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5 Teaching Tip: developing an intercollegiate Twitter forum to aid student exam study and
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7
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20
21 **Abstract:**

22 #VetFinals has been developed as a novel online Twitter teaching event, designed to
23 develop and support inter-collegiate veterinary teaching utilising social media. Twitter use
24 within universities has been suggested to be beneficial for education of undergraduate
25 students in other fields. This 'teaching tip' paper describes a project using Twitter to host
26 online exam study sessions which has been a highly successful collaborative effort
27 between the Royal Veterinary College and Nottingham Veterinary School. Over four years
28 the #VetFinals project has developed into a long term, self-sustaining enterprise. This
29 initiative provides a semi-structured means for exam preparation by students, with direct
30 real-time input from a member of faculty, but it also creates a network of peers both
31 horizontally across institutions and vertically throughout year groups. Similar to other
32 disciplines, an anticipated outcome of the project was to contribute to online
33 professionalism experience of students. This has importance due to recently highlighted
34 deficiencies within the veterinary community of professional conduct and errors in
35 interaction in the public domain on social media. Analysis of the success of this endeavor
36 will be available in a future publication.

37
38 **Keywords:**

39 Twitter; social media; exam study; revision; inter-professional; lifelong learning

40
41 **Background**

42 Twitter is a key Web2.0 micro-blogging social media tool which was created in 2006 and
43 currently has approximately 228 million active users sending 500 million messages
44 ('tweets') per day.¹ Twitter's unique format makes it an amenable social media format for
45 ongoing public dialogue, however, it is also ideal in the academic setting for 'ticker-style'
46 news feeds and as an interactive tool for students and collaborators. It is currently used

47 by many academic institutes to promote their work and by individual academics to
48 promote themselves and their research, as well as being used by public bodies and
49 charities (such as @RCVS_UK). Currently, all UK veterinary schools have an online
50 twitter presence and use this tool to actively recruit students and promote research.

51 The inherent nature of Twitter as a collaborative environment and the principle of peer-to-
52 peer sharing dovetails with recent trends in higher education towards student-driven,
53 interactive teaching. It provides the ideal platform for open online learning, whilst
54 maintaining social interaction and connection opportunities.² Twitter can not only support
55 informal learning beyond the classroom,³ but several controlled studies have
56 demonstrated positive benefits of Twitter for more formalised academic and co-curricular
57 discussions.⁴ Students and faculty have both been seen to engage in ways that
58 transcend, yet still complement, traditional classroom activities. Increased engagement
59 and grade averages have been demonstrated qualitatively and quantitatively and provide
60 evidence of the benefits of Twitter as an educational tool in many disciplines.⁵⁻⁹

61

62 **How Twitter works**

63 Twitter limits users to sending “tweets” of 140 characters or less which can include
64 images and shortened hyperlinks to any website. This presents the unique challenge to
65 users of interacting in precise, concise, and information-dense writing. Although it is
66 possible to make Twitter accounts private, the tool is predominately designed as a public
67 discussion and news forum and as a result places a burden of acute public scrutiny and
68 professionalism on the user. Notable errors in judgment by public users have resulted in
69 numerous legal challenges.¹⁰

70 The use of Twitter is greatly enhanced by the utilization of hashtags (“#”) to ‘mark’ tweets
71 so that users can follow conversations on a particular topic. Tweeting from their own
72 individual account (identified by the @ symbol) users can include a specific hashtag in
73 order to engage with a specific conversation or group of users. The Twitter software
74 counts hashtags which are appearing regularly in tweets and records the most frequent in
75 a league table which changes on a regular basis and allows users to identify popular
76 (“trending”) topics. It is this use of hashtags which facilitates most educational uses of
77 Twitter across networks of users who may not know each other personally.

78

79 **#VetFinals project**

80 In this paper the #VetFinals project will be described as a case study for the teaching of
81 veterinary students using this medium, to assist other veterinary educators considering
82 using Twitter for teaching and learning activities. Subsequent publications will aim to
83 evaluate its success.

84 In 2011, an inter-college initiative between staff at the School of Veterinary Medicine and
85 Science, University of Nottingham (SVMS) and the Royal Veterinary College (RVC)
86 piloted a twitter forum to assist veterinary medicine students at both institutions in
87 preparation for their final year examinations (in the UK this is advertised as an exam
88 *revision* session as this terminology is congruent with UK veterinary students). The hashtag
89 #VetFinals was used for students to interact with an online academic on a student-
90 selected topic, at set times, as part of a distance-learning facilitated exam preparation
91 seminar. These live twitter case discussions were then archived into a Storify,^a with
92 additional commentary and added media to facilitate student study. The pilot endeavour
93 was anecdotally well received by the undergraduate students who participated in the live
94 twitter debates, and those who read the summaries subsequently posted online.

95 #VetFinals online teaching has continued to run for four subsequent years and has

96 developed into a fully functional long-term educational tool that seeks to promote student
97 learning and develop an intercollegiate, inter-professional, life-long learning social media
98 network. Over the years of the project, more veterinary schools and students have joined
99 both as participants and as faculty facilitators. In 2015, staff facilitators from Bristol,
100 Cambridge, Glasgow, Edinburgh, SVMS and the RVC have participated in the project
101 which has increased the student following of the @VetFinals Twitter account accordingly.

102

103 **How #VetFinals works**

104 Between the months of January and June each year a #VetFinals session runs on a
105 weekly basis. This typically occurs on a Tuesday or Thursday evening at 20:00 GMT.
106 Each session runs for approximately one hour and covers a distinct topic or discipline
107 under the facilitation of an expert in the area. Over the course of the season, several
108 different topics will be covered which cover many aspects of veterinary education.

109 The sessions take various forms but normally revolve around a single case or a disease
110 paradigm, e.g. The Blocked Cat. There is a great deal of flexibility in how each session is
111 run, but typically they start as a presentation of the case as from the owner, and then the
112 students engage through asking questions to gain bits of information relating to history
113 and diagnostics. The case will progress through prompted questioning until the students
114 have resolved the case and answered all questions surrounding it. It is not uncommon for
115 the sessions to pause during the discussion of a case to investigate further some area of
116 physiology or pharmacology relating to the case. The use of videos and photographs by
117 the expert are encouraged, however it is important to prepare this material prior to the
118 session and ensure anonymity in such a public forum.

119 The role of the academic facilitator is a short, but intense, one. It may only last one hour
120 but the intensity of responding to suggestions, answering questions and keeping control
121 of the session can be arduous. The facilitator guides the students through their learning
122 and discovery of a case or scenario, and prompts them to make appropriate clinical
123 decisions. This is an *ad hoc* teaching format and one of the potential benefits is that the
124 participants can direct the conversation themselves. Consequently, it is not uncommon for
125 students to move the discussion in unexpected directions through their investigation so
126 selecting cases that allow plasticity is highly advantageous. Some topics lend themselves
127 to a different form of division than case studies, for example a toxicology event may be
128 best divided by multiple toxins, or common toxins to species etc. Multimedia elements can
129 be uploaded for students to examine during the case when this is considered to be helpful
130 to assist the students in their problem solving e.g. ECG traces or radiographs. However, it
131 is important to anonymise all patient information online. It is also possible to add links to
132 online journals or video techniques if necessary to provide additional learning materials.

133

134 **Preparation**

135 Preparation for a #VetFinals event is simple and requires minimal time. A hypothetical
136 case is selected by the facilitator for the students to investigate and the story of the case
137 investigation and diagnosis is broken down into about 45 pre-written tweets. These
138 consist of a collection for descriptive tweets about the case (e.g. signalment or history)
139 and several questioning tweets where the student participants are asked questions about
140 the case e.g. “what type of imaging would like to undertake in order to assist your
141 diagnosis?” The questioning tweets are a key element which guide the student
142 interactions. They should be open to allow the students to think and engage in the
143 response, but not so open as to allow them to take the case investigation in inappropriate
144 directions. These case investigations are a semi-guided linear case investigation.

145 Planning the ratio of question tweets to information tweets is important. Too many
146 questions can result in the sessions running longer than one hour, too few and the
147 students are not engaged in the process but rather just reading a twitter case. Most
148 #VetFinals cases have between 8-12 specific questions for the students to answer.

149 If digital media, such as videos and photographs, are being used then it can more efficient
150 to pre-load these onto a website and then provide a link to them during the session.
151 Hyperlinks can use a great many characters in a tweet, so using facilities that shorten
152 URLs is highly advantageous.

153

154 **During the event**

155 Sessions can be slow to begin with as students join the discussion. It helps to open the
156 discussion with an introduction of the facilitator and an invitation to the participants to
157 answer a generic question such as “which vet school are you tweeting from?” This early
158 engagement with a simple question acts as an ‘ice-breaker’ to remove barriers to
159 communication. It also helps the facilitator identify the number of participants.

160 When the participants start responding, it is important allow the discussion to unfold
161 before steering it if necessary. These sessions are not intended to be an ‘ask the expert’
162 or Q&A session, nor a one on one discussion with each twitter cohort, rather an
163 interactive group discussion forum (albeit built around one topic and steered by a
164 facilitator). Validating some accurate responses can be helpful and can be used to
165 encourage quiet students, but it is rarely possible to acknowledge every correct answer.
166 Prudent use of tweets to correct and encourage should mean the facilitator does not
167 dominate the discussion. It is important to not end up in a one to one conversation with
168 the more actively engaged students however responding directly to individuals. Seeking
169 out the more infrequent tweeters as a group and encouraging them by directly engaging
170 them using their @ handles can help to ensure all participants feel valued. As long as
171 care is taken not to single out students who may be shy and at a level of study where they
172 would prefer to primarily watch.

173 There are delays when working with twitter and these must be factored into the timing of
174 the event. If an image is uploaded for the students to review, then a time allowance must
175 be granted to factor in the internet speed of participants. For a radiograph, a 4 minute
176 allowance will provide for students to download, view and comment on the image. It is
177 worth considering if such an element adds value as it can be a stall to discussion.
178 Different technologies and internet speeds also influence the rate of engagement.
179 Remaining alert to delayed answers from students and make sure to acknowledge their
180 involvement when possible.

181

182 Figure 1 presents an example of short interaction during a #VetFinals session. Here the
183 facilitator is asking the participants about the poor reproductive rates on a dairy farm
184 specifically about early embryonic loss (EEL). After a series of questions about the
185 history of the problem and some physical exam findings the facilitator narrows down the
186 questioning to investigate if the problem may be caused by male or female cows.
187 Leading to their opening question in the figure. The responses below the question are
188 from four final year veterinary students from three different veterinary schools, who not
189 only answer the original question posed by the facilitator, but also interact and correct
190 each other. These students are do not know each other personally, except through
191 interactions on #VetFinals.

192

193 INSERT FIGURE 1. #VetFinals Twitter Fig1.tiff

194 **After the event: Storify**

195 After every #VetFinals session, a student facilitator collects together all of the tweets that
196 were sent during the session and organises them into a single story of the event. This is
197 done using the Storify software. Storify is an online application that can collate tweets,
198 and other documents, together to produce a 'story' of the event. It does this automatically
199 by identifying tweets containing the programmed hashtags. Once Storify has collated the
200 tweets, it allows the user to remove or reorganize the tweets and add in free text, or
201 additional media such as hyperlinks to articles, movies or embed pictures. This task is
202 undertaken by the staff facilitator who can then approve the final Storify page before it is
203 sent out to the participant list and displayed on <https://vetfinals.wordpress.com>. Students
204 may download a pdf version of the Storify to add to the study materials, which becomes
205 an enriched media case study report.

206

207 **Proposed benefits to learning**

208 The aims of the #VetFinals project are not only to provide an inter-college platform for
209 preparation of veterinary students' final examination, but also to promote peer-to-peer
210 education. In addition, this project offers the potential for informal learning regarding
211 participation in professional online interactions, not available elsewhere in the formal
212 curriculum.

213

214 **Role modelling social media use: additional benefits to online professionalism**

215 Digital professionalism is a current 'hot topic' in clinical education,¹¹ because of the visible
216 nature of social media interactions. Recent guidance documents from the Royal College
217 of Veterinary Surgeons¹² and the GMC¹³ highlight the need for care when communicating
218 as a professional in the public domain. Veterinary students are prone to over self-disclose
219 on public social media sites,¹⁴ a trend which seems to persist beyond graduation. This
220 can have serious ramifications for their career, their college and the profession of which
221 they are a part. A recent study of veterinarians in Ontario showed that almost one quarter
222 of early career veterinarians had material on their Facebook pages that could bring
223 themselves, their practice or the profession into disrepute.¹⁵ This demonstrates that there
224 is an urgent need to educate students on the risks inherent in discussing professional
225 matters at an inappropriate level.

226 The use of social media such as Twitter with clearly articulated guidelines for student
227 participants is therefore an ideal way for students to learn how to engage appropriately
228 with social media, led by an appropriate mentor who can role model expected behavior.
229 The #VetFinals website, maintained by students, contains information and advice about
230 digital professionalism and clear instructions for appropriate use of this medium. This
231 includes information about being mindful of the public perception of the conversation, not
232 revealing any confidential material, not posting any content that is too graphic, and
233 ensuring that the discussion has a gravitas appropriate to the nature of healthcare
234 discussions. Occasional statements are issued that state that this forum is not intended
235 for the public to obtain professional veterinary advice but it is a training medium for
236 students. Staff facilitators are provided with copyright guidance, also via the #VetFinals
237 website, to ensure confidentiality is maintained and also provided with instruction on
238 handling any unprofessional interactions. Therefore, via their interactions on the
239 #VetFinals public forum, students are anticipated to become familiar with acting
240 professionally on social media. Research is being conducted to explore the effectiveness
241 of this hypothesis and will be submitted in a future publication.

242

243 **Future of #VetFinals**

244 Anecdotally students and facilitators have enjoyed and valued the past four years of
245 #VetFinals sessions. This project now plans to evaluate the concept more fully through
246 quantitative and qualitative methodologies. The results will be made available in a later
247 paper. It is proposed that this platform may provide for future communication between
248 students post-graduation. We anticipate the network will improve the new graduate
249 experience by providing a safety net of communication with their cohort colleagues and
250 back to their university lecturers. This initiative aims to also promote greater and
251 continued alumni engagement and connection with their *alma mater*, hopefully yielding
252 positive benefits for all stakeholders.

253 We would like to encourage final year veterinary students from all veterinary schools, in
254 the UK and globally, to take part in future sessions. To find out about the upcoming dates,
255 please visit <https://vetfinals.wordpress.com> Please also advertise these sessions within
256 your schools. If you would like to offer your services as an expert facilitator, please get in
257 touch with us.

258 **Conclusion**

259 Additionally, we would also like to encourage veterinary educators to consider the use of
260 twitter as a potential teaching tool. It is a novel teaching environment for students but has
261 advantages in being free and simple to use. Twitter is suitably styled to be a news forum
262 which differentiates it from other types of social media which may contain more personal
263 material, making it well suited for educational uses.

264

265 A future publication will make available the analysis of the #VetFinals project which will
266 include elements of professionalism as well as the educational value of such an
267 endeavor.

268

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275

276

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321

322

323 **NOTES**

^a Storify is a web tool commonly used to collate various news stories or twitter feeds about certain events. <https://storify.com>



Vet Finals @VetFinals

7m

Have we localised this to a male or female problem?! #VetFinals



Sinead Kenna @SinbadKenna

5m

@VetFinals more likely female as suspect EEL but could still be male + incorrect detection #vetfinals



Robert Peckham @PeckhamRobert

4m

@SinbadKenna @VetFinals Could poor semen lead to EEL? #vet final?



Sinead Kenna @SinbadKenna

3m

@PeckhamRobert @VetFinals no, with poor semen they wouldn't concieve #vetfinals



Rory Cowlam @therorycowlam

1m

@SinbadKenna @PeckhamRobert @VetFinals Could be infectious from the bull though #vetfinals



Christine Pollard

@cpollard99

@therorycowlam @SinbadKenna @PeckhamRobert
@VetFinals Campylobacter! #vetfinals

02/04/2015 20:37