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Social Media and Workplace Practices in Higher Education Institutions: A Review

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This literature review investigates how the impact of social media has been studied with regard to a broad range of higher education workplace practices, that extend beyond teaching and learning, into areas such as research, administration, professional development, and the development of shared academic cultures and practices. Our interest is in whether and how the educational research community, through its research and publication practices, promotes particular views of social media in education at the expense of others. A thematic analysis of a sample of recent (2010-17) research on social media in education finds the field influenced by perspectives, particularly the managerial, that are prominent in the institutionalized discourses around which HE is structured. These discourses are largely shaping practice in 21st century education, despite their lack of attention on how social media alter the processes of knowledge development within education, changing practice at deeper, institutional levels. We hypothesize that the implication of such research failing is that the academic community fails to reflectively and critically address how academic practices and the classroom itself are being shaped by certain "institutionalized" uses and conceptions of social media.

Keywords: social media, higher education, practice, management, research, literature review

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This paper reviews the academic literature on the use of social media technologies in higher education (HE) and their impact upon a range of practices including research, administration and professional development. The aim is to consider the impact of social media on HE as a *workplace*, a site of professional activity where knowledge is shared through a range of communication techniques, and where competencies are negotiated and practices are formed (Wenger, 1999; Lloyd, 2012).

This stance is different from that adopted in other reviews (Davis, Del-Amen, Rios-Alguilar, & Gonzalez Cancé, 2012, 2014; Tess, 2013), as these have been framed around the use of social media in teaching and student communication. The review by Davis et al.

(2012) focuses largely on the personal use of social media by the student body, acknowledging there is a paucity of research on the use of social media at an institutional level. Davis et al. (2014) updated this with a later review but the focus is still on student use or communication with students from the institution, with no attention paid to social media practices in HE that are not student-related. Tess (2013) reviews the literature on the affordances and impact of social media in general, then discusses how social media applications have served as course management systems, and reviews work on specific applications: Facebook, Twitter, and blogging. Here the focus is not exclusively on student use, but certainly it stays within the bounds of pedagogy and teaching. Other elements of academic practice, such as research, administration and professional development, are not addressed in the review. The impression, from these reviews, is the "HE institution" as a collectivity of students only. Social media are not discussed as something which may have an impact on the staff of the institution (cf. Veletsianos & Kimmons, 2013) and the collective practices these various professional groups negotiate.

The present review therefore takes a broader perspective. It examines how social media interact with and influence practices such as research (including ethics and methodology); administration; marketing; professional development; and the development of shared academic cultures and understandings of what it means to become a practitioner in these settings (cf. Lloyd, 2012). Both Tess (2013) and Davis et al. (2012) agree that the use rate, and value, of social media in and to HE institutions is increasing annually, so it is timely to complement their useful, but explicitly pedagogical, reviews with one that adopts this more wide-ranging perspective.

PRACTICE, SOCIAL MEDIA AND HIGHER EDUCATION

It is useful to clarify the view of practice in HE that has driven our investigation. A critical view of the importance of practice, and its ongoing scrutiny and transformation, is provided by Carr and Kemmis (1986) who see education as an innately practical activity. The professional teacher, at whatever level and in whatever setting, should be engaged in a constant process of reflection regarding the effectiveness of their practices (see also Schön, 1991; Loughran, 2002) and the interplay between content, pedagogy and technology (Mishra & Koehler, 2006). However, Carr and Kemmis (1986) observe an increasing dominance of an "educational science" approach, with insights into effective

teaching developed not through an iterative, reflective process but through presenting the results of research as if they are generically applicable, even if the research on which these insights are based is a specific localized context (one course, a single institution, etc.).

The claim is not that knowledge must always be wholly situated and context-specific. But scientific research publications must be seen as what they are: *potential* resources for application in a particular setting. The validity of these potential resources must be judged by the professional educator *in situ*, with references to their own understanding of that setting and the practices that shape it. Through practice, visions of education are subjected to an ongoing process of scrutiny, and the scientific knowledge is therefore validated (Harding, 1995; Carr & Kemmis, 1986, pp. 121-2). Thus, Carr and Kemmis' vision of practice (1986) is that of a dynamic process in a constant interplay with the teachers' values and philosophy, and their understanding of the *theory* of their work; each informing the other in an ongoing dialectic, one of *praxis*.

Practitioners are constantly making judgments about the relevance and applicability of the resources available to them in a given environment. These judgments tend to be made with reference to forms of knowledge that are more personal (subjective) and collective (intersubjective), rather than based on the objective – that is, "scientific" – qualities of the research. Yet, this does not – and should not – exclude the application of an evidence-based approach to educational design, where the practice, rather than technology, acts as the agent of change (Kirkwood & Price, 2013). Resources available to professional activity include not only technological artefacts such as social media, but the practices with which these are intertwined: teaching, research, administration and professional development. As Limberg, Sundin, and Talja (2012) put it, "information is not [...] either placed within an individual or within an artefact; instead information and the meaning of information is [...] shaped through dialogue with artefacts in practices" (p. 106). Individuals and communities of practice (Wenger, 1999) create, negotiate and may resist practices and technologies — a collective decision, developed through sharing learning needs.

This review steps away from the classroom and other aspects of the student experience, and investigates how social media shape the wider environment in which academic practices (and praxis) are formed. How are practices within HE institutions

constructed around social media? What does the academic research literature have to say about the impact of social media on the interplay between teaching, research, administration and professional development? Does the literature promote particular views of social media in educational practice, at the expense of others? These questions have driven our investigation of the field.

METHODS

Definitions of social media vary. Sometimes, technologies like Skype or e-portfolios are included. To avoid ambiguity the literature search was limited to references to three technologies that are invariably included under the social media umbrella as online applications that allow users to interact and share content within a social network: Facebook, Twitter, and blogs. We acknowledge that this choice may suggest a constrained perspective on what constitutes the field of social media, and is not "future proof" (Ravenscroft, Warburton, Hatzipanagos, & Conole, 2012, p. 177), in that these technologies may go out of date and/or be replaced in the future, but the constraint at least provides a useful, and quite large, convenience sample of the literature. It is the ideas and practices that are of interest, not the technologies themselves.

The search was conducted on May 5, 2017 and used the SCOPUS and Web of Science databases. In order to ensure we included any articles that were not indexed in the databases or were not picked up by the main database search, we repeated the search on the databases of two major academic journal publishers: Taylor & Francis and Wiley. We extracted all papers cited in these databases that 1) were published from 2010 onward; 2) were written in English; 3) that discussed higher education or academia in general; and 4) that referenced one of the following: Twitter, Facebook, Blogs, blogging, microblogging, or social media. This resulted in an initial sample of 570 papers. Then 406 papers were removed as they focused only on pedagogy, teaching or student communication, leaving 164 papers that discussed other HE practices. All papers were then read in full in order to categorise them, leading to the deletion of a further 53 that were not in scope: either because the paper turned out not to be an academic research paper (e.g., it was a book review) or because the reference to the social media technology turned out to be incidental. This final cut left a dataset of 111 papers.

The 111 papers were assigned to categories through a process of constant comparison, whereby properties and categories across the data were compared by both authors until no new categories emerged (Cohen, Manion, & Morrison, 2007, p. 493). By the end of this process there had emerged four categories of description into which the 111 could be fitted:

- Social media as an education research tool or generator of data (23 papers, see Appendix A);
- Discussions of the applicability or appropriateness of social media in professional practice (23 papers, see Appendix B);
- Social media as an administrative intervention (21 papers, see Appendix C);
- Social media as a new knowledge-formation and/or literacy practice (44 papers, see Appendix D).

The sample was drawn from a range of national settings, with 74 of the 111 papers stating that their conclusions were based on empirical studies within particular country contexts. These were distributed as follows (note that where studies have taken place in more than one country, both were tallied, meaning the total here is greater than 74): United States (25 studies); United Kingdom (16); Australia (8); Canada (5); Nigeria (4); Malaysia (3); Sweden (3); Croatia, Germany, Ghana, India, Indonesia, Netherlands, New Zealand, Peru, Trinidad & Tobago, Turkey (1 each). Table 1 is a summary of all the papers where the size of the study was a relevant factor, and declared in the paper. This table does obscure the details of some studies: for instance, Houk and Thornhill (2013), though a "single case study," examined 16 months' worth of Facebook content. But generally, what this illustrates is a reasonably even spread of effect sizes and approaches among our sample. Our restricting the search to English language papers does explain some of the skew toward Anglophone countries in terms of the study focus, but this bias also reflects wider trends in the output of academic articles.

Table 1
Study sizes, where declared

Single case studies	Appelbaum and Kopelnam (2014); Bable et al. (2011); Davis et al. (2014); Guerin et al. (2015); Powell et al. (2011); Salter-Townshend (2012); Sherry and de Haan (2012)
Small studies (<10 participants or cases)	Budge et al. (2016); Currie et al. (2014); Foroudi et al (2017); Harricharan and Bhopal (2014); Hausmann (2012); Maros and Rosli (2017); Persson and Svenningsson (2016); Rodesiler (2015)
Medium-sized studies (10-99 participants or cases)	Barnes et al. (2015); Baro et al. (2012); Boulton and Hramiak (2014); Budge (2012); Cater et al. (2013); Dantonio et al. (2012); Desai (2014); Dudley and Baxter (2013); Grand et al. (2016); Jackson-Brown (2013); Kilburn and Earley (2015); Olajide and Oyeniran (2014); Sahu (2016)
Large studies (100-999 participants or cases)	Akeriwa et al. (2014); Bélanger et al. (2014); Boateng & Liu (2014); Cahn et al. (2013); Chen and Marcus (2012); Chikoore et al. (2016); Constantinides and Zinck Stagno (2011); Donelan (2016); Eze (2016); Fasae and Adegbilero-Iwari (2016); Goodrum et al. (2010); Hanell (2017); Henry and Molnar (2012); Kaeomanee et al. (2014); Lim et al. (2014); Miller and Melton (2015); Moreno et al. (2011); Morris (2013); Mychasiuk and Benzies (2012); Robles (2016); Rowe (2014); Wilson and Starkweather (2014)
Very large studies (>1,000 participants or cases)	Berigel et al. (2012); Biloš and Galić (2016); Farrow and Yuan (2011); González et al (2014); Meyliana et al. (2015); Shema and Bar-ilan (2014); Van Beynen and Swenson (2016)

FINDINGS

Social Media as Research Tools or Generators of Data

Of the final sample, 20.7% (n = 23) fell into this category. These papers focus on how social media can be used as a source of data for academic research or, in two cases (Mychasiuk & Benzies, 2012; Straubhaar, 2015) a tool for accessing and retaining participants in longitudinal research, or as a public engagement tool (Chikoore, Probets, Fry, & Creaser, 2016).

Many papers in this category reflect on how using social media in research may change research practice, or reveal tensions in its construction. For example, Kidd (2013, p. 215) looked at the lives of new teachers through ethnographic studies of blogs, observing that gathering data from blogs removes it from the context in which it was created, or at least, separates it from information about the context which may enrich the data. Thus,

eliciting data on how, say, a teacher feels about disciplinary problems in their classroom might be possible from a blog, but it will not have the contextualized, situated richness that could arise from cross-referencing the data with an observation of that class. Nor will social media necessarily produce useful data without some further intervention by the researcher. Harricharan and Bhopal (2014) looked at how students from Trinidad adapted to life in the United Kingdom using blogs as a source of data. To make these blogs useful, facilitation (by the researchers) was essential throughout, even though their original research design assumed facilitation would only be needed at the beginning. Kilburn and Earley (2015) used Disqus (a website-based commenting application) as a way of facilitating discussion among doctoral students and early career researchers. They observed a relative lack of actual discussion with only 26 posts, from 18 respondents, whereas the number of prospective visitors was 575. However, when Kilburn and Earley also looked at "paradata," in this case, hits on the web pages where the comments resided, these showed substantially higher engagement, but of a passive form. They concluded that Disqus did help with engagement to some degree, and gave research subjects a more participatory role, but the medium was not something that led to sustained discussion, and thus was not a simple alternative to a focus group.

Use of data from social media, therefore, is not necessarily a substitute for other forms of data collection practices. The researcher must ask themselves: what will be distinctive about the blog-as-text (or tweet, etc.) compared with what the research participant might have disclosed via an interview, survey or other data collection method? With regard to data collection, Bable, Waxman and Bellomo (2011) use social media as a source of data for "naturally occurring" linguistic interactions. Budge (2012) considered creativity and how this was manifested. Maros and Rosli (2017) used Twitter to explore politeness strategies on social media. Dudley and Baxter (2013) used blogs as a source of data in a study of how pre-service physical education teachers understood a particular pedagogical approach, and Sherry and de Haan (2012) had very similar concerns.

Straubhaar (2015) used Facebook as a way of bypassing "gatekeeping" and gaining access to elite research subjects (in Brazil), making them more likely to reply to queries and engage with the research project. However, Straubhaar observes that his own social privileges and elite educational background allowed him to make these connections (p.

1,082). He also noted that this access worked two ways – that it opened up his personal circumstances to research participants, and while he noted that this caused no issues for his particular project, it might have done so had the subject matter been more contentious or sensitive.

Questions related to ethics and privacy are often raised. There are conflicting views on whether these media should be considered private or public data, and whether subjects need to give informed consent to the study. Sometimes this gives rise to ethical dilemmas that go unresolved. For example, Moreno et al. (2011) studied 200 home pages of U.S. college students, seeking evidence of depression, and concluded that 25% of these pages displayed some symptoms, with 2.5% of them candidates for a "major depressive episode." They imply that these profiles were considered publicly accessible data and thus did not seek the informed consent of the owners: as a result, the study received exemption from the institutional review board (Moreno et al., 2011, p. 448). However, when they discuss "special concerns" of the research design, they note that they would have alerted "referral agencies" had they noted any "suicidal ideation" on a home page (Moreno et al., 2011, p. 450). While this is, of course, a reasonable way to proceed, bearing in mind the lack of informed consent to the scrutiny of the page in the first place, this raises the specter of the research project as surveillance. Stevens, O'Donnell and Williams (2015) offer a detailed description of the complex ethical issues that arose in their research into how social media supports sufferers from chronic illness. They were subject to contradictory policies from different professional bodies, with the British Psychological Society guidelines not initially accepted by their university review board. In the end, it was concluded there was no obligation to seek the informed consent of the social media users whose data were being used in the study. Eastham (2011) provides a comprehensive discussion of the ethical and practical questions which arise from the use of blogs for data, asking in the title of her piece whether the blogs should be treated as "public documents or private musings"? Eastham invokes (Eastham, 2011, p. 355) points made by Altman (1975): that privacy is a shifting phenomenon, dynamic and context-specific; people make judgments about what to reveal and to whom, and adjust practices accordingly. Private and public are thus discursive phenomena (Gal, 2002). Blogging, tweeting and posting to Facebook or YouTube have an intrinsically public dimension, as the objectives of these media cannot be fulfilled

without there being a sense of "public venue." But should this obviate the need to secure consent for the postings' use in research? Eastham (2011) pivots around this public/private question, offering flowcharts to show how various influences over the conduct of research should result in certain ethical practices, e.g. establishing whether one needs informed consent of the author to gather data from a blog. Thus, the focus is on how practices may be changed not by technology, but how it impacts on research ethics.

Henderson, Johnson and Auld (2013) point out that institutional review committees often struggle to deal with emerging technologies and their implications. They see this as evidence of a more intransigent split between researchers and committees (Henderson et al., 2013):

> *Committees have… been criticized by researchers as conservative in approach and as gatekeepers only serving institutional policies of risk aversion in the face of potential litigation and controversy. In response, arguments detail researcher blind enthusiasm, poor preparation and ill-informed practice.* (p. 548)

This is highlighted by Barnes, Penn-Edwards, and Sim (2015), who describe the "ethical minefield" a researcher "would encounter engaging in research using a tool with largely untested ethical protocols" (Barnes et al., 2015, p. 112). Interestingly, Barnes et al. not only discuss ethical dilemmas, but also the importance for researchers to move beyond simply describing how learners are using social media and actually experiment with the tools. The authors wish for a change in researchers' practice toward the integration of social media in the research toolset. However, the reality is that many studies which address social media have done so without actually using the technologies (e.g., the research has used a questionnaire to ask students about their affinity for social media). This may be a response to the innate conservatism of HE institutions, and a desire to avoid difficulty at the review board. It may also be a sign of a lack of reflection into the research practices of the researchers themselves. Either way, it seems clear that the challenges social media throw up for research practice have only begun to be addressed and negotiated (Lafferty & Manca, 2015).

Social Media in Professional Practice

The papers in this category (20.7%, $n = 23$) discuss the appropriateness of social media for particular professional contexts, perceptions of their efficacy and reasons for their adoption.

Several of these papers come from the medical and clinical profession (e.g., George, 2011; Cunningham, 2014; Fuoco & Leveridge, 2014; Garner & O'Sullivan, 2010; McDonald, Bisset, Coleman, Speake, & Brady, 2014). Here, concerns are raised that because social media allow greater self-disclosure, this may damage the professional/client relationship by revealing, for instance, a therapist's politics or sexuality to clients (Jain et al., 2014). Generally the tone of these papers is one of control, discussing how social media can fit in with current regulatory requirements and advising professionals to, as Moorley and Chinn (2014) put it, "document and use social media responsibly." Hence, this category is distinguished from the final one, discussed below, because here, while social media is acknowledged as a tool that influences practice, the studies are not of new knowledge-formation or literacy practice, but of perceptions of how social media should or should not be absorbed into current practice. Most commentators agree that the professions should recognize the potential benefits of social media in areas like public engagement, or how professionals can remain current with developments in their field, so regulators are urged not to take too heavy-handed an approach. Nevertheless, discretion is advised.

Fenwick (2016, p. 665) presents a "sociomaterial" view of professionalism as being continually constructed through practice rather than being fixed and regulated, and in which, as well as language and communication, material substances, devices, settings, etc., all play a part. Fenwick observes (2016, p. 666) how the idea that social media use constitute "risky" behavior for the professional is based on a limited notion of what the professional does, one formed from employers' and organizations' concerns, not practitioners'. She describes (2016) how these institutionalized concerns tend to result in "mechanistic and reactionary behaviours of risk avoidance" (p. 673). Are these technologies *professional* media, as well as a social one? What happens when the boundary between social and professional becomes blurred (Duncan-Daston, Hunter-Sloan, & Fullmer, 2013)?

The impression given from this category of papers is, therefore, that inappropriate use of social media by individual professionals is considered damaging to the profession as a whole, and that as a result, the profession is justified in seeking to control how these media are assimilated into its existing practices of regulation.

Social Media as Administration Intervention

Twenty-one papers (18.9%) discussed practices that are emerging around the use of social media in the administration of HE. A group of papers discussed how social media were used in institutional marketing. Farrow and Yuan (2011) looked at how Facebook was used to build ties with alumni. Bélanger, Bali and Longden (2014), in Canada, Woodley and Meredith (2012), in Australia, and Constantinides and Zinck Stagno (2011), in the Netherlands, all studied how social media was used in branding and marketing. The latter authors suggest that though the target of this marketing — Dutch students in the last two years of high school — were deeply immersed in social media, its impact was low compared to traditional forms, like open days. Biloš and Galić (2016) looked at how social media were used to market university sports, and Houk and Thornhill (2013), library services. Woodley and Meredith (2012) mention how these marketing practices can enhance the social capital of academics and existing students within the institution, as well as promoting the institution in a more general way. However most practices were “experimental” and fragmented; few institutions yet have a defined strategy for using social media in this way. Hausmann (2012) looked at social media in the marketing of German arts institutions. She noted how these media can allow the customers of the institution to take an active role in marketing (that is, viral or “buzz” marketing). Yet even with this in mind, shortage of resources is a problem for institutions wanting to make use of this channel for information. While social media platforms are free, staff time is still required, and nor are employees necessarily qualified to perform this role effectively.

Studies of the administration of social media are rare. Rowe (2014) considered when a university might be justified in intervening in students’ use of social media, through a survey of various stakeholders in universities in Australia and New Zealand. Threats of violence, racism and sexism via social media were considered the least desirable, but administrators and academics also viewed harshly admissions of academic misconduct.

Certain posts were seen as more serious if directed to a staff member than a student. Though, according to Rowe, students actively dislike the idea, this study shows that school and university administrations believe they have a right to monitor and control their students' use of social media. In a study on students' comfort levels with authority figures viewing their social media accounts, Miller and Melton (2015) raised the issue that many students keep Twitter accounts public and Facebook profiles private. The authors say this is "paradoxical," but better is to see it as students having developed practices of their own that integrate the tools with their existing information landscapes (Lloyd, 2012). As discussed earlier with regard to practitioners (Carr & Kemmis, 1986), students have made judgments about the relevance of particular solutions to their needs and altered practice accordingly.

It is worth noting what was absent from our sample, namely, studies of the use of social media in or influence over decision-making and management information practices within HE institutions. These practices are highly influential shapers of the information landscape of HE, so this is a significant gap in the literature. Has social media influenced the practice of those in senior academic and managerial positions within universities? For instance, are social media being used to draw resources from different areas of the information landscape, when it comes to making critical judgments about relevance, competence and information practices in the HE sector? Questions like these have not been addressed in our sample.

Social Media as Knowledge-formation or Literacy Practice

Knowledge formation within any setting is a factor of not only formal or informal research into practice, but of how the architectures of practice within that setting permit this learning to result in changes in practice. Therefore it is essential that the field of study accounts for how the object of study may affect these practice architectures, and research into the impact of social media in education must thereby have a self-reflexive element. This kind of work is undertaken by those papers which fall into this final category, 39.6% of our sample ($n = 44$).

These papers describe how social media give rise to new literacy and knowledge-formation practices of various types. Blogs afford new ways of judging the credibility of an

author (Westerman, Spence, & Van Der Heide, 2014) and social media generally have been observed to change reading (Gölitz, 2010) and dissemination practices. Gruzd, Staves and Wilk (2010) report that 37 of their 51 interviewees have enacted some kind of change to how they use information dissemination resources. Twitter extends the reach of conference activity (Parsons, Shiffman, Darling, Spillman, & Wright, 2014). Priem and Costello (2010) suggest bibliometric analysis should take Twitter citation into account: these cites have more immediacy, with 15% to articles published that day, 39% within a week. Their interviewees believed Twitter was a legitimate conduit of scholarly impact.

Jogalekar (2015) discusses how social media extend the peer-review process. He presents several case studies, including one where Twitter was used to draw attention to self-plagiarism in an academic article. Jogalekar draws positive lessons from this – the "offender" was a prominent figure in his field, but acknowledged the criticism and withdrew the later article – showing that all can be subject to this kind of scrutiny. However he also notes that the record of this critique exists only in Twitter, giving rise to questions of preservation of the structure of knowledge. In his discussion he points to the benefits of extending the peer review community in this way, calling for it to be more integrated with the whole publication process, making it inclusive and productive, rather than risking it being seen as a group of "outsiders" attacking a "status quo." Jogalekar also notes the pitfalls, such as a risk of descending away from reasonable debate, into vitriol and *ad hominem* attacks.

Social media allow academics to develop and enhance social capital (Uusiautti & Määttä, 2014). Grand et al. (2016) discuss how social media can increase engagement with the research process, not just at the point of research outcomes (what most institutions consider "public engagement" with research) but during the process, and indeed, with defining what problems are worth researching in the first place. There is a crossover here with the category of "research tool/data source" as the records of exchanges kept in these media can also allow for the analysis of capital exchange (e.g., Kim, Abels, & Yang, 2012). Mewburn and Thomson (2013) see social media as, in part, serving as a "gift economy" for academics, and Ellison, Vitak, Gray, and Lampe (2014) write about the "relationship maintenance behaviours" they see emerging: that is, "directed communication behaviours" that are unrelated to publication or research per se but "signal attention and investment

in one's contacts on the system through small but meaningful actions" (p. 860). Information practices help form *identity*, including on social media (Hanell, 2017); does control over social media practice disrupt the links between professional and personal identity? Are we neglecting then the value of how these two identities support each other? Hanell (2017) illustrated how information sharing with Facebook is a way of constructing and positioning identities, via a study on teacher trainees. Identity positions are manifested in information sharing activities depending on the intentions of the student, the tools chosen and the situation. However, the papers in this category also describe conflicts between these emerging practices and those that are legitimated at the institutional level. Goodband, Solomon, Samuels, Lawson, and Bhakta (2012) note conservatism even among a student body that, despite its increasing immersion in social media, retains a preference for traditional, instructor-led fora and is reluctant to change its own academic practices. Donelan (2016) noted some psychological barriers in academics: Social media are not currently viewed by academics as an essential, or in fact necessary, tool for carrying out their daily tasks. More significantly, several authors note that HE's institutionalized evaluation, review and promotion criteria fail to recognize social media activity (Greenhow & Gleason, 2014; Gruzd et al., 2010; Veletsianos, 2013). "The political economy of academia is not structured to reward individuals building things for a common good outside the peer review process" (Price, 2010, p. 141).

Interestingly, Greenhow and Gleason, (2015) talk about the formation of a new set of practices amongst academics who use social media for scholarship. These academics combine social media affordances (i.e. promotion of users, their interconnections, traversing the networks of other users and user-generated content) and normative practices (i.e. knowledge as decentralized, co-constructed, accessible and connective) to open up new ways for academic work through collaborative processes of knowledge sharing, construction and facilitation. Grand et al. (2016) report on how academics' different orientations toward social media, from the "highly-wired" through the "dabblers" to the "unconvinced" should not be seen as a sign that the latter groups are somehow deficient: rather, these differences can be productively drawn upon, building teams that draw on different groups and thus distributing the positive effects of social media engagement more widely, without expecting the "unconvinced" to change their practices.

Knight and Kaye (2014) report that academics perceive Twitter as able to enhance reputations and offer new channels for public engagement, but they nevertheless moderate their use of it, concerned about institutional reprisals based on disseminating information through non-official channels. This occurs even in the face of demands that academics address the wider impact of their work (Mewburn & Thomson, 2013, p. 1115). As a result, on blogs and other social media, academics are "most often writing for each other" or communicating about their work in a wider sense (Mewburn & Thomson, 2013): that is, using blogs to voice dissent and dissatisfaction with the workplace and engaging in "academic cultural critique." As Mewburn and Thomson say (2013): "What is interesting is how much this picture of blogging differs from the advice offered to academics as reasons to blog…" (p. 1111).

Various papers discuss the use of Facebook conversations as a corpus of text. Skerrett (2010) describes Facebook as a "third space," referring to the practice of teaching with a multiliteracies approach that takes into account dynamics of meaning-making, social contexts and tools allowing students to re-shape meaning. This paper is interesting in its analysis of preservice teachers' views on multiliteracy pedagogy, highlighting how these views are shaped through the discourses about literacies and education amongst the social contexts that teachers inhabit. Facebook is described as a medium that can bind groups of students together through textual practices, although this is a space for interaction that can sometimes take an oppressive character, forcing participants to observe group norms (Davies, 2013). However, in general what is most acknowledged of Facebook is its potential to facilitate cross-cultural collaboration (cf. Wang, Woo, Quek, Yang, & Liu, 2012) and to provide means for cultural change amongst students (Sharma, 2012).

These disconnections between the new knowledge formation and literacy practices offered by social media, and their actual use, do not only stem from institutional resistance to changing practice, but also from the affordances of social media itself. In her study of how novice professionals used Facebook, Davies (2013) saw members of that community of practice engaging in forms of self-censorship and self-surveillance, moderating the content and form of posts in order to present certain personae and positions to friends and colleagues. This supports Friesen and Lowe's (2012, p. 184)

conclusion that Facebook and other social media sites constrain their users, fostering "conviviality and liking" over debate and discussion. This alone, in Friesen and Lowe's opinion, constrains the educational possibilities of a tool like Facebook. To this can be added the essential corporate ethos of the site. Friesen and Lowe (2012, p. 184) draw on the work of Williams (1974), likening Facebook to television in that its content cannot be separated from how it "connect[s] eyeballs to advertisers." Any discussion of Facebook's use as a personal or institutional learning environment must account for the overt presence of advertising and branding within it, and the extractive nature of the medium, and its control by corporate interests. Freishtat and Sandlin (2010) analyze Facebook's "public pedagogy," that is, how it disseminates its vision via official blogs written by CEO Mark Zuckerberg and other employees and information on other public Facebook pages. They examine how these texts seek to craft user behavior and practice, promoting an idea that joining the Facebook community will enhance one's social capital, but glossing over questions of surveillance (by suggesting that this is under user control) and ignoring altogether the corporate, advertising discourse thereon (which at the time Freishtat and Sandlin did their analysis, was not as overt as it has become since).

DISCUSSION

The questions that have driven this review of the field are: How is a range of practices within HE institutions constructed around social media? What does the academic research literature have to say about the impact of social media on the interplay between teaching, research, administration and professional development? Does the educational research literature promote particular views of social media in education at the expense of others?

A recent analysis of the literature about the educational use of technology reported that the design of educational interventions tends to be based on the technology rather than on evidence-based practice (Kirkwood & Price, 2013). This means that educators often take a technology-led approach to educational design, where technology, rather than the practice within the educational environment, is considered as the agent of change (Kirkwood & Price, 2013, p. 332). We share Gunn and Steel's (2012) concerns that findings published in papers are often missing further critical elements in order to become reliable

evidence that can inform educational design with social media technology. What is missing is a more explicit reflection on how social media alter the structures of knowledge development and information exchange of education — or what Lloyd (2010) calls the "information landscape." Critical judgments about social media cannot be made — whether by practitioners, or researchers — without also considering how pedagogical practices in HE are subject to influence, up to and including outright dictates, from other areas of the HE institution: whether IT departments, administrators, managers, or the concerns of regulatory and professional bodies. There is a relatively high proportion of the research literature which considers how social media influence knowledge-forming practices within academia as a profession, and an increasing number of papers that consider the use of social media by library services particularly. However, studies of how social media might change managerial and administrative practices were almost non-existent, beyond discussions of how social media use should be regulated. Thus, the current debate only infrequently addresses the question of changes in practice at deeper, institutional levels: and more significantly, how institutional interests can block change, or assimilate innovations in their own image.

Although writing about secondary rather than higher education, Meabon Bartow's (2014) point is pertinent to HE: "Social technologies present critical educational, ethical and revolutionary challenges to the organization and structure of schools. They catalyze a fundamental examination of what public education should look like and be like in a democracy" (p. 37). Kondratiev's "long wave" theory of societal change through technological change (1925) would also suggest this is now the case. However, there are many other technologies and associated developments that might or might not have provoked the "fundamental examination" of educational practice that Meabon Bartow (2014) calls for in the last hundred years or so. That such new challenges have been posed has not led to their being answered. Like the school system, albeit in different ways, the university system has assimilated new technologies, extracting those practices which prolong them as institutions (cf. Douglas, 1986), nullifying or rejecting others and eventually reshaping the technologies in their own image. In Meabon Bartow's (2014) terms, the role of the "teacher as manager" of the possibilities of the learning environment may not be prominent in the perceptions of the teachers themselves, nor the research,

which prefers to focus on other views of teaching such as the teacher as "change agent" or "teacher as learner." But it is this managerial perspective that is more apparent in discussions of how social media affect practice in universities as organizations, and the impact of social media on academic and other professions. Social media increase the permeability of the institution, which sometimes is of benefit to it as it can receive useful new inputs and, at times, have "outsiders" do the institution's work for it (e.g., marketing, Hausmann, 2012). But this permeability also exposes the institution to new practices, and if these may challenge the institution — for example, through individuals using the media in "non-approved" ways — the urge is to control or filter out practices through administration or professional regulation (Knight & Kaye, 2014; McDonald et al., 2014; Rowe, 2014).

Critical perspectives (Fenwick, 2016; Freishtat & Sandlin, 2010; Friesen & Lowe, 2012; Mewburn & Thomson, 2013) highlight the role of social media in not only the formation of capital, but its extraction for the accumulation of profit. These macro-level functions of the technologies are often ignored by those studies which focus only on the micro-level of the interactions of students and the operations of a single course or class type. As Fenwick states (2016, pp. 671-672), "social media platforms need to be understood as merely the visible surfaces of far-reaching networks that tie local or personal practices into powerful centers of capital." Not all social media are the same in this regard; Facebook is most deeply implicated (Freishtat & Sandlin, 2010), and blogging the least. But even blogging is mostly a "phenomenon of rich, highly educated populations who have easy access to the infrastructure needed" (Mewburn and Thomson 2013, p. 1108). The papers in the "knowledge formation and literacy practice" category describe conflicts between these emerging practices and those legitimated at institutional level. Indeed several authors note that HE's institutionalized evaluation, review and promotion criteria fail to recognize social media activity (Greenhow & Gleason, 2014; Gruzd et al., 2010; Ryan & Doerksen, 2013; Veletsianos, 2013).

Any accumulating "evidence base" (Kirkwood & Price, 2013), which addresses questions raised by education's use of social media, must account not only for these technologies' impact on pedagogy, but how these practices are simultaneously shaped and, often, nullified by administrative and regulatory practices, and the corporate, capital-

extracting nature of the technologies themselves. Our review shows that despite occasional good work in this area, this kind of investigation remains comparatively rare. This is to the detriment of the use and management of social media both in education and — as it is in these landscapes and practices, whether in universities, schools, workplaces or communities, that users learn to assert control over these technologies (Feenberg, 2002; Wenger, White, & Smith, 2009) — in society as a whole. Davis et al. (2012) note in the summary of their literature review:

> *We should… be thinking more broadly about incorporating social media dynamics into our understandings of social relationships within our societies, communities, and institutions. This will likely be a critical component of our future understandings of social realities generally. Researchers, scholars, and educational practitioners alike need to seriously consider how research agendas about students and institutional practice will be both driven and shaped by social media in the near future.* (p. 25)

In short, research into how social media influences the classroom is inescapably influenced by how practitioners make judgments about the relevance of these media and their affordances, and how they subsequently enfold social media into their developing praxis, and this is as much the domain of non-pedagogical HE practices including administration, research, organizational learning, professional development and the values of academia as a profession (more accurately, a family of allied professions). We suggest that it is these areas that the community of researchers into the impact of social media in HE should now focus more.

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Appendix A: Social media as research tools and generators of data

	Authors	Year	Type	Method	Social Media	Size	Location
1	Appelbaum & Kopelnam	2014	Descriptive account	(Commentary)	All	1 case study	n/a
2	Bable, Waxman, Bellomo	2011	Descriptive account	Case study	Blogs	1 case study programme	US
3	Barnes, Penn-Edwards, Sim	2015	Methodological paper (Ethics)		FB	26	Australia
4	Chikoore, Fry, Creaser	2016	Empirical study	Survey, interview	All	260 questionnaires, 24 interviews	UK
5	Davis	2015	Empirical study	Case study	All	1 institution	North America
6	Budge	2012	Empirical	Content	Blogs	25 blogs	International

			study	analysis			
7	Dantonio et al.	2012	Empirical study	Interview	All	15 students	UK
8	Dudley & Baxter	2013	Empirical study	Metacognitive analysis	Blogs	44 pre-service teachers	Australia
9	Eastham	2011	Methodological paper (Ethics)		Blogs	n/a	US
10	Goodrum et al.	2010	Empirical study	Questionnaire	Blogs	379 resp.	n/a
11	González et al.	2014	Empirical study	Statistical analysis of tweets	Twitter	1.3 million tweets	n/a
12	Harricharan & Bhopal	2014	Empirical study	Interviews & Blog content analysis with	Blogs	8 students	Trinidadian students in the UK
13	Henderson et al.	2013	Methodological paper (Ethics)		All	n/a	n/a
14	Kidd	2013	Methodological paper	Digital ethnography	Blogs	n/a	n/a
15	Kietzmann et al.	2012	Methodological paper	Honeycomb model to build a Social Media research agenda	All	n/a	n/a
16	Kilburn & Earley	2015	Empirical study	Online focus-groups	Twitter	4500-word corpus	n/a
17	Maros & Rosli	2017	Empirical study	Observation of tweets, Questionnaire	Twitter	9 students - 776 tweets	Malaysia
18	Moreno et al.	2011	Empirical study	Qual. analysis of Fb posts	Facebook	200 Fb profiles	n/a
19	Morris	2013	Empirical study	Questionnaire , Focus groups	Twitter, Facebook	72 (Q) – 24 (FG)	UK
20	Mychasiuk & Benzies	2012	Empirical study	Quant.	Facebook	120 (Fb located 19 of these)	Canada
21	Salter-Townshend	2012	Empirical study	Case Study (SNA)	Twitter, Facebook	1 case (researcher's personal SN)	n/a
22	Shema & Bar-ilan	2014	Empirical study	Quant. correlation (publication – blog citation)	Blogs	6,927 (2009) and 11,500 (2010) blog citations	n/a
23	Sherry & de Haan	2012	Empirical study	Case study - Thematic analysis (Blog posts)	Blogs	1 Blog – 2 academics	Australia and UK

Appendix B: Social media as professional practice

	Authors	Year	Type	Method	Social Media	Size	Location
1	Aharony	2013	Empirical study	Questionnaire	Facebook	131 responses	Israel

2	Archibald & Clark	2014	Descriptive account	(Editorial)	Twitter	n/a	n/a
3	Brown	2010	Descriptive account	(Commentary)	Facebook & Twitter	n/a	n/a
4	Cunningham	2014	Descriptive account	(Commentary)	All	n/a	n/a
5	Curran et al.	2014	Empirical study	Survey, Focus group, review of Facebook page	Facebook	435 surveys Of that number, 134 volunteered for review of own Facebook page	US
6	Currie et al.	2014	Descriptive account	Case studies	All	3 case studies	2 US, 1 Australia
7	Duncan-Daston, Hunter-Sloan, Fullmer	2013	Descriptive account	Literature review	All	n/a	n/a
8	Fenwick	2014	Descriptive account	Literature review	All	n/a	n/a
9	Ferguson	2012	Descriptive account	(Editorial)	All	n/a	n/a
10	Fuoco & Leveridge	2014	Empirical study	Survey	All	229	Canada
11	Fritschak, Sinha	2014	Descriptive account	Literature review	All	n/a	n/a
12	Garner & O'Sullivan	2010	Empirical study	Survey	Facebook	56	UK
13	George	2011	Empirical study	Course evaluation	All	15	US
14	Hanson et al.	2011	Empirical study	Survey	All	503	n/a
15	Henry & Molnar	2012	Empirical study	Content analysis	Facebook	499	US
16	Miller	2013	Descriptive account	(Editorial)	All	n/a	n/a
17	Jain et al.	2014	Empirical study	Survey	Facebook	1421	US
18	MacDonald et al.	2010	Empirical study	Survey	Facebook	338	New Zealand
19	McDonald et al.	2014	Empirical study	Analysis of Social Media account	All	618	UK
20	Moorley & Chinn	2014	Descriptive account	(Editorial)	All	n/a	n/a
21	Persson & Svenningsson	2016	Empirical study	Case study	Social Media in general, although only Twitter used as an example	8 (1 institution)	Sweden
22	Root & McKay	2014	Empirical study	Survey	All	433	US

23	Woodley & Silvestri	2014	Empirical study	Case study analysis	Facebook, Blog, YouTube	3 case studies	Australia and Sweden

Appendix C: Social media as administrative intervention

	Authors	Year	Type	Method	Social Media	Size	Location
1	Bélanger, Bali, Longden	2014	Empirical study	Content analysis	FB, Twitter	106 institutions	Canada
2	Berigel, Kokoc, Karal	2012	Empirical study	Survey	All	2539	Turkey
3	Biloš & Galić	2016	Empirical study	Survey	All, though FB most cited	1 university, 1733 respondents	Croatia
4	Boateng, Liu	2014	Empirical study	Content analysis	All	100 colleges	US
5	Cahn, Benjamin, Shanahan	2013	Empirical study	Content analysis	All	154 medical schools	US & Canada
6	Constantinides, Zinck Stagno	2011	Empirical study	Survey	All	403 respondents	Netherlands
7	Desai	2014	Empirical study	Survey	Twitter	13 residents	US
8	Farrow & Yuan	2011	Empirical study	Interviews, observation, survey	Facebook	3,085 alumni	US
9	Foroudi et al	2017	Empirical study	Survey	Facebook, Twitter, YouTube)	2 institutions	UK
10	Hausmann	2012	Descriptive account	Case Study	All	3 cases	Germany
11	Houk, Thornhill	2013	Empirical study	Content analysis	Facebook	1 case study: 16 months of content	US
12	Lawson, Cowling	2014	Descriptive account	Literature review	All	12 papers	n/a
13	Meyliana et al.	2015	Empirical study	Questionnaire	all	58 institutions – 1021 resp.	Indonesia
14	Miller & Melton	2015	Empirical study	Survey	Facebook Twitter	1 institution – 254 resp.	USA
15	Olajide & Oyeniran	2014	Empirical study	Survey	All	26 institutions	Nigeria
16	Peacemaker et al.	2016	Descriptive account	Lit. rev.	all	n/a	US
17	Robles	2016	Empirical study	Survey	All	200	Peru
18	Rowe	2014	Empirical study	Survey	Facebook	765 (teaching and non-teaching staff, admin, students)	Australia and New Zealand
19	Ryan, Doerksen	2013	Empirical study	Content analysis	All	Abstract doesn't say	Canada
20	Sahu	2016	Empirical	Questionnaire	All	1 institution	India

			study			40 resp.	
21	Woodley & Meredith	2012	Descriptive account	Thematic/usage analysis	Facebook	1 Case Study (institution Facebook page)	Australia

Appendix D: Social media as new knowledge-formation and/or literacy practice

	Authors	Year	Type	Method	Social Media	Size	Location
1	Akeriwa et al.	2014	Empirical study	Questionnaire	All	1 institution (119 resp.)	Ghana
2	Baro, Eze, Nkanu	2012	Descriptive account	Case study	Facebook, Twitter	35 participants	Nigeria
3	Boulton, Hramiak	2014	Empirical study	Questionnaires, interviews	Blogs	35 questionnaires, 17 interviews	UK
4	Budge et al.	2016	Descriptive account	Narrative enquiry of self-use	Twitter	3	n/a
5	Cater, Davis, Leger, Machtmes	2013	Empirical study	Survey	Twitter, blogging	84	US
6	Chen & Marcus	2012	Empirical study	Survey	Facebook	463	US
7	Convery	2009	Descriptive account	Case Study	All	1 Case study	UK
8	Davies	2013	Empirical study	Textual analysis of Fb posts	Facebook	4	UK
9	Donelan	2016	Empirical study	Interview, Online Survey	Twitter, blogs	5 (interview), 127 (online survey)	UK
10	Ellison et al.	2014	Empirical study	Survey	Facebook	614	US
11	Eze	2016	Empirical study	Questionnaire	All	220	Nigeria
12	Fasae & Adegbilero-Iwari	2016	Empirical study	Questionnaire	All	3 institutions, 138 part.	Nigeria
13	Freishtat & Sandlin	2010	Empirical study	Critical analysis of Blogs	Facebook	n/a	n/a
14	Friesen & Lowe	2012	Descriptive account	Theoretical and historical analysis of Social Media	All	n/a	n/a
15	Gölitz	2010	Descriptive account	(Editorial)	All	n/a	n/a
16	Goodband et al.	2012	Descriptive account	Case study	Facebook	1 Case Study	UK
17	Grand, Holliman. Collins, Adams	2016	Empirical study	Interviews	All	15 interviewees	UK
18	Greenhow & Gleason	2014	Descriptive account	Conceptual exploration of	All	n/a	n/a

				social scholarship			
19	Greenhow & Gleason	2015	Descriptive account	Cross-disciplinary conceptual exploration	All, esp. Facebook, Blogging and Twitter	n/a	n/a
20	Gruzd et al.	2010	Empirical study	Interview	All	51	US
21	Guerin et al.	2015	Descriptive account	Case study	Blogs	1 Blog	Australia
22	Hall	2011	Descriptive account	Literature review	All	n/a	n/a although mainly UK context
23	Hanell	2017	Empirical study	Ethnographic (interviews and material collected from sites)	Facebook, Blogs	249 students	Sweden
24	Jackson-Brown	2013	Empirical study	Content analysis	Blogs	12 blogs	US (though this is not specified)
25	Kaeomanee, Dominic, Rias	2014	Empirical study	Survey	All	322 5 institutions	Malaysia
26	Kim et al.	2012	Empirical study	SNA of Twitter data	Twitter	100 university libraries	Internationa l
27	Knight & Kaye	2014	Empirical study	Online questionnaire	Twitter	181 resp. (137 undergraduates, 16 postgraduates, 26 staff)	UK
28	Lim, Agostinho, Harper, Chichero	2014	Empirical study	Survey	All	331	Malaysia
29	Mewburn & Thomson	2013	Empirical study	Content analysis	Blog	100 academic blogs	Internationa l
30	Powell, Jacob, Chapman	2011	Descriptive account	Case study	Blogs	1 case study blog	US
31	Parsons et al.	2014	Descriptive account	(Editorial)	Twitter	n/a	n/a
32	Price	2010	Descriptive account	Case study	Blogs	4 case study blogs	US
33	Priem & Costello	2010	Empirical study	Semi-structured interviews, Twitter data analysis	Twitter	28 academics	n/a
34	Ravenscroft et al.	2012	Descriptive account	(Editorial)	All	n/a	n/a
35	Rodesiler	2015	Empirical study	Content analysis	Blogs	4	US
36	Sharma	2012	Empirical study	Facebook data analysis	Facebook	3 students	Nepal
37	Skerrett	2010	Empirical	Self-study	Facebook	1	US

			study				
38	Van Beynen & Swenson	2016	Empirical study	Mixed methods quantitative & qualitative (content analysis)	Facebook	1 institution – about 2000 students in the Fb group	North America
39	Veletsianos	2012	Empirical study	Qualitative analysis of tweets	Twitter	45 Twitter-using scholars, 4500 tweet	n/a
40	Veletsianos	2013	Empirical study	Ethnography, comparative data analysis	All	1 reflective journal	n/a
41	Westerman et al.	2014	Empirical study	Post-experiment questionnaire	Twitter	181	US
42	Wilkinson et al.	2014	Empirical study	SNA of Twitter activity	Twitter	12,363 tweets	International
43	Wilson	2013	Descriptive account		All	n/a	US
44	Wilson & Starkweather	2014	Empirical study	Survey	All	454	International

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