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16

17

18 **Abstract**

19

20 For a constructively aligned curriculum in veterinary professionalism there is a  
21 need for well-designed higher-order learning outcomes, to support students'  
22 professional identity formation. A lack of available uniformly accepted  
23 definitions of veterinary professionalism necessitates the defining and refining  
24 of current concepts of professionalism in this context, to inform teaching and  
25 assessment. A potential method for generating such learning outcomes is to

26 generate these from simulated professionalism teaching scenarios. A workshop  
27 was designed in which veterinary educators used role-play to resolve a  
28 professional dilemma. Following discussion of the appropriate management  
29 approach, participants were asked to reflect on the learning outcomes that were  
30 required to resolve the scenario, and that students would achieve by going  
31 through the same classroom-based process. Workshop participants identified a  
32 number of professionalism learning outcomes that are not currently defined in  
33 the literature, including realisation of the lack of a single correct answer to a  
34 professional dilemma, making a decision despite this uncertainty,  
35 communicating differences of opinion, and understanding the effect of  
36 differences in professional identity. Although the process described runs  
37 counter to the traditional approach to curriculum design it may offer valuable  
38 contribution to the discourse surrounding professionalism learning outcomes.  
39 Furthermore, it has generated higher level learning outcomes than have been  
40 obtained through other methods.

41

42 **Keywords:**

43 Professionalism; learning outcomes; course outcomes; role-play; professional  
44 identity

45

46 **Introduction**

47

48 Assessment of a clinician's or clinical student's professionalism frequently  
49 emphasises workplace based assessments, such as 360-degree evaluations, in  
50 which the observed behaviours of the individual are judged.<sup>1</sup> The assessment of

51 professionalism in this way represents a traditional approach, in which a  
52 professional's inner values are assumed to be accurately represented by their  
53 external behaviour. In contrast, a contemporary complexity framework of  
54 professionalism can be defined by the acknowledgment that the environment in  
55 which the professional works, and the varying demands associated with their  
56 interactions at different levels (e.g. client, employer, institution, society) will  
57 challenge a professional's external portrayal of their inner values. Greater  
58 understanding is therefore afforded to the clinician who may be juggling various  
59 responsibilities (to patients, families, students, hospital administrators, and  
60 colleagues), is trying to remain 'professional' in the eyes of all, even though all  
61 may be exerting conflicting needs,<sup>2</sup> and whose observed behaviour may be  
62 temporarily compromised by the effects of 'human factors' (stress, fatigue,  
63 concerns about a difficult case, heavy workload).<sup>3</sup> Viewing professionalism  
64 through a contemporary complexity model therefore necessitates assessments  
65 that extend beyond observed behaviours. Furthermore, it can be argued that the  
66 desirable attributes of the healthcare professional extend beyond those that can  
67 be assessed in this way, and include moral reasoning, ethical decision making,  
68 recognition of limitations and the appropriate use of clinical autonomy. The  
69 purpose of this paper is therefore to demonstrate a method of improving  
70 assessment practice, in this case through a novel approach to generating  
71 professionalism learning outcomes that have high validity and are engaging to  
72 students.

73

74 Attention has recently been drawn to the importance of professional identity  
75 formation in medical students, and the need to formally address this in medical

76 curricula.<sup>4</sup> In a constructively aligned curriculum, such as defined by Biggs,<sup>5</sup> the  
77 desired graduate skills, knowledge and attributes inform firstly the assessment,  
78 and then the teaching methods, such that students are taught and assessed in a  
79 way that maps onto their expected performance post-graduation. As this  
80 approach helps support student learning, designing professionalism assessments  
81 that are well aligned with professional identity formation will encourage and  
82 direct student development. There is therefore a need to generate  
83 professionalism teaching and assessment methods that facilitate the formation  
84 of a professional identity, such that the clinician is able to practice ethically and  
85 with confidence in a complex, self-regulating profession. It would also be  
86 expected that the achievement of well developed sense of identity would  
87 ultimately lead to a clinician who is better able to demonstrate desirable  
88 behaviours despite the demands of the clinic, and would be less vulnerable to the  
89 negative effects of the hidden curriculum.

90

91 Designing a constructively aligned curriculum typically starts with a  
92 consideration of intended course outcomes, which inform assessment methods  
93 and then teaching strategy.<sup>5</sup> Despite a wide discourse, professionalism in both  
94 the medical and veterinary literature remains a diverse and variably defined  
95 concept. Without robust learning outcomes, professionalism teaching and  
96 assessment are at risk of becoming undermined. Students are distrustful of  
97 professionalism assessment that is poorly aligned with the behaviours they  
98 experience in the hospital, and with those that they perceive are rewarded in  
99 faculty. They are therefore known to ‘play the game’, and create a dichotomy  
100 between the set of values they demonstrate in assessments, and those they

101 believe will help them in professional life.<sup>6</sup> The creation of valid learning  
102 outcomes that are aligned with both success in the clinic and the formation of a  
103 well-developed professional identity is therefore necessary to support student  
104 development and engage them in learning. The lack of a contemporary  
105 complexity definition of veterinary professionalism means there is a deficiency  
106 in formalised, universally accepted outcomes appropriate for building a modern  
107 professionalism curriculum.

108

109 Role-play in teaching is used to provide students with opportunities to practice,  
110 reflect on, and develop important skills in a predictable and safe learning  
111 environment. In professionalism teaching, students can be given a situation that  
112 represents a challenge to professional reasoning, skills or behaviour, with  
113 feedback to support on-going development. The learning outcomes that are  
114 achieved from 'living' a professional dilemma will be closely related (if not  
115 identical) to the skills and attributes required to successfully manage a similar  
116 situation in practice. When attempting to define professionalism learning  
117 outcomes, we therefore proposed that, in the absence of available higher-order  
118 learning outcomes for success in a complex profession, it should be feasible to  
119 provide students with an authentic simulated experience, and then ask them to  
120 reflect on the skills, knowledge and attributes they utilised to complete the task  
121 to their own satisfaction. Once these learning outcomes have been identified,  
122 they can be used to inform constructively aligned assessments and further  
123 development of teaching strategies.

124

125 **Methods**

126

127 A workshop was designed for veterinary educators at the 2015 annual  
128 Veterinary Education conference in Cambridge, UK. The objectives of the  
129 workshop were to identify outcome competencies of professional studies  
130 teaching, to demonstrate how formative and summative assessments facilitate  
131 the development of professionalism, and to encourage participants to explore  
132 the boundaries of the veterinary social contract through role-play scenarios. This  
133 was based on the model of professionalism teaching developed by Cruess and  
134 Cruess<sup>7</sup> in which the cognitive basis of professionalism is followed by provision  
135 of opportunities for experiential learning. Clearly the intent of this model is to  
136 structure professionalism teaching over the length of the undergraduate medical  
137 curriculum; however it was explained to participants that the 90-minute  
138 workshop was intended to represent this overall curriculum design in a micro-  
139 format. In the first 15 minutes, by way of introductions, the two facilitators (MW  
140 and EAC) each presented the conceptual frameworks on which they defined  
141 professionalism in the context of their own veterinary teaching. This preceded a  
142 period of experiential learning, in which participants were given an authentic  
143 role play simulation followed by a structured reflection on the skills utilised,  
144 challenges faced and learning outcomes achieved.

145

146 Two diverse conceptual frameworks represented two extremes of  
147 professionalism teaching in the UK. The first framework is one of professional  
148 boundaries, such that the professional is empowered in a social contractarian  
149 fashion.<sup>8</sup> They may undertake anything with their legal monopoly power to treat,  
150 diagnose and advise on animal care and make a profit from such interactions so

151 long as these interactions abide by the public interest, which supported that  
152 empowerment. The professional is free to act as they please, but they are  
153 constrained by the boundaries of the social contract, of legislation and of the  
154 Codes of professional regulation. Relevant legislation, and the Royal College of  
155 Veterinary Surgeons (RCVS) Code of Professional Conduct,<sup>9</sup> are therefore central  
156 in teaching practiced within this framework in the UK, which largely resides in  
157 the deontological approach<sup>10</sup> and contrasts sharply with the virtue based  
158 ideology of the second framework. This second framework has its roots in the  
159 emphasised professional autonomy and discretion in practice described in  
160 Freidson's definitions of the professions.<sup>11</sup> However it additionally reflects the  
161 contemporary complexity lens described by Castellani and Hafferty,<sup>12</sup>  
162 incorporating the notion of different identities, with differing professional  
163 priorities, co-existing with equal validity within a profession, and also the  
164 challenges encountered by balancing competing stakeholder needs, often  
165 resulting in apparent paradoxes in professional behaviours when compared to  
166 traditional notions of the idealistic professional.<sup>2</sup> The professional is therefore  
167 free to act as they please, and must do so in a manner that maintains public trust  
168 and the self-regulatory framework afforded by the social contract, with a  
169 recognition that the complexities of the modern clinic may often result in  
170 observed behaviours that may not align with traditional expectations. Where  
171 professionals are deemed to act 'unprofessionally' by a particular stakeholder, it  
172 is generally because of a difference in identity prioritisation. Teaching in this  
173 framework therefore emphasises autonomy in decision-making and variation  
174 between professionals. In both frameworks, although conceptual differences  
175 exist, the end result is a convergence of teaching methods: both require



176 strengths in ethical and professional decision-making, including prioritisation of  
177 interests, in the face of a situation where there are conflicting stakeholder needs,  
178 and a need for a robust framework for complex decision-making. Students are  
179 encouraged to consider a situation from the viewpoint of all involved parties,  
180 including both deontological and utilitarian perspectives, and recognise that the  
181 course of action they choose to select will have both risks and benefits.

182

183 Through the provision of these introductions, participants had thus been  
184 provided with several conceptual frameworks for defining the ‘cognitive basis of  
185 professionalism’. Participants were then provided with an activity developed at  
186 the Royal Veterinary College (RVC) in 2009 as a multiple format cumulative  
187 learning structure for veterinary ethics,<sup>13</sup> which is used in third year veterinary  
188 undergraduate teaching at this institution, approximately 16 months before the  
189 students start clinical rotations. The particular scenario used is shown in Box 1.  
190 Participants were divided into groups of five or six people, provided with the  
191 scenario, and were instructed to reach a common decision within their small  
192 group for its resolution. They had approximately 20 minutes to achieve this.  
193 Once all groups had reached their decision, the decisions would be shared  
194 between the groups as a ‘whole room’ activity.

195

### 196 **Ethical considerations**

197

198 The participants of the workshop were not informed of this research prior to  
199 their engagement, as the usefulness of their outcomes was not determined until  
200 its completion. Consequently, all responses were deidentified so as to protect

201 their interests. This presents as a challenge to informed consent for research  
202 participation, but as the workshop was available for anyone to attend, and  
203 participation in the oral discussion was not mandatory, the participants were  
204 able to voluntarily withhold their participation if they wished not to express  
205 their views to the educational community. Subsequently, the authors submitted  
206 for institutional retrospective ethical approval from the Royal Veterinary  
207 College, with this caveat in mind. The cost benefit analysis of research outcomes  
208 and the use of deidentified data against lack of informed consent, resulted in  
209 ethical approval URN: 2015 1413.

210

## 211 **Results**

212

213 Thirty conference delegates participated in the session. Demographic data of the  
214 participants were not collected, but all participants had a strong interest and/or  
215 involvement in teaching and assessing veterinary professionalism in the UK or  
216 elsewhere in the EU. The ethical dilemma provided to the groups rapidly  
217 triggered in-group discussion. When small groups shared their decisions for  
218 resolving the situation, this initiated debate and discussion as differences  
219 emerged both in the preferred action and the priorities in decision-making. After  
220 approximately 10 minutes of debate, the facilitators intervened and asked the  
221 participants what learning outcomes they felt students would achieve by going  
222 through the same process. These were collected by the facilitators, and are listed  
223 in Box 2.

224

## 225 **Discussion**

226

227 In general, developing a constructively aligned curriculum starts with the  
228 learning outcomes required for the graduate, which then feed into assessment  
229 design and teaching strategy.<sup>5</sup> This could be described as a “top to bottom”  
230 approach. However, as uniformly accepted, higher level learning outcomes are  
231 not available, it is challenging to implement this top-down approach to  
232 professional studies teaching. Identifying learning outcomes that are necessary  
233 for the successful resolution of an authentic professional dilemma, and  
234 developed during a role-play simulation on the same theme, represents an  
235 alternative, “bottom to top” design of curriculum outcomes.

236

237 Since 2000 it has increasingly been established that there is a need for inclusion  
238 of non-technical or professional competencies in veterinary curricula. The  
239 outcome competences necessary to direct curriculum design have been gathered  
240 using a number of methods, including reports from consultancy firms, surveys of  
241 employers and recent graduates, and veterinary faculty workshops.<sup>14</sup> These have  
242 yielded a variety of desirable graduate competences, in particular relating to  
243 veterinary practice management and business acumen, communication and  
244 interpersonal skills, teamwork, and ethical responsibilities including recognition  
245 of conflicts of interest and responsibility to animal welfare. More recently Bok et  
246 al<sup>15</sup> described a multi-methods study in which a focus group of 54 recent  
247 graduates and veterinary clients, together with an expert panel, created a  
248 competency framework to direct curriculum outcomes. These generated  
249 desirable veterinary competences in seven domains: veterinary expertise,  
250 communication, collaboration, entrepreneurship, health and welfare, scholarship

251 and personal development. Findings such as these have been used to inform  
252 curriculum design for the teaching and assessment of non-technical competences  
253

254 In comparison to the professionalism competences identified above, those  
255 generated during the described workshop represent more specific and higher-  
256 order learning outcomes. Matthew et al<sup>16</sup> described a similar approach to the  
257 identification of learning outcomes from veterinary teaching, in this case using  
258 final year clinical rotations. They categorized the student-identified learning  
259 outcomes according to increasing complexity; at the least complex level were  
260 individual technical skills and remembering protocols and formulae for dealing  
261 with standard case presentations. Higher order outcomes were represented by  
262 an understanding of the contextual variation inherent in veterinary case  
263 management, recognition of different preferences in professional decision-  
264 making, and identifying personal and professional factors related to sustainable  
265 practice. The learning outcomes identified by the workshop participants in this  
266 study are similar to the higher order outcomes described by Matthew et al. Skills  
267 such as recognizing that there isn't a single correct answer and making a  
268 decision despite this uncertainty, communicating differences of opinion with  
269 colleagues and clients, acknowledging the importance of self when making  
270 professional decisions, and respecting the existence of varying identities within  
271 the profession, are vital for the graduate veterinary surgeon faced with the  
272 demands of the complex and constantly changing professional environment.

273

274 The learning outcomes supported by the role-play simulation also reflected a  
275 wider range of professional skills and attributes than can be assessed using

276 observations of professional behaviour in a clinical setting. The role play model  
277 therefore not only represents an approach for generating complex learning  
278 outcomes, but also provides a means to assess competences that may not be  
279 easily identifiable from clinic behaviours. Using the learning outcomes generated  
280 in student simulations to inform assessment development offers a number of  
281 advantages compared to the use of externally derived learning outcomes in a  
282 traditionally constructively aligned model. Students are able to identify the skills  
283 they need to manage a professional dilemma to their own satisfaction, and also  
284 reflect on those they achieved in the session and those which were more  
285 challenging. Using these learning outcomes to develop assessments lends  
286 validity to the assessment (because it was generated from an authentic clinical  
287 experience) and provides scaffolding for the students to direct their own  
288 professional development.

289

290 Teaching and assessment outcomes of the RVC ethics course were initially based  
291 on the RCVS Day One Competencies, RCVS Code of Professional Conduct, and  
292 guidance from the American Veterinary Medical Association. Recognising the  
293 additional complex learning outcomes that students are able to achieve in these  
294 sessions has not only enabled refinement and improvement of the ethics  
295 teaching, but also directed the development of professionalism teaching in other  
296 areas, and has informed assessment practice. For example, the same format of  
297 scenario-resolution-discussion-refinement has been extrapolated into veterinary  
298 business teaching, sessions on informed consent and complementary and  
299 alternative medicine. The ethical and professional reasoning processes  
300 demonstrated by the students are aligned with the logical approach to clinical

301 reasoning taught at the RVC, enabling students to resolve clinical and  
302 professional scenarios in an integrated fashion. The developed scenarios also  
303 inform further development of new scenarios for communication skills teaching,  
304 so that the communication of complex problems between colleagues can be  
305 practiced, in addition to communicating these to simulated clients.

306

307 Assessment of professional studies was initially informed by the ethics teaching  
308 strategy as students were asked to repeat the process practiced in small group  
309 teaching sessions, but in an essay-based assignment. Identification of the  
310 learning outcomes achieved by students in their role plays has enabled further  
311 development and refinement of this assessment strategy, such that the core  
312 strand outcomes (ability to view a situation from a number of perspectives,  
313 consider the conflicting needs of the veterinary patient and business, make a  
314 decision in a situation without a single correct answer, exercise autonomy in  
315 decision making in an ethically-informed manner) are represented whichever  
316 component of the professional studies strand is used to generate an examination  
317 question. Although initially only applied to a single end-of-year assessment  
318 taken by students prior to entering clinical rotations, identification of this set of  
319 learning outcomes has enabled professional studies summative and formative  
320 assessments in year 1, 3, 4 and 5 to be aligned with the same course outcomes.  
321 Although the level of complexity expected from students is greater in the end of  
322 year 5 final examinations compared to that expected at the end of year 1,<sup>4</sup>  
323 students at all stages are expected to demonstrate similar uses of ethical  
324 frameworks (particularly viewing a scenario from the different perspectives of  
325 the affected parties), recognise that there is no single correct answer but at the

326 same time commit to a decision in the face of this uncertainty, and show respect  
327 and lack of judgmentalism to differences of opinion.

328

### 329 **Conclusion**

330

331 In traditional arrangements of constructive alignment of curriculum relating to  
332 professionalism, the process is arranged in a 'top-to-bottom' process. The key  
333 desirable attributes in graduates are known and established and these skills and  
334 knowledge lead to the creation of course learning outcomes. The outcomes then  
335 feed further downwards to inform the assessment content and method and the  
336 teaching requirements. However, despite surveys of the profession and  
337 competency working groups, the available published professionalism learning  
338 outcomes have failed to keep pace with the evolving profession and demands on  
339 the contemporary veterinary professional. Thus this model of developing  
340 learning outcomes from authentic student role-play scenarios helps to determine  
341 those skills and attributes that are hard to define, and yet essential for success in  
342 a complex environment. The model presented in this workshop has thus led to a  
343 'bottom-to-top-to-bottom' approach to constructive alignment, where the  
344 teaching strategy led to the identification of authentic, high validity learning  
345 outcomes (bottom-to-top) which then in turn led to further improvement of  
346 assessment and teaching (top-to-bottom). Such an approach can be used  
347 alongside more traditional methods for the development of higher order  
348 learning outcomes to inform teaching and assessment. Using role-play scenarios  
349 obtained from contemporary examples from the profession ensures that course  
350 learning outcomes remain time- and context-relevant.

351

352

Box 1: Ethical dilemma scenario used in the workshop.

Your practice has a policy on strongly persuading clients to have their dogs neutered. They offer bonuses of free food for a month to the client and they give you a £50 bonus in your paycheck for each animal you neuter.

A regular client of yours asks if it is specifically in her dog's best interest to have her new 1 year old Abrazzenhund neutered.

What do you say to the client?

353

354

355

356

Box 2: Learning outcomes identified by workshop participants following role-play of an ethical dilemma.

- Realising there isn't one single correct answer
- Making a decision in the face of this uncertainty
- Respecting others' opinions
- Communication skills: Communicating the answer to a difficult question to a client
- Communication skills: Communicating differences in opinion with colleagues
- Seeing a situation from a range of perspectives
- Understanding identity and acknowledging a range of identities



(specifically in this situation: different interpretations of the veterinary role; some felt their role was to provide a list of pros and cons to a particular action, others felt their role was to provide their own opinion of the desirable action)

- The importance of the self: recognising the importance of autonomy in decision making and one's own view as integral to navigating the dilemma
- Reasoning a complex problem

357

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