EDPE 668: DIGITAL AND SOCIAL MEDIA IN HIGHER EDUCATION
Fall 2014 (3 credits)   Wednesdays 8:35-11:25 AM
Education Bldg (3700 McTavish), Room 539

Instructor:	Dr. Nathan C. Hall	**Phone:**	514-398-3452
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Office Hours:	By appointment		

Course Overview

The course will explore various facets of the role of digital and social media in higher education. With respect to research protocols, issues surrounding the use of publically accessible data, data mining, and analysis (e.g., archives, Facebook, Mechanical Turk), online recruitment of participants (e.g., methods, representativeness), as well as mobile devices will be discussed (e.g., experience sampling methods). Academic engagement via the Internet and social media will also be addressed as per research dissemination (e.g., open access journals, blogs), professional engagement via social media (e.g., digital literacy, communities of practice), as well as the use of digital/social media to facilitate learning in higher education (e.g., mobile devices, Twitter, MOOCs).

Course Objectives

The primary learning outcomes for this course include:

- Knowledge of critical developments in the use of digital and social media in higher education
- Ability to critically evaluate the utility of digital and social media tools for research, teaching, and engagement
- Application of digital and social media for empirical analysis and instructional methods

Required Readings

All required course readings are indicated in the schedule below and available for download in myCourses. The syllabus readings consist of recent empirical and review articles, with optional articles indicated in the schedule (*). The Education building computer lab (room 328) is available for on-campus computer use and printing. McGill network access (wireless, labs, VPN) may be required to access article links. All students are expected to read the assigned syllabus readings prior to class.

Course Requirements

Weekly classes will consist of student-led activities and interactive in-class exercises (first half), as well as guest speakers and class discussions (second half). Final course grades will be based on five components aimed at promoting greater understanding, critical thinking, and engagement concerning social and digital media issues. The class take-over will be completed as a group, with the class participation and media assignments graded individually. In accordance with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded. Supplemental rubrics outlining specific information concerning the course requirements (i.e., structure, grading) are provided. I do not review rough drafts of assignments and extra credit submissions or post-deadline assignment revisions are not accepted.

1. **Class Participation (10%)**

Participating in class is critical to understanding course content, promoting discussion, and facilitating in-class activities organized by other students. Participation in class includes contributing to in-class discussions and involvement in class exercises over and above basic attendance. Up to 10 participation points are available, and one point may be obtained each class from Weeks 2-13. *Students who miss more than two classes after Week 1 without acceptable documentation (see below) will forfeit 5 participation points*.

2. **Class Take-Over (30%)**

Each student will participate in one "class take-over" in Weeks 2-13 in which the assigned readings/topics are highlighted in multiple ways. Students will complete the take-over in groups of 2-3, it should last 1.5 hours (first half of class), and a one-page summary should be provided to the class (also uploaded to myCourses). Class take-overs will occur during the first half of class, and will consist of five sections:

(1) "*Media*" (online news/blog coverage of topic)
(2) "*Review*" (mini-lecture outlining main points of the articles)
(3) "*Research*" (briefly review four additional, recent publications on this topic)
(4) "*Demonstration"* (provide an interactive, hands-on exercise on the topic)
(5) "*Discussion*" (lead a class discussion addressing four main questions)

3. **Media Projects (3 x 20%)**

Three media projects will be completed individually and each entail a 2,000-word paper uploaded to myCourses consistent with the format of a conference paper submission (i.e., AERA 2014).

Media Project 1 (20%) will focus on digital media topics from Weeks 2-4 and entail (a) the statistical analysis of existing public datasets to examine research questions of interest (e.g., MIDUS, OECD) or (b) a review of 10 empirical studies on or utilizing data mining, experience sampling, or mobile devices in higher education.

Media Project 2 (20%) will address social media topics from Weeks 6-10 and require (a) the quantitative or qualitative analysis of public Facebook or Twitter data concerning higher education issues (e.g., hashtags; content, responses, reach of selected accounts), (b) the development and analysis of an original Facebook or Twitter account addressing higher education topics (e.g., protocols, content, responses, reach), or (c) a review of 10 empirical studies on the use of Facebook or Twitter for instruction in higher education.

Media Project 3 (20%) will address digital and social media topics from Weeks 11-13 and include (a) a quantitative or qualitative analysis of 3-5 existing blogs addressing higher education issues (i.e., content, responses, reach), (b) the development and analysis of an original blog on a higher education topic (e.g., professional development), or (c) a review of 10 empirical studies on the use of blogs, open access journals, altmetrics, or MOOCs in higher education.

Grading

Final course grades are assigned on the standard university scale based on the course requirement rubrics. Students are strongly encouraged to discuss any grading concerns directly with the instructor. In the event of extraordinary circumstances beyond the University's control, the course content and grading rubrics are subject to change.

Requirements		Grade	Grade Points	Numerical Scale
Class Participation	10%	A	4.0	85-100%
Class Take-Over	30%	A-	3.7	80-84%
Media Project 1	20%	B+	3.3	75-79%
Media Project 2	20%	B	3.0	70-74%
Media Project 3	20%	B-	2.7	65-69%
		F	0	0-64%
Total:	100%			

Class Policies

- **Participation & Conduct**

  Students are expected to read the assigned material before each class (*optional readings for students not conducting the class take-over are noted in the schedule with an asterisk*), contribute to in-class discussions concerning the readings, and attend each class except in the case of illness, official closures, or extenuating circumstances. Students are responsible for obtaining missed class content from other students or the instructor (class slides will not be distributed electronically). *Students are strongly encouraged to bring mobile devices and laptops to each class for in-class exercises*, however all electronic devices should be silenced prior to class and not used without instructor permission (e.g., phones, PDAs, laptops, recorders, etc.). Usage privileges may be revoked following inconsiderate device use (e.g., texting, loud typing, unrelated websites).

- **Late Submissions**

  Late project submissions will be penalized 10% per day. Ensure your papers are backed-up and ready for submission before they are due, and allow yourself sufficient time prior to the deadline to confirm your paper was uploaded and/or submit the assignment via campus computers to circumvent personal computing difficulties. All excuses concerning university technology (e.g., email, myCourses) must be directly confirmed by direct correspondence from McGill ICS personnel to the instructor.

- **Deadline Extensions & Changes**

  Deadline extensions and changes may be considered if a prior notice of absence and/or appropriate formal documentation regarding excusable absences is provided. Possible excusable absences include illness (e.g., physician note, hospital record), funerals (e.g., travel receipts, obituary), religious observances, participation in university activities, and extenuating circumstances. Revised deadlines must be within one week of the original deadline. Class take-over dates may be exchanged between students in case of scheduling difficulties.

- **Academic Integrity**

  McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism, fabrication, and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/students/srr/honest for more information). In this course, plagiarism is defined as 5 or more words in a row from source other than your own original writing for this class (e.g., textbook, website, article, another paper, etc.) that is not included within quotation marks and followed by a parenthetical source notations. Papers suspected of plagiarism will be scanned electronically using digital services that are also available for checking papers prior to submission (WCopyfind; www.doccop.com; www.dustball.com/cs/plagiarism.checker).

As per the zero-tolerance plagiarism policy for this course, submissions in which plagiarism is observed will be forwarded to the Associate Dean of Graduate and Postdoctoral Studies for disciplinary action (articles 56 and 56.1 in the Student Rights and Responsibilities Handbook). Instructor generated course materials (e.g., handouts, notes, summaries, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow-up by the University under the Code of Student Conduct and Disciplinary Procedures. Additional policies governing academic issues that affect students are found in the McGill Charter of Students' Rights (Handbook Chapter 1).

- **Students with Disabilities**

If you are a student with a physical or learning disability, please first contact the Office for Students with Disabilities (514-398-6009; http://www.mcgill.ca/osd), and then myself as soon as possible thereafter to make necessary arrangements. Students MUST have registered with the OSD and informed the instructor at least two weeks prior to a course deadline in the case of disability-related deadline changes. Explanations for late assignments or poor grades involving learning disabilities not documented by the OSD will not be accepted.

- **Religious Observances**

It is the policy of McGill University that students not be penalized for religious observances. Students will be allowed, whenever possible, deadline extensions and presentation date changes due to such absences. It is the student's responsibility to contact the instructor at least two weeks before the absence, at which time arrangements will be made for deadline/assignment changes.

- **Course Evaluation**

Students are strongly encouraged to fill out the online evaluation for this course at the end of term. Online course evaluations serve primarily as a tool towards teaching improvement, informing students about courses, and as one of the elements for evaluating the teaching performance of staff for reappointment, tenure, and promotion purposes. More information on course evaluations and Mercury system is available at: http://kb.mcgill.ca/it/easylink/article.html?id=1551.

- **Course Communication**

Emails will be sent to the class in the event of class cancellations or announcements and are the best way to contact the instructor (via myCourses mail or directly at nathan.c.hall@mcgill.ca). Ensure all direct email communication with the instructor is from a McGill email addresses (to verify identity), and allow at least 2 business days for an email reply from the instructor. The course syllabus, readings, and grades are also accessible through the myCourses system. To avoid problems with myCourses functionality, Firefox or Internet Explorer browsers are encouraged, ensure the java software on your computer is up to date, and click the "Support / System Check" link on your myCourses home page (top right) to ensure your browser is properly configured.

- **Acknowledgements**

Course readings include contributions from Achievement Motivation and Emotions (AME) Research Group members Kyle Hubbard and Dr. John Ranellucci, and Dr. Eric Poitras (University of Utah).

Course Schedule

Week	Date	Topics	Deadlines	Readings
1	Sept. 3	_Introduction_		
2	Sept. 10	_Mobile Devices_		Wu et al. (2012) | Gedik et al. (2012) Ravert et al. (2010) | Gogol et al. (2014)*
3	Sept. 17	_Data Mining_ Guest: E. Poitras		Baker & Siemens (2014) Boyd & Crawford (2012) Kosala & Blockeel (2000) Ranellucci et al. (in press)*
4	Sept. 24	_Online Recruitment_ Guest: J. Ranellucci		Gosling et al. (2004) | Casler et al. (2013) Yuan et al. (2014)*
5	Oct. 1	_Digital Scholarship_	_Media Project 1_	Veletsianos & Kimmons (2012) Veletsianos & Kimmons (2013) Greenhow et al. (2009)*
6	Oct. 8	_Social Media_ Guest: J. Cham (PHD Comics)		Bik & Goldstein (2013) Davis et al. (2012) Greenhow & Gleason (2014) Van Noorden (2014)*
7	Oct. 15	_Facebook_		Wilson et al. (2012) | Everson et al. (2013) Gray et al. (2013) | Kramer et al. (2014)*
8	Oct. 22	_YouTube_		Lee & Lehto (2013) | Halpern & Gibbs (2013) Clifton & Mann (2011)*
9	Oct. 29	_Twitter: Engagement_		Greenhow & Gleason (2012) Veletsianos (2012) | Lewis & Rush (2013)*
10	Nov. 5	_Twitter: Instruction_	_Media Project 2_	Tess (2013) | Kassens-Noor (2012) Prestridge (2014) | Junco et al. (2011, 2013*)
11	Nov. 12	_Blogs_ Guests: T. Tressel, M. Derian-Toth, S. Shaw		Sim & Hew (2010) | Shema et al. (2012) Fausto et al. (2012) | Yarkoni (2010)*
12	Nov. 19	_Open Access / Altmetrics_ Guest: V Lariviere (CRC, Digital Infomatics)		Joseph (2013) | Laakso et al. (2011) Carroll (2011) | Gargouir et al. (2010)* / Priem & Hemminger (2010) Thelwall et al. (2013) | Yan & Gerstein (2011)*
13	Nov. 26	_MOOCs_		Yuan & Powell (2013) | Fischer (2014) Clara & Barbera (2013) Liyanagunawardena et al. (2013)*
	Dec. 8		_Media Project 3_	

*Optional Reading

Reading List

Week 2: Mobile Devices

Wu, W.-H., Wu, Y.-C. J., Chen, C.-Y., Kao, H.-Y., Lin, C.-H., & Huang, S.-H. (2012). Review of trends from mobile learning studies: A meta-analysis*. Computers & Education, 59,* 817-827. http://dx.doi.org/10.1016/j.compedu.2012.03.016

Gedik, N., Hanci-Karademircib, A., Kursun, E., & Cagiltay, K. (2012). Key instructional design issues in a cellular phone-based mobile learning project. *Computers & Education, 58*, 1149-1159. http://dx.doi.org/10.1016/j.compedu.2011.12.002

Ravert, R. S., Calix, S. I., & Sullivan, M. J. (2010). Research in brief: Using mobile phones to collect daily experience data from college undergraduates. *Journal of College Student Development, 51*(3), 343-352. http://dx.doi.org/10.1353/csd.0.0134

Gogol, K., Brunner, M., Goetz, T., Martin, R., Ugen, S., Fischbach, A., Keller, U., & Preckel, F. (2014). 'My questionnaire is too long!' The assessments of motivational-affective constructs with three-item and single-item measures. *Contemporary Educational Psychology, 39*, 188-205. http://dx.doi.org/10.1016/j.cedpsych.2014.04.002

Week 3: Data Mining

Baker, R., & Siemens, G. (2014). Educational data mining and learning analytics. To appear in Sawyer, K. (Ed.) *Cambridge Handbook of the Learning Sciences: 2nd Edition*. http://www.columbia.edu/~rsb2162/BakerSiemensHandbook2013.pdf (12 pp)

Kosala, R., & Blockeel, H. (2000). Web Mining Research: A Survey. *SIGKDD Explorations*, *2*(1), 1-15. Available: http://dl.acm.org/citation.cfm?id=360406

Boyd, D., & Crawford, K. (2012). Critical questions for big data: Provocations for a cultural, technological, and scholarly phenomenon*. Information, Communication & Society, 15*(5), 662-679. http://dx.doi.org/10.1080/1369118X.2012.678878

Ranellucci, J., Poitras, E. G., Bouchet, F., Lajoie, S. P., & Hall, N. C. (in press). Understanding emotional expressions in social media through data mining. In S. Tettegah & R. E. Ferdig (Eds.), *Emotions and technology*. Elsevier. (19 pp)

Week 4: Online Recruitment

Gosling, S.D., Vazire S., Srivastava S., & John O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist, 59*, 93-104. http://dx.doi.org/10.1037/0003-066X.59.2.93

Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior, 29*, 2156-2160. http://www.sciencedirect.com/science/article/pii/S074756321300160X

Yuan, P., Bare, M. G., Johnson, M. O., & Saberi, P. (2014). Using online social media for recruitment of Human Immunodeficiency Virus-positive participants: A cross-sectional survey. *Journal of Medical Internet Research, 16*(5). http://www.jmir.org/2014/5/e117 (6 pp)

Week 5: Digital Scholarship

Veletsianos, G., & Kimmons, R. (2012). Networked Participatory Scholarship: Emergent techno-cultural pressures toward open and digital scholarship in online networks. *Computers & Education, 58*, 766-774. http://dx.doi.org/10.1016/j.compedu.2011.10.001

Veletsianos, G., & Kimmons, R. (2013). Scholars and faculty members' lived experiences in online social networks. *Internet and Higher Education, 16*, 43-50. http://dx.doi.org/10.1016/j.iheduc.2012.01.004

Greenhow, C., Robelia, B., & Hughes, J. E. (2009). Web 2.0 and classroom research: What path should we take now? Educational Researcher, 38(4), 246-259. http://dx.doi.org/10.3102/0013189X09336671

Week 6: Social Media

Bik H. M., & Goldstein, M. C. (2013) An introduction to social media for scientists. *PLoS Biology, 11*(4): e1001535. http://dx.doi.org/10.1371/journal.pbio.1001535 (7 pp)

Davis III, C. H. F., Deil-Amen, R., Rios-Aguilar, C., Gonzalez Canche, M. S. (2012). *Social media and higher education: A literature review and research directions*. Tucson, AZ: The Center for the Study of Higher Education, The University of Arizona. http://works.bepress.com/hfdavis/2 (25 pp)

Greenhow, C., & Gleason, B. (2014). Social scholarship: Reconsidering scholarly practices in the age of social media. *British Journal of Educational Technology.* http://dx.doi.org/10.1111/bjet.12150 (9 pp)

Van Noorden, R. (2014). Scientists and the social network. *Nature, 512*, 126-129. http://www.nature.com/news/online-collaboration-scientists-and-the-social-network-1.15711

Week 7: Facebook

Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A review of Facebook research in the social sciences. *Perspectives on Psychological Science, 7*, 203-220. http://dx.doi.org/10.1177/1745691612442904

Everson, M., Gundlach, E., & Miller, J. (2013). Social media and the introductory statistics course. *Computers in Human Behavior, 29*, A69-A81. http://dx.doi.org/10.1016/j.chb.2012.12.033

Gray, R., Vitak, J., Easton, E. W., & Ellison, N. B. (2013). Examining social adjustment to college in the age of social media: Factors influencing successful transitions and persistence. *Computers & Education, 67*, 193-207. http://dx.doi.org/10.1016/j.compedu.2013.02.021

Kramer, A. D. I., Guillory, J. E., & Hancock, J. T. (2014). Experimental evidence of massive-scale emotional contagion through social networks. *PNAS, 111*(24), 8788-8790. www.pnas.org/cgi/doi/10.1073/pnas.1320040111

Week 9: YouTube

Lee, D. Y., & Lehto, M. R. (2013). User acceptance of YouTube for procedural learning: An extension of the Technology Acceptance Model. *Computers & Education, 61*, 193-208. http://dx.doi.org/10.1016/j.compedu.2012.10.001

Clifton, A., & Mann, C. (2011). Can YouTube enhance student nurse learning? *Nurse Education Today, 31*, 311-313. http://dx.doi.org/10.1016/j.nedt.2010.10.004

Halpern, D., & Gibbs, J. (2013). Social media as a catalyst for online deliberation? Exploring the affordances of Facebook and YouTube for political expression. *Computers in Human Behavior, 29*, 1159-1168. http://dx.doi.org/10.1016/j.chb.2012.10.008

Week 9: Twitter (Engagement)

Greenhow, C., & Gleason, B. (2012). Twitteracy: Tweeting as a new literacy practice. *The Educational Forum*, *76*, 463-477. http://dx.doi.org/10.1080/00131725.2012.709032

Veletsianos, G. (2012). Higher education scholars' participation and practices on Twitter*. Journal of Computer Assisted Learning, 28*, 336-349. http://dx.doi.org/10.1111/j.1365-2729.2011.00449.x

Lewis, B., & Rush, D. (2013). Experience of developing Twitter-based communities of practice in higher education. *Research in Learning Technology, 21*, 18598. http://dx.doi.org/10.3402/rlt.v21i0.18598 (12 pp)

Week 10: Twitter (Instruction)

Tess, P. A. (2013). The role of social media in higher education classes (real and virtual): A literature review. *Computers in Human Behavior, 29*, A60-A68. http://dx.doi.org/10.1016/j.chb.2012.12.032

Kassens-Noor, E. (2012). Twitter as a teaching practice to enhance active and informal learning in higher education: The case of sustainable tweets. *Active Learning in Higher Education, 13*(1), 9-21. http://dx.doi.org/10.1177/1469787411429190

Prestridge, S. (2014). A focus on students' use of Twitter: Their interactions with each other, content and interface. *Active Learning in Higher Education, 15*, 101-115. http://dx.doi.org/10.1177/1469787414527394

Junco, R., Heiberger, G., & Loken, E. (2011). The effect of Twitter on college student engagement and grades. Journal of Computer Assisted Learning, 27, 119-132. http://dx.doi.org/10.1111/j.1365-2729.2010.00387.x

Junco, R., Elavky, M., & Heiberger, G. (2013). Putting twitter to the test: Assessing outcomes for student collaboration, engagement and success. *British Journal of Educational Technology, 44*(2), 273-287. http://dx.doi.org/10.1111/j.1467-8535.2012.01284.x

Week 11: Blogs

Sim, J. W. S., & Hew, K. F. (2010). The use of weblogs in higher education settings: A review of empirical research. *Educational Research Review, 5*, 151-163. http://dx.doi.org/10.1016/j.edurev.2010.01.001

Shema, H., Bar-Ilan, J., & Thelwall, M. (2012). Research blogs and the discussion of scholarly information. *PLoS ONE,7*(5), e35869. http://dx.doi.org/10.1371/journal.pone.0035869 (7 pp)

Fausto, S., Machado, F. A., Bento, L. F. J., Iamarino, A., Nahas, T. R., & Munger, D. S. (2012). Research blogging: Indexing and registering the change in science 2.0. *PLoS ONE, 7*(12), e501109. http://dx.doi.org/10.1371/journal.pone.0050109 (9 pp)

Yarkoni, T. (2010). Personality in 100,000 Words: A large-scale analysis of personality and word use among bloggers. *Journal of Research in Personality, 44*, 363-373. http://dx.doi.org/10.1016/j.jrp.2010.04.001

Week 12: Open Access

Joseph, H. (2013). The open access movement grows up: Taking stock of a revolution. *PLoS Biol, 11*(10), e1001686. http://dx.doi.org/10.1371/journal.pbio.1001686 (3 pp)

Laakso, M., Welling, P., Bukvova, H., Nyman, L., Bjork, B.-C., & Hedlund, T. (2011). The development of open access journal publishing from 1993 to 2009. *PLoS ONE, 6*(6), e20961. http://dx.doi.org/10.1371/journal.pone.0020961 (9 pp)

Carroll, M. W. (2011). Why full open access matters. *PLoS Biol, 9*(11), e1001210. http://dx.doi.org/10.1371/journal.pbio.1001210 (3 pp)

Gargouri, Y., Hajjem, C., Lariviere, V., Gingras, Y., Carr, L., Brody, T., & Harnad, S. (2010). Self-selected or mandated, open access increases citation impact for higher quality research. *PLoS ONE, 5*(10), e13636. http://dx.doi.org/10.1371/journal.pone.0013636 (11 pp)

Week 12: Altmetrics

Priem, J., & Hemminger, B. M. (2010). Scientometrics 2.0: Toward new metrics of scholarly impact on the social web. *First Monday, 15*(7). http://dx.doi.org/10.5210/fm.v15i7.2874 (10 pp)

Thelwall, M., Haustein, S., Lariviere, V., & Sugimoto, C. R. (2013). Do altmetrics work? Twitter and ten other social web services. *PLoS ONE, 8*(5), E64841. http://dx.doi.org/10.1371/journal.pone.0064841 (6 pp)

Yan, K.-K., & Gerstein, M. (2011). The spread of scientific information: Insights from the web usage statistics in PLoS article-level metrics. *PLoS ONE, 6*(5), e19917. http://dx.doi.org/10.1371/journal.pone.0019917 (7 pp)

Week 13: MOOCs

Yuan, L., & Powell, S. (2013). MOOCs and open education: Implications for higher education (White Paper). Bolton, UK: CETIS, The University of Bolton. http://publications.cetis.ac.uk/2013/667 (15 pp)

Fischer, G. (2014). Beyond hype and underestimation: Identifying research challenges for the future of MOOCs. *Distance Education, 35*(2), 149-158. http://dx.doi.org/10.1080/01587919.2014.920752

Clara, M., & Barbera, E. (2013). Learning online: Massive open online courses (MOOCs), connectivism, and cultural psychology. *Distance Education, 34*(1), 129-136. http://dx.doi.org/10.1080/01587919.2013.770428

Liyanagunawardena, T. R., Adams, A. A., & Williams, S. A. (2013). MOOCs: A systematic study of the published literature 2008-2012. *The International Review of Research in Open and Distance Learning, 14*(3), 202-227. http://www.irrodl.org/index.php/irrodl/article/view/1455/2531

Supplemental Reading: Twitter (Research)

Haustein, S., Peters, I., Sugimoto, C. R., Thelwall, M., & Lariviere, V. (2014). Tweeting biomedicine: An analysis of tweets and citations in the biomedical literature. *Journal of the Association for Information Science and Technology, 65*(4), 656-669. http://dx.doi.org/10.1002/asi.23101

Shuai, X., Pepe, A., & Bollen, J. (2012). How the scientific community reacts to newly submitted preprints: Article downloads, Twitter mentions, and citations. *PLoS ONE, 7*(11), e47523. http://dx.doi.org/10.1371%2Fjournal.pone.0047523 (8 pp)

Darling, E. S., Shiffman, D., Cote, I. M., & Drew, J. A. (2013). The role of Twitter in the life cycle of a scientific publication. *Ideas in Ecology and Evolution 6*, 32-43. http://dx.doi.org/10.4033/iee.2013.6.6.f