

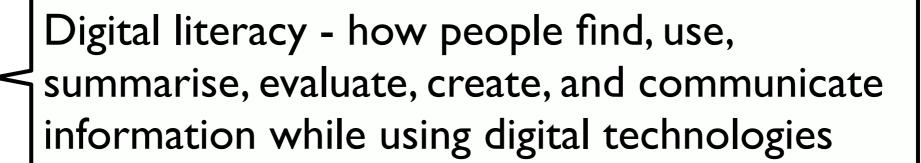




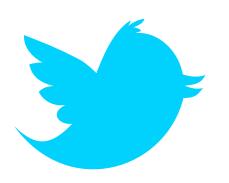
### Twitter in education







...one who is digitally literate now has a major voice online...

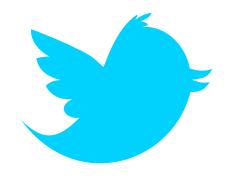


Kroski, Ellyssa. "Community 2.0"





# What is Twitter?





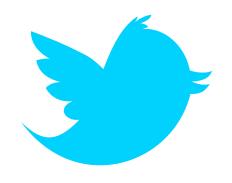


Online social networking & microblogging service - enables users to send and read messages up to 140 characters in length











launched on March 21<sup>st</sup> 2006

There have been 300 billion tweets

about a billion active twitter users worldwide

500 million tweets sent

every day

50% of Twitter users are using it via mobile

32% of all Internet users are using Twitter

thousands of tweets every second

up to tens of

80% of heads of state are using Twitter

460K accounts created daily

10 tweets per

mention

second

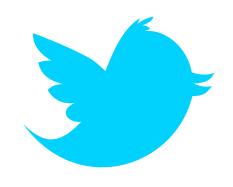
Starbucks







The fastest, simplest way to stay close to everything you care about?







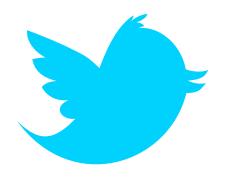
Personal/work updates, links to news stories, life observations, retweets, direct messages, photos/videos, location





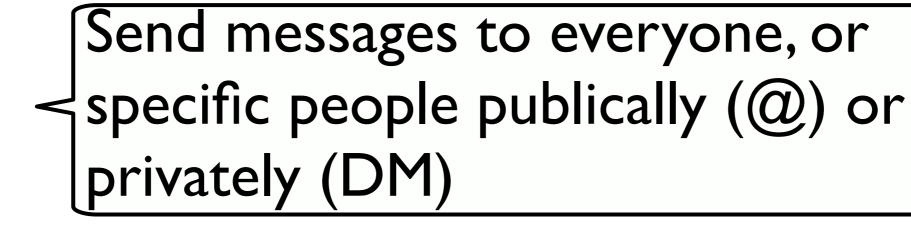


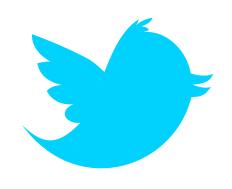
# Who uses Twitter?













Will Carling @willcarling

2 Jun 12

Best film soundtracks - Man on Fire, Gladiator, the Mission, Last of the Mohicans, Legends of the Fall, Dances with Wolves.... Expand



Dominic Barfield @dombarfield

2 Jun 12

@willcarling film soundtracks; Heat, Leon, though missing Back to the Future, Star Wars, Jaws and all that Disney...



◆ Reply 13 Retweet ★ Favorite ••• More



Will Carling @willcarling @dombarfield leon ! Great call - great film

2 Jun 12

Expand



Dominic Barfield @dombarfield

2 Jun 12

@willcarling so once a rugby legend responds to a tweet you die and go where? Luc Besson's finest work, Reno, Portman and a plant

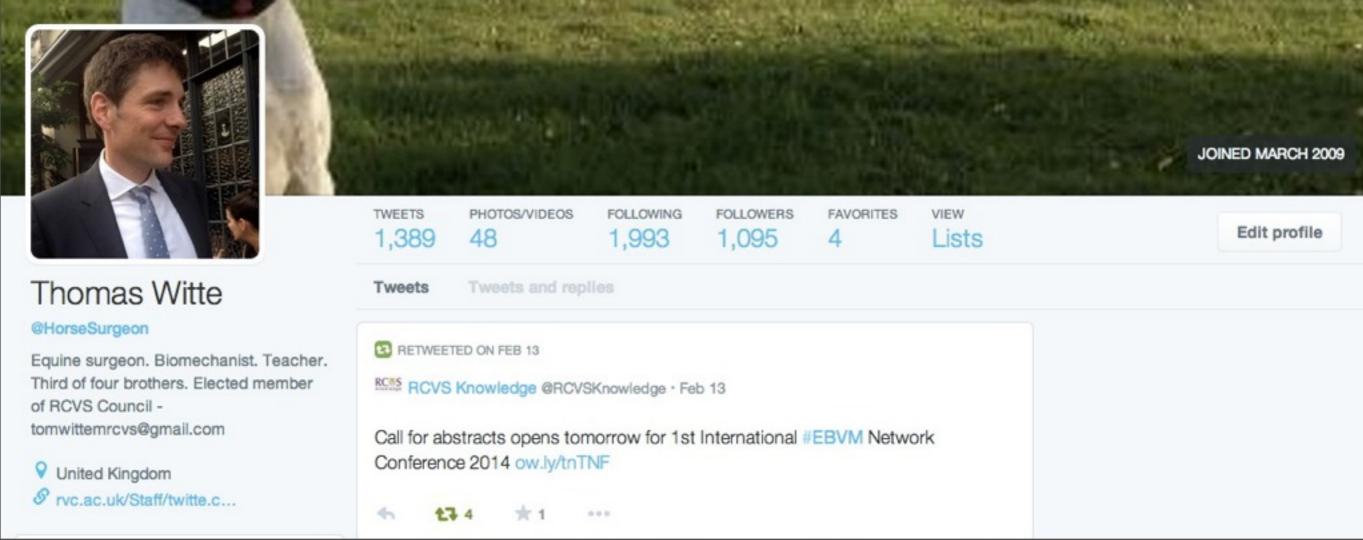


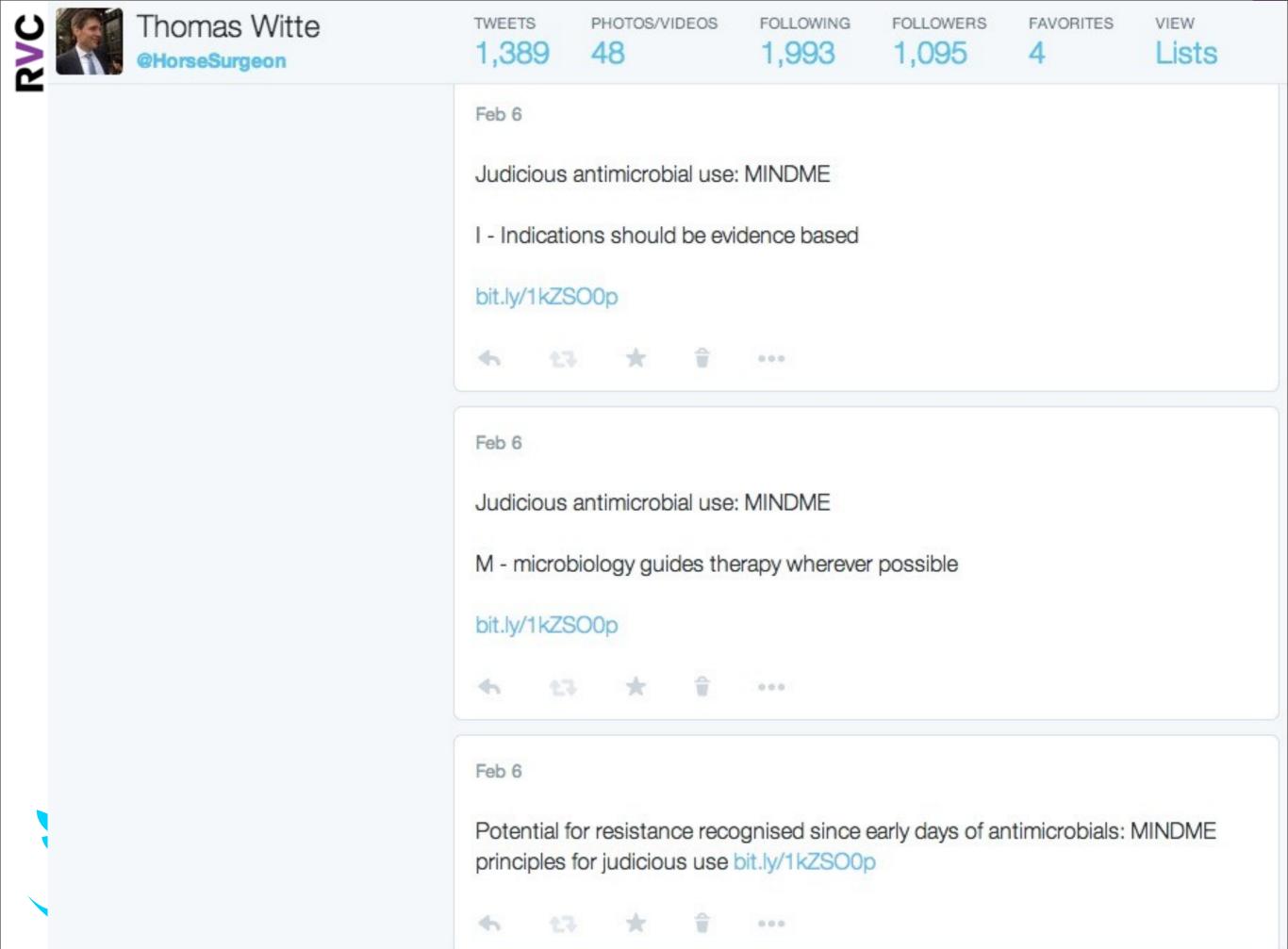
Reply 13 Retweet \* Favorite \*\*\* More





# Send weblinks and photos/videos





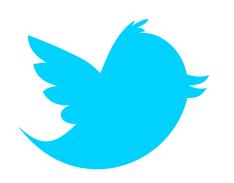




description | d



You can follow this talk using #BLEDigLit





British&Irish Lions @lionsofficial

Has it been a week? A lot of @lionsofficial fans at a loss this Saturday! Your favourite Tour memory? #LionsTour

pic.twitter.com/EJ3CNt24jj

Retweeted 47 times

Expand





Qantas Wallabies @QantasWallables

We will be giving away a @GILBERT\_UNION #LionsTour ball signed by Wallabies & @BrumbiesRugby star @CLealiifano.

pic.twitter.com/hrPHf6dq9a

View photo



Irish Rugby @irfurugby

10 Jul

In Pics: British & Irish Lions Arrive Home #Irishrugby #Lionstour tinyurl.com/ojf3c7w

Followed by John hanly and 2 others

Expand



British&Irish Lions @lionsofficial

BIL resting after his successful @lionsofficial trip - but still on Trophy watch! #LionsTour pic.twitter.com/saTy2rOFX0

View photo



British&Irish Lions @lionsofficial

10 Jul

It's coming home! All smiles with The Tom Richards Trophy were @Jamiehuwroberts & @StuartWHOGG\_15 #LionsTour pic.twitter.com/USFTf65krk

View photo



Qantas Wallabies @QantasWallables

10 Jul

Hold on to a piece of history by buying the official #LionsTour match programs. magshop.com.au/lionstourprogr...

Expand

◆ Reply 13 Retweet ★ Favorite \*\*\* More



Tweets Top / All / People you follow

### 20 new Tweets



Le Tour De France @letour

\*\*\* Security Message for Saturday, Sunday, & alps stages: do not run beside the riders, please respect the race, riders and @letour \*\*\* #TDF

Retweeted by Eddie Izzard Expand



Le Tour De France @letour

A long breakaway, epic final and 1st Italian stage winner in the 100th Tour... #TDF

dailymotion.com/video/x11v6wf\_...

Followed by Emma P to the More and 2 others

View media.



Team Sky @TeamSky

We caught up with Chris Froome this evening ahead of tomorrow's huge mountain test on Mont Ventoux - po.st/FroomeTalk #TDF

Followed by Lucy Atkinson and 2 others Expand

Team Sky @TeamSky

Check out a great set of photos from stage 14 of the #TDF here: po.st/TdFGall14 pic.twitter.com/t0To3Slisf

View photo



Le Tour De France @letour

Movistar back in the game letour.fr/le-tour/2013/u... #TDF

Followed by Jenny and 2 others

Expand

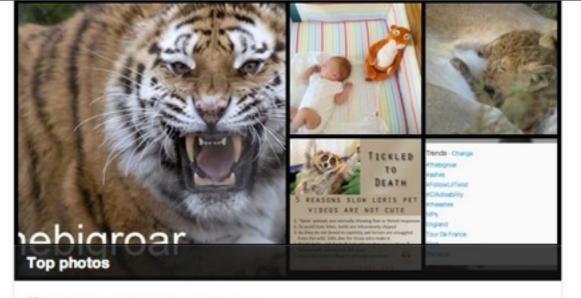


Le Tour De France @letour

1h

Peter Sagan: I don't know what to expect letour.fr/le-tour/2013/u...

Wednesday, 12 March 14



### Tweets Top / All / People you follow



### Stephen Fry @stephenfry

10 Jul

Be part of #thebigroar and join in today's Twitter chat to raise awareness of endangered species, goo.gl/mKfMW

Retweeted by ZSL and 1 other Expand



### Tigers4Ever @Tigers4EverCTS

10 Jul

Need to make #thebigroar for wild #tigers before it's too late Followed by Simon McPherson and 3 others

Expand



### Defra UK @DefraGovUK

10 Jul

An enormous thank you to everyone who took part in #thebigroar and supported it! It has been a truly fantastic day.

Expand



### Defra UK @DefraGovUK

10 Jul

Now let's talk about lions! The last slot of the day! Get your questions in to @LIONAID - lions are very much endangered too! #thebigroar Expand



### Ben Fogle @Benfogle

10 Jul

Rooooooaaaar #thebigroar #EndWildlifeCrime @TUSKTRUST @wwf\_uk @DefraGovUK

Expand



### Defra UK @DefraGovUK

10 Jul

We're excited - TV presenter @katesilverton1 is taking #thebigroar reins at 2.30 for half an hour - she'll be answering your questions! Expand

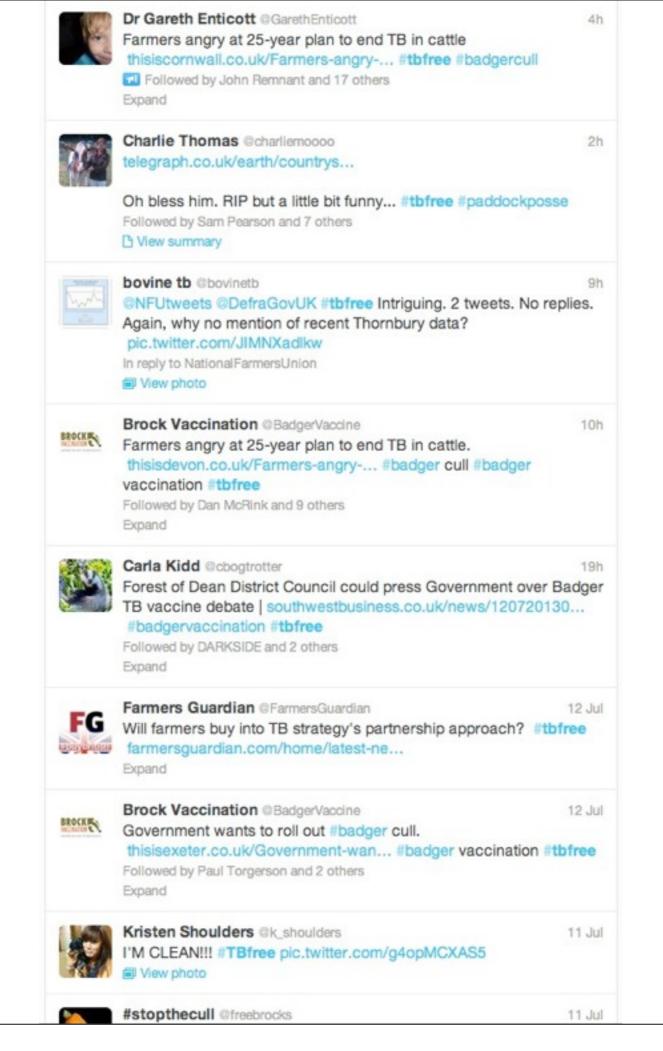


### Defra UK @DefraGovUK

10 Jul

Hi @ally\_wsm if you send us your questions on culls (maybe after today as we're currently focusing on "thebigroar) we'll try and answer asap







### FitzpatrickReferrals @fitzpatrickref

One Medicine - animals helping humans and humans helping animals! onlinelibrary.wiley.com/doi/10.1111/wr... #uniofsurrey #vetschool #vet #onemedicine

Expand



### Sarah-JaneRutherford @sjrud

10h

22m

Ems completely reinforces that the years of work to get into vet school is totally worth it! #vetschool #rvc

Expand



### Shelby Wright @snwright4

12 Jul

Welpp back to that study grind #GRE #vetschool instagram.com/p/brKgD6BUgZ/

Expand



### Mandela Lewis @MandelaLewis

12 Jul

I've never been so tanned! Who said EMS wasn't a holiday?! 
#vetschool #ems

Expand



### Sarah-JaneRutherford @s|rud

10 Jul

Feet are v sore so may have to resort to really ugly shoes tomorrow, will just have to wear something nice under the scrubs! #ems #vetschool

Expand



Elise @25 elis

10 Jul

Moving to sask for about 5 years really doesn't appeal to me. #vetschool

Expand



MurdochInternational @Murdoch\_Intl

10 Jul

Considered being a #Vet? Find out what it's really like at #VetSchool. A brand new doco filmed @MurdochUni! bit.ly/13oy8uy Expand

P

### Michelle Goulart DVM @mirgoulart

10 Jul

@RespiratoryQuiz: adenocarcinomas is a malignancy that originates in the mucous glands of lamina propria of the bronchi #vetschool #oncology

View conversation



### Michelle Goulart DVM @mirgoulart

10 Jul

Oncologists & researchers: job opening in comparative #oncology at @Mizzou vetmed.academickeys.com/seeker\_job\_dis... via @2MillionDogs #veterinary #vetschool

Expand

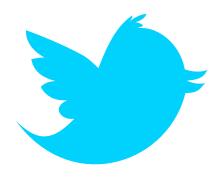


# However, this is a public forum! Use it professionally!

### Ryan Giggs named as Premier League footballer in gagging order row

The Premier League footballer at the centre of a privacy injunction row was today named as Ryan Giggs in the House of Commons by MP John Hemming.





	By Gordon Rayner, Chief Reporter 4:30PM BST 23 May 2011	Print this article
E	Follow 3,001 followers	Share 395
		Facebook 358
	ning said it was no longer practical for Giggs' name to be kept public arena as so many people were now aware who he was,	Twitter 37
due to Twitter and other social networks.		Email
	ut 75,000 people having named Ryan Giggs on Twitter it's impractical to imprison them all," said Mr Hemming.	in LinkedIn 0

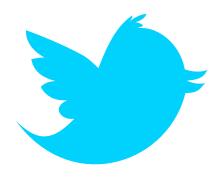


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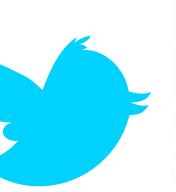


However, this is a public forum! Use it professionally!





```
NEWS VOICES SPORT TECH LIFE PROPERTY ARTS & ENTS TRAVEL MONEY INITIAL LIFE World Tournel Technology | Education Tournel Display | News > UK > Crime
```



# Twitter libel: Sally Bercow says she has 'learned the hard way' as she settles with Tory peer Lord McAlpine over libellous tweet

Commons speaker's wife called the ruling 'a warning to all social media users,' as McAlpine's lawyer indicates settlement will go to charity



Andrew Selous MP @Andrew\_SelousMP



Strongly support the loss of benefits unless claimants lean English.









911 RETWEETS 169 **FAVORITES** 











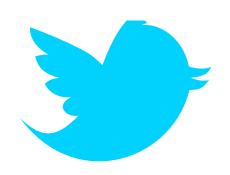








1:45 PM - 26 Jun 13





Trainee ENT Surgeon @otorhinolarydoc

8 Sep

Multidisciplinary team meeting. That's another way of saying I'm not sure what I'm doing so lets share responsibility and blame.

Collapse Reply 13 Retweet A Favorite

RETWEET

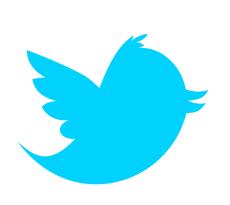
**FAVORITES** 







11:02 AM - 8 Sep 12 · Details



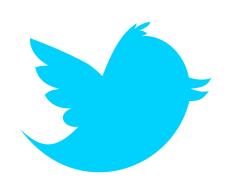


**ENT Doc**@otorhinolarydoc



Morbidity and mortality meetings. When every surgeon quietly says "oh, crap" under their breath.

21/03/13 7:52







### Over disclosure a real problem amongst vet students and graduates

### Facebook use among early-career veterinarians in Ontario, Canada (March to May 2010)

Cynthia A. Weijs, BA, MPH; Jason B. Coe, DVM, PhD; Emily Christofides, PhD; Amy Muise, PhD; Serge Desmarais, PhD

Objective—To explore the nature and content of information publicly posted to Facebook by early-career veterinarians.

Design—Cross-sectional descriptive study.

Sample—352 early-career veterinarians.

Procedures—Publicly accessible Facebook profiles were searched online from March to May 2010 for profiles of early-career veterinarians (graduates from 2004 through 2009) registered with the College of Veterinarians of Ontario, Canada. The content of veterinarians' Facebook profiles was evaluated and then categorized as low, medium, or high exposure in terms of the information a veterinarian had publicly posted to Facebook. Through the use of content analysis, high-exposure profiles were further analyzed for publicly posted information that may have posed risks to an individual's or the profession's public image.

Results—Facebook profiles for 352 of 494 (71%) registered early-career veterinarians were located. One-quarter (25%) of profiles were categorized as low exposure (ie, high privacy), over half (54%) as medium exposure (ie, medium privacy), and 21% as high exposure (ie, low privacy). Content analysis of the high-exposure profiles identified publicly posted information that may pose risks to an individual's or the profession's reputation, including breaches of client confidentiality, evidence of substance abuse, and demeaning comments toward others.

Conclusions and Clinical Relevance—Almost a quarter of veterinarians' Facebook profiles viewed in the present study contained publicly available content of a questionable nature that could pose a risk to the reputation of the individual, his or her practice, or the veterinary profession. The increased use of Facebook and all types of social media points to the need for raised awareness by veterinarians of all ages of how to manage one's personal and professional identities online to minimize reputation risks for individuals and their practices and to protect the reputation and integrity of the veterinary profession. (J Am Vet Med Assoc 2013;242:1083–1090)







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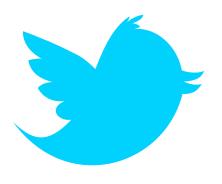
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Our students are on twitter for professional & personal use....



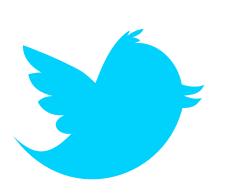








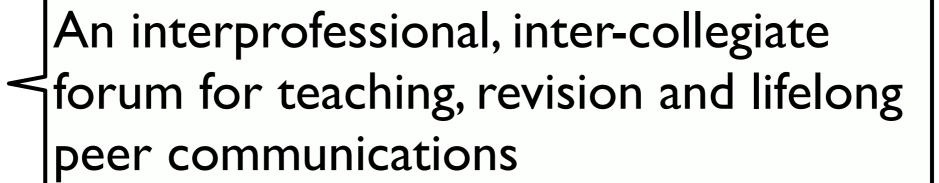
An interprofessional, inter-collegiate forum for teaching, revision and lifelong peer communications



Peter Nunn,
Hilary Orpet,
Martin Whiting,
Kim Whittlestone,
Thomas Witte,
Liz Mossop





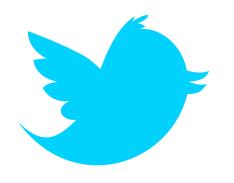


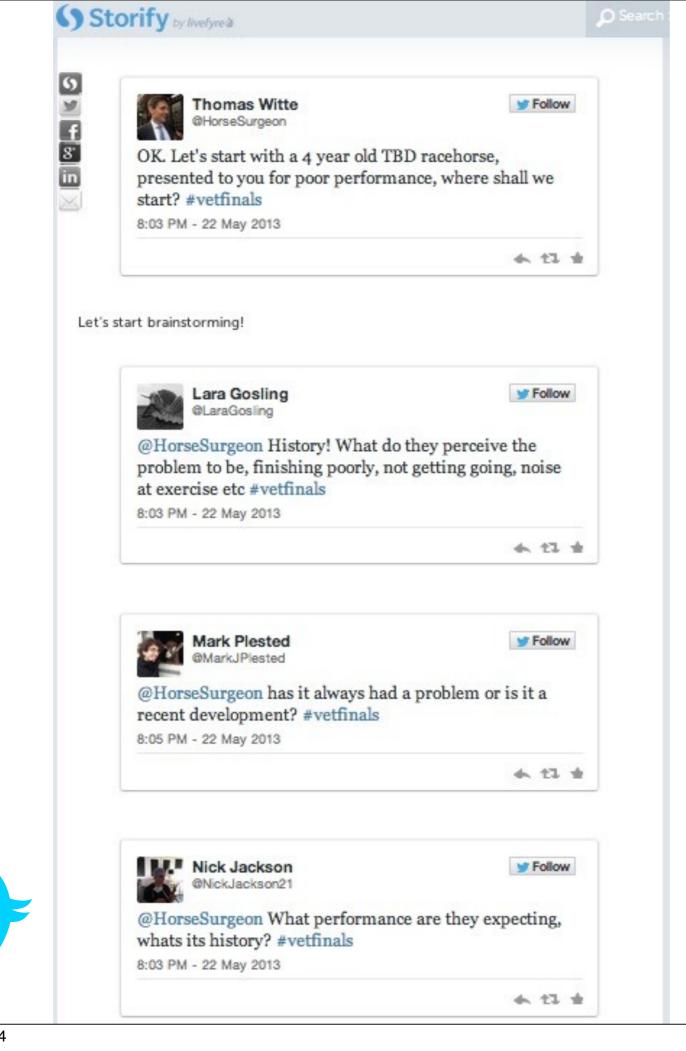
### @vetQs #vetFinals

Peter Nunn,
Hilary Orpet,
Martin Whiting,
Kim Whittlestone,
Thomas Witte,
Liz Mossop









Nobody really wants a hypoxic horse...

There is also another important issue to consider when characterising the noise





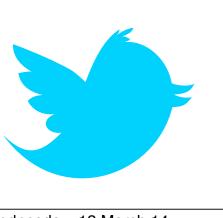
This was our homework for the week (things are getting serious!) but having found descriptions in the In Practice article linked above, I thought it would be mean not to share it with you:

- STRIDOR. A shrill, harsh sound, especially the respiratory sound heard during inspiration in the case of a laryngeal obstruction
- STERTOR. Snoring, sonorous respiration, usually due to partial obstruction of the upper airway

Moving on, what do we want to do with this horse?









Nick Jackson @NickJackson21

18 May @Louisa\_Gx @VetPubHealth From March no compulsory testing of UK cattle unsure about UK emergency slaughter defra.gov.uk/animal-disease... #vetfinals

View conversation



Emily Haynes @EH7624

18 May

bbc.co.uk/news/education... I need to get myself some of these by the looks of things #vetfinals #clutchingatstraws

Expand



CJ Davi @cj\_davi

16 May

After five days and 5 comprehensive finals, this is just what I needed to see. Thanks @NicoleMWilkins! #vetfinals

pic.twitter.com/lxB3UNIWXv

View photo



Fay @FayPooley

16 May

Count down to finals has begun ..... fav part: pseudopseudopseudohyperparathyroid

youtube.com/watch?v=8bygOa... #vetfinals #vet #nearlydone

View media.



Lee Middleton @LeeMiddl

16 May

Dogs can be trained to detect C. difficile in human stool samples using their olfactory sensitivity #VetFinals

bmj.com/content/345/bm...

Expand



Liz Mossop @mossposs

9 May

Vet Calculator Plus by Asher Allison - you need this #vetfinals gang! Brilliant! itun.es/gb/Nv3rM.i

□ View summary



Lara Gosling @LaraGosling

9 May

New Storify available now for liver disease in smallies: storify.com/LaraGosling/li... #vetfinals

□ View summary



Annie Mears @Annabellemears

2 Ponies with puritic alopecia, treated with anti-mite shampoo, didn't work... run with a heard all fine? #Vetfinals

pic.twitter.com/CcznUPtaWp

View photo



Liz Mossop @mossposs

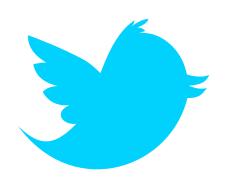
Hello @TheSheepVet we were wondering if you might fancy leading a #vetfinals session for y5 students? See vetfinals.wordpress.com

1 View summary





What are the educational benefits?





Studies show that Twitter engages students and mobilises faculty into a more active and participatory role

### **Journal of Computer Assisted Learning**





Article

### Putting twitter to the test: Assessing outcomes for student collaboration, engagement and success

Reynol Junco<sup>1,\*</sup>, C. Michael Elavsky<sup>2</sup>, Greg Heiberger<sup>3</sup>

Article first published online: 1 MAR 2012 DOI: 10.1111/j.1467-8535.2012.01284.x



British Journal of Educational Technology

Volume 44, Issue 2, pages

#### Abstract

Herein, we present data from two studies of Twitter usage in different postsecondary courses with the goal of analyzing the relationships surrounding student engagement and collaboration as they intersect learning outcomes. Study 1 was conducted with 125 students taking a first-year seminar course, half of who were required to use Twitter while the other half used Ning. Study 2 was conducted with 135 students taking a large lecture general education course where Twitter participation was voluntary. Faculty in Study 1 engaged with students on Twitter in activities based on an a priori theoretical model, while faculty in Study 2 only engaged students sporadically on the platform. Qualitative analyses of tweets and quantitative outcomes show that faculty participation on the platform, integration of Twitter into the course based on a theoretically driven pedagogical model and requiring students to use Twitter are essential components of improved outcomes.

#### Practitioner notes

What is already known about this topic

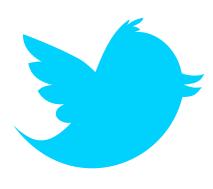
- Student use of social media is integrally related to how students engage the world.
- · Little research exists on how social media use is linked to college student engagement in relation to academic outcomes.
- · One study using a controlled design demonstrated a relationship between Twitter use and student engagement.

#### What this paper adds

- An empirical comparison of two ways in which Twitter was differently integrated into college courses.
- The utilization of quantitative and qualitative data to assess real-world academic outcomes related to Twitter use.
- · Evidence-based best practices for using Twitter in educationally relevant and productive ways.

Implications for practice and/or policy

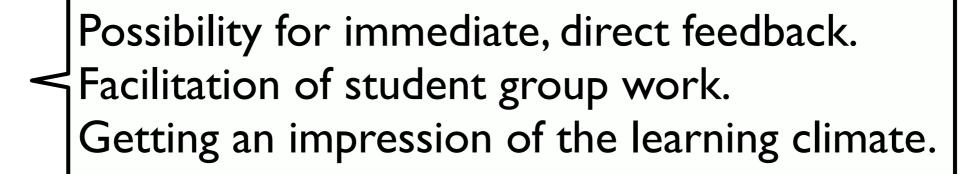
- · If integrating Twitter in their courses, faculty should require and structure its use along educationally relevant criteria.
- To achieve the most effective results, faculty should have a theoretically driven pedagogical basis for incorporating Twitter.
- Faculty should actively engage with students on the platform to obtain maximum benefit.





Current information on status of learning, possibility to steer the intervention in the learning process of individuals and groups







## "Informal learning"

Computers & Education 55 (2010) 92-100



Contents lists available at ScienceDirect

#### Computers & Education





## Microblogs in Higher Education – A chance to facilitate informal and process-oriented learning?

Martin Ebner a.+, Conrad Lienhardt b, Matthias Rohs c, Iris Meyer d

- <sup>a</sup> Computer and Information Services, Social Learning, Steyrergasse 30/I, Graz A-8010, Austria
- bFH OÖ Upper Austria University of Applied Sciences School of Management, 1–3 Wehrgrabengasse, Steyr 4400, Austria
- <sup>c</sup>University of Zurich, Center for University Teaching and Learning, Hirschengraben 84, Zurich 8001, Switzerland
- <sup>d</sup> University of Graz, Universitätsplatz 3/1, Graz 8010, Austria

#### ARTICLE INFO

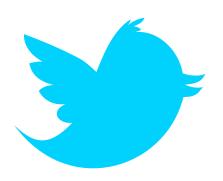
Article history: Received 7 July 2009 Received in revised form 14 December 2009 Accepted 16 December 2009

Keywords: Informal learning Process-oriented learning Higher Education e-Learning Web 2.0 Microblogging Twitter

#### ABSTRACT

Microblogging is one of the latest Web 2.0 technologies. The key elements are online communication using 140 characters and the fact that it involves "following" anyone. There has been a great deal of excitement about this in recent months. This paper reports on a research study that was carried out on the use of a microblogging platform for process-oriented learning in Higher Education. Students of the University of Applied Sciences of Upper Austria used the tool throughout their course. All postings were carefully tracked, examined and analyzed in order to explore the possibilities offered by microblogging in education. It can be concluded that microblogging should be seen as a completely new form of communication that can support informal learning beyond classrooms.

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"Informal learning"

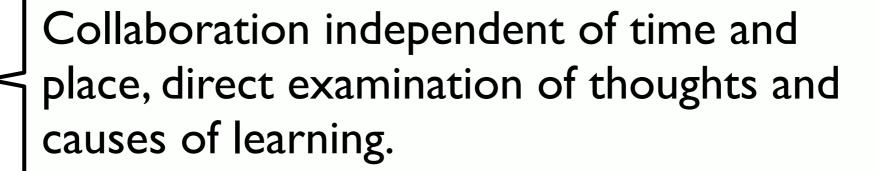
..outside educational establishments..accidental, sporadic..holistically problem-related..actual situations & fitness for life...





Informal learning through informal communication, support of collaboration, feedback on thoughts, suggestions to reflect one's own thoughts









A forum in which students can grasp not only 'how veterinarians think', but also to start to 'think like veterinarians'

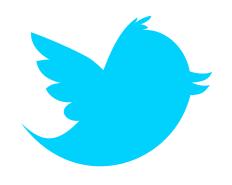








Vertical links between cohorts promoting peer-to-peer learning and widening network of local contacts







# A public forum - promotes online professionalism in a safe environment (a necessary skill for modern graduates)

COMMUNICATIONS

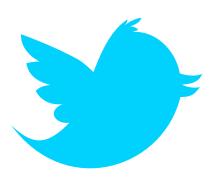
Understanding Veterinary Students' Use of and Attitudes toward the Social Networking Site, Facebook, to Assist in Developing Curricula to Address Online Professionalism

Jason B. Coe ■ Cynthia A. Weijs ■ Amy Muise ■ Emily Christofides ■ Serge Desmarais

#### ABSTRACT

Social media is an increasingly common form of communication, with Facebook being the preferred social-networking site among post-secondary students. Numerous studies suggest post-secondary students practice high self-disclosure on Facebook. Research evaluating veterinary students' use of social media found a notable proportion of student-posted content deemed inappropriate. Lack of discretion in posting content can have significant repercussions for aspiring veterinary professionals, their college of study, and the veterinary profession they represent. Veterinarians-in-training at three veterinary colleges across Canada were surveyed to explore their use of and attitude toward the social networking site, Facebook. Students were invited to complete an online survey with questions relating to their knowledge of privacy in relation to using Facebook, their views on the acceptability of posting certain types of information, and their level of professional accountability online. Linear regression modeling was used to further examine factors related to veterinary students' disclosure of personal information on Facebook. Need for popularity (p < .01) and awareness of consequences (p < .001) were found to be positively and negatively associated, respectively, with students' personal disclosure of information on Facebook. Understanding veterinary students' use of and attitudes toward social media, such as Facebook, reveals a need, and provides a basis, for developing educational programs to address online professionalism. Educators and administrators at veterinary schools may use this information to assist in developing veterinary curricula that addresses the escalating issue of online professionalism.

Key words: professionalism, social media, curriculum development







Diversify an individual's circle of new graduate colleagues





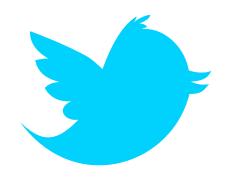
Support for new graduates in isolated locations - previous use of Twitter can continue to provide a contact discussion forum







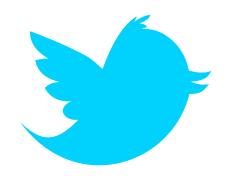








Includes veterinary students and veterinary nurse students, to promote understanding of the roles of the professions







Promote alumni links to colleges - an opportunity to promote CPD and sustain case referrals







"..need to move beyond the idea that an education is something provided for us....an education is something we create for ourselves."







## Any Questions?

#### References

Anon, 2012. What is Twitter? Twitter.com. Available at: https://business.twitter.com/en/basics/what-is-twitter/ [Accessed: November 24, 2012].

Coe, J.B. et al., 2012. Understanding Veterinary Students' Use of and Attitudes toward the Social Networking Site, Facebook, to Assist in Developing Curricula to Address Online Professionalism. *Journal of Veterinary Medical Education*, 39(3), pp.297–303.

Dunlap, J., & Lowenthal, P. R. 2009. Instructional uses of Twitter. In P. R. Lowenthal, D. Thomas, A. Thai, & B. Yuhnke, B. (Eds.), The CU Online handbook. Teach differently: Create and collaborate (pp. 46-52). Raleigh, NC: Lulu Enterprises.

Ebner, M. et al., 2010. Microblogs in Higher Education – A chance to facilitate informal and process-oriented learning? Computers & Education, 55(1), pp.92–100.

Elavsky, C.M., Mislan, C. & Elavsky, S., 2011. When talking less is more: exploring outcomes of Twitter usage in the large-lecture hall. Learning, Media and Technology, 36(3), pp.215–233.

GMC, 2013. Doctors' Use of Social Media (GMC/DUSM/0313). General Medical Council, London.

Gosden v Lifeline Project Ltd, 2009. ET/2802731/09

Grosseck, G. & Holotescu, C., 2008. Can we use Twitter for educational activities. 4th international scientific conference, eLearning and Software for Education, Bucharest, Romania

Junco, R., Elavsky, C.M. & Heiberger, G., 2012. Putting twitter to the test: Assessing outcomes for student collaboration, engagement and success. *British Journal of Educational Technology*, 44(2)pp.273-287.

Junco, R., Heiberger, G. & Loken, E., 2010. The effect of Twitter on college student engagement and grades. Journal of Computer Assisted Learning, 27(2), pp.119–132.

Kneebone, R., 2009. Perspective: Simulation and transformational change: the paradox of expertise. Acad Med, 84(7), pp.954–957.

Meyer, J. & Land, R., 2006. Overcoming barriers to student understanding: threshold concepts and troublesome knowledge, Abingdon, Oxon; New York, NY: Routledge.

Meyer, J.H.F. & Land, R., 2005. Threshold concepts and troublesome knowledge (2): Epistemological considerations and a conceptual framework for teaching and learning. *Higher education*, 49(3), pp.373–388.

Miners, Z. 2010. Twitter Goes to College. Students and profs use "tweets" to communicate in and coutside of class. Available at: <a href="http://www.usnews.com/education/articles/2010/08/16/twitter-goes-to-college-">http://www.usnews.com/education/articles/2010/08/16/twitter-goes-to-college-</a>. [Accessed: 21/May/2013]

Preece v JD Weatherspoons plc, 2010. ET/2104806/10.

Rankin, M., Some general comments on the "Twitter Experiment." *UTDallas.edu*, p.4. Available at: <a href="http://www.utdallas.edu/~mrankin/usweb/twitterconclusions.htm">http://www.utdallas.edu/~mrankin/usweb/twitterconclusions.htm</a>. [Accessed: 21/May/2013]

Rayner, G., 2011. Ryan Giggs named as Premier League footballer in gagging order row. *The Telegraph*. Available at: <a href="http://www.telegraph.co.uk/technology/twitter/8531175/Ryan-Giggs-named-as-Premier-League-footballer-in-gagging-order-row.html">http://www.telegraph.co.uk/technology/twitter/8531175/Ryan-Giggs-named-as-Premier-League-footballer-in-gagging-order-row.html</a>. [Accessed: 21/May/2013]

Weijs, C.A. et al., 2013. Facebook use among early-career veterinarians in Ontario, Canada (March to May 2010). Journal of the American Veterinary Medical Association, 242(8), pp.1083–1090.

Wenger, E., 1999. Communities of practice: Learning, meaning, and identity. Cambridge University Press, Cambridge.

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## When talking less is more: exploring outcomes of *Twitter* usage in the large-lecture hall

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This article employs a mixed-method approach to examine the outcomes produced by using *Twitter* in a large-lecture course as a means to assess the pedagogical impact and potential of *Twitter*'s contribution to large-lecture course dynamics. In doing so, it seeks also to explore the broader relationship between methodologies and outcomes. Exploratory in nature and design, this study proceeds from the recognition of the inherent limitations and unpredictability in investigating how new technologies transform social patterns. Such an approach allows us to question how the mode and design of our research ultimately frame the interpretation and understanding of how social media intersect and impact classroom dynamics and their potential contributions for developing more effective pedagogical strategies and outcomes.

Keywords: Twitter; large-lecture hall; pedagogy; methodology; case study

