A., & Parvin, T. (2023). Factors affecting the employability of private university graduates: An exploratory study on Bangladeshi employers. *PSU Research Review*, *7*, 163–183. [CrossRef]

Hossain, M. M., Alam, M., Alamgir, M., & Salat, A. (2020). Factors affecting business graduates' employability–empirical evidence using partial least squares (PLS). *Education and Training*, *62*, 292–310. [CrossRef]

Jensen, K. C., Kleinsorgen, C., & Karbe, G. T. (2026). Evaluation of knowledge, self-assessment of skills and self-perception in the role of small animal practitioner of veterinary students before and after a structured clinical rotation. *Veterinary Sciences*, *13*(2), 113. [CrossRef]

Jones, A., Cobb, K., & England, G. (2024). A scoping review on the use of reflection and reflective portfolio learning in veterinary education. *Veterinary Record Open*, *11*, e279. [CrossRef]

Kogan, L. R., McConnell, S. L., & Schoenfeld-Tacher, R. (2004). Gender differences and the definition of success: Male and female veterinary students' career and work performance expectations. *Journal of Veterinary Medical Education*, *31*, 154–160. [CrossRef] [PubMed]

Kolb, D. A., Boyatzis, R. E., & Mainemelis, C. (2014). Experiential learning theory: Previous research and new directions. In *Perspectives on thinking, learning, and cognitive styles* (pp. 227–247). Routledge.
Lewis, R. E., & Klausner, J. S. (2003). Nontechnical competencies underlying career success as a veterinarian. *Journal of the American Veterinary Medical Association*, *222*, 1690–1696. [CrossRef]
Lloyd, J. W., Harris, D. L., & Marrinan, M. J. (2005). Development of a veterinary teaching hospital business model. *Journal of the American Veterinary Medical Association*, *226*, 705–710. [CrossRef]
May, S. A. (2008). Modern veterinary graduates are outstanding, but can they get better? *Journal of Veterinary Medical Education*, *35*, 573–580. [CrossRef] [PubMed]
Miles, M., & Huberman, M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications.
Mossop, L., & Lymn, J. (2021). Institutional approaches to engaging students in enhancing their experience. In *Assessing and enhancing student experience in higher education* (pp. 85–105). Springer International Publishing.
Mossop, L. H. (2012). Is it time to define veterinary professionalism? *Journal of Veterinary Medical Education*, *39*, 93–100. [CrossRef]
Mossop, L. H., & Cobb, K. (2013). Teaching and assessing veterinary professionalism. *Journal of Veterinary Medical Education*, *40*, 223–232. [CrossRef] [PubMed]
North American Veterinary Medical Education Consortium (NAVMEC) Board of Directors. (2011). The North American Veterinary Medical Education Consortium (NAVMEC) looks to veterinary education for the future: Roadmap for veterinary medical education in the 21st century: Responsive, collaborative, flexible. *Journal of Veterinary Medical Education*, *38*, 320–327. [CrossRef]
Root Kustritz, M. V., & Nault, A. J. (2010). Professional development training through the veterinary curriculum at the University of Minnesota. *Journal of Veterinary Medical Education*, *37*, 233–237. [CrossRef]
Royal College of Veterinary Surgeons. (2021). *Draft Accreditation Standards and Accreditation Methodology for veterinary degree programmes*. RCVS. Available online: https://www.rcvs.org.uk/veterinary-professionals/consultations/draft-accreditation-standards-and-accreditation-methodology (accessed on 5 August 2025).
Schull, D. N., Morton, J. M., Coleman, G. T., & Mills, P. C. (2012). Final-year student and employer views of essential personal, interpersonal and professional attributes for new veterinary science graduates. *Australian Veterinary Journal*, *90*, 100–104. [CrossRef] [PubMed]
Ten Cate, O., Chen, H. C., Hoff, R. G., Peters, H., Bok, H., & van der Schaaf, M. (2015). Curriculum development for the workplace using Entrustable Professional Activities (EPAs): AMEE Guide No. 99. *Medical Teacher*, *37*, 983–1002. [CrossRef] [PubMed]
Walsh, D. A., Osburn, B. I., & Christopher, M. M. (2001). Defining the attributes expected of graduating veterinary medical students. *Journal of the American Veterinary Medical Association*, *219*, 1358–1365. [CrossRef] [PubMed]
Walsh, D. A., Osburn, B. I., & Schumacher, R. L. (2002). Defining the attributes expected of graduating veterinary medical students, part 2: External evaluation and outcomes assessment. *Journal of Veterinary Medical Education*, *29*, 36–42. [CrossRef]

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