



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



How and why are educators using Instagram?

Jeffrey P. Carpenter^{*}, Scott A. Morrison, Madeline Craft, Michalene Lee

Elon University, Campus Box 2105, Elon, NC, 27244, USA

H I G H L I G H T S

- Akin to other popular social media, Instagram has attracted significant use by educators.
- In an online survey, 841 educators described how and why they used Instagram.
- Affinity space and teacherpreneurship concepts framed our investigation.
- Participants reported intensive and multifaceted use of Instagram that provided multiple professional benefits.
- Many participants mixed posting of personal and professional content on Instagram.

A R T I C L E I N F O

Article history:

Received 20 September 2019

Received in revised form

21 June 2020

Accepted 28 June 2020

Available online 24 July 2020

Keywords:

Affinity space

Instagram

Professional community

Professional learning

Social media

Teacherpreneur

A B S T R A C T

Social media are commonplace in many educators' lives, but their Instagram activities have received no prior attention in the empirical literature. We therefore created and disseminated a survey regarding educators' Instagram use. Analyses of 841 responses suggested participants were generally intensive users of Instagram who engaged in the exchange of both professional knowledge and wisdom, as well as affective support. In addition to identifying benefits to Instagram use, some participants offered critiques of Instagram's professional utility. We discuss the implications of these findings for educators' work in a digital era and the future of research on educators' social media activities.

© 2020 Elsevier Ltd. All rights reserved.

"Instagram has completely changed my classroom and my outlook as an educator. I can point to any area of my classroom and cite a resource, center, display, or other educational tool recommended or created by an insta-friend. The support from Instagram has also been incredible; after tough days in the classroom, I know I can share my experiences and brainstorm solutions with fellow teachers."

– Elementary school teacher.

1. Introduction

School policies and popular culture narratives often focus on

problems associated with social media, and indeed these media have created challenges that many individuals, communities, societies, and even political systems struggle to manage (Tufekci, 2017; Vaidhyanathan, 2018). However, some educators—such as the one quoted above—have apparently found ways to utilize social media both in student activities (Carpenter & Justice, 2017) and for professional learning (Xing & Gao, 2018). Research has previously investigated educators' uses of other social media, including Facebook (e.g., Kelly & Antonio, 2016), Pinterest (e.g., Schroeder, Curcio, & Lundgren, 2019), Twitter (e.g., Rosenberg, Greenhalgh, Koehler, Hamilton, & Akcaoglu, 2016) and Reddit (e.g., Staudt Willet & Carpenter, 2020), and has described multiple benefits and challenges. However, despite being the second most widely used social media platform in the United States (U.S.; Perrin & Anderson, 2019) and fifth most used in the world (Statista, 2020), Instagram has received only limited attention from education researchers to date.

Created in 2010, Instagram is a photo- and video-sharing social networking service. Users access the service via an app or a feature-limited web interface and can edit content with various filters. Up

^{*} Corresponding author.

E-mail addresses: jcarpenter13@elon.edu (J.P. Carpenter), smorrison7@elon.edu (S.A. Morrison), mcraft3@elon.edu (M. Craft), mlee26@elon.edu (M. Lee).

to 2200 text characters can accompany individual posts. Instagram offers private messaging, the option to tag content with searchable hashtags, the ability to include multiple images or videos in a single post, and a *stories* feature, which allows users to post content to a feed that is accessible to others for 24 hours. Messages, posts, and stories allow individuals to communicate with other users in ways that vary in privacy and formality. For example, Instagram posts tend to feature carefully curated and positive images (Hong, Jahng, Lee, & Wise, 2020), while stories can be more informal or vulnerable. Instagram has recently become more popular among teenagers in the U.S. than Facebook (Anderson & Jiang, 2018), suggesting it should remain an important social media platform into the future. Given indications of substantial educator Instagram uptake (e.g., Rozen, 2018), our research addresses a gap in the literature by exploring how and why educators use Instagram.

Instagram's visual nature arguably distinguishes it from social media that are relatively more text-focused and may lead to educators using Instagram in ways that differ from how they employ other social media (see Pittman & Reich, 2016; Shane-Simpson, Manago, Gaggi, & Gillespie-Lynch, 2018). McLuhan's (1964) often quoted statement that "the medium is the message" (p. 7) suggests that technologies themselves shape how people learn and think. Although McLuhan's assertion preceded the advent of social media, it seems likely that social media itself—and not just the content shared via such media—shapes human experience and interpersonal dynamics, and creates particular social and cultural ways of being (Esteban-Guitart, 2015; Schultz, Utz, & Göritz, 2011). Facebook, Twitter, and other social media such as Instagram do not just connect educators and provide neutral spaces in which they can share ideas; through their algorithms, features, and designs, they also affect the nature of the connections that are made and the kinds of spaces that are cultivated (Friesen & Lowe, 2012). Different social media may shape experiences in distinct ways. Retweeting, for example, is a particular feature of Twitter and is a common practice among educators who use education-related Twitter hashtags (Carpenter, Tani, Morrison, & Keane, 2020; Greenhalgh, Rosenberg, Staudt Willet, Koehler, & Akcaoglu, 2020). Retweeting involves rebroadcasting content posted by other users to one's own followers and provides for a more passive form of engagement with others that invites legitimate peripheral participation (Lave & Wenger, 1991). The design and functionality of Instagram may lead to educators using the platform in a unique manner in comparison to Facebook, Twitter, or Pinterest.

2. Conceptual framing

Our understanding of educators' Instagram use is informed by two principal concepts: affinity spaces (Gee, 2005) and teacherpreneurship (Berry, Byrd, & Wieder, 2013).

2.1. Affinity spaces

Affinity spaces are online and/or offline locations where people convene due to a shared interest or endeavor. This common interest or endeavor supersedes distinctions such as age or gender that might shape users' interactions in other spaces. In many cases, affinity spaces are related to avocations rather than vocations. However, by reducing traditional geographical, hierarchical, temporal, and institutional barriers, social media such as Instagram can facilitate the creation of affinity spaces for educators rooted in shared professional affinities. Such spaces encourage diverse forms of participation and the sharing of various kinds of knowledge (Gee, 2005). Additionally, by facilitating connections among geographically dispersed users, these spaces can create new and larger audiences for user-generated content. For instance, an outstanding

teacher who might previously have shared their ideas and resources at a local level can use social media as a platform from which to disseminate those ideas and resources to a larger number of teachers.

While trying to define the boundaries and members of a community in social media can be challenging, the *space* concept allows for the fluid and diverse nature of participation on social media such as Instagram. A spatial perspective also lessens the need to parse who belongs as a community member (Gee & Hayes, 2012). Although Gee's work on affinity spaces has perhaps been most associated with video gaming and fan cultures, educators' social media uses have previously been framed by the affinity space construct (e.g., Greenhalgh & Koehler, 2016). Also, it is important to note that while social media such as Instagram can connect users whose affinities are primarily positive or beneficial to themselves and others, some users' are drawn together around affinities that are not entirely salubrious (Andrews & Schwartz, 2014). Even in cases where affinity spaces start out with positive intent or content, the norms and cultures that develop may not be healthy for some users (Nagle, 2018). Although optimism regarding the value of teachers being connected and collaborating is common, teacher collaboration is not inevitably positive in its outcomes, and affinity spaces could, for example, result in socialization into highly traditional or even ineffective modes of teaching (see Little, 2003).

2.2. Teacherpreneurship

Participation in affinity spaces is often spurred by a shared interest in the content of the space and enjoyment of participation itself. However, some individuals may engage with affinity spaces because they share a common endeavor with other users, even if their motivations related to that endeavor may differ. Indeed, some educators' purposes for utilizing affinity spaces can be prompted in part by motives related to *teacherpreneurship* (Carpenter, Cassaday, & Monti, 2018; Shelton & Archambault, 2018), rather than, for example, wanting to engage in professional learning or community. Teacherpreneurship takes diverse forms, but teacherpreneurs generally seek to have influence beyond their individual classrooms and schools (Berry et al., 2013). Many teacherpreneurs use social media to advertise products for sale in educational marketplaces such as *TeachersPayTeachers.com* (TPT; Reinstein, 2018; Shelton & Archambault, 2020), and affinity spaces can offer an audience of potential customers to teacherpreneurs. Teacherpreneurs' pursuit of individual financial interests therefore distinguish them somewhat from other users of an affinity space. Like many other users in education-related affinity spaces, teacherpreneurs share a common goal of generating content and dispersing knowledge, but with a financial motivation. Teacherpreneurs may therefore affect the character and culture of some affinity spaces. For instance, some users could see content from teacherpreneurs as unwelcome spam (Carpenter et al., 2018; Carpenter, Staudt Willet, Koehler, & Greenhalgh, 2020; Brunton, 2013). Conversely, other users could feel that materials and suggestions from teacherpreneurs offer value. Indeed, one of the characteristics of affinity spaces is how they encourage the use of dispersed knowledge (i.e., knowledge that is found in other spaces; Gee, 2005), and teacherpreneurs can bring knowledge to an affinity space from sites such as TPT. Finally, some educators may access affinity spaces because of a combination of financial and non-financial motivations, and the extent to which these different motivations drive their behavior in the space may ebb and flow over time (Carpenter, Trust, & Krutka, 2019).

3. Literature review

A few studies have explored Instagram use by students as a

required part of coursework (e.g., Arceneaux & Dinu, 2018; Erarslan, 2019). Also, Instagram use for informal educational purposes in the medical education field has received some attention, primarily related to the platform's visual affordances for medical specialties such as anatomy and dentistry (Douglas et al., 2019). However, investigation of primary and secondary level educators' voluntary Instagram use for purposes associated with learning, community, or teacherpreneurship has heretofore been limited to preliminary conference papers (see Carpenter, Morrison, Craft, & Lee, 2019; Shelton, Curcio, & Schroeder, 2020), despite journalistic reports suggesting widespread Instagram use among educators (e.g., Rozen, 2018).

Educators' utilization of social media such as Facebook (e.g., Hart & Steinbrecher, 2011) and Twitter (e.g., Smith Risser, 2013) were the subject of published research more than half a decade ago. Around the same time, a survey of 20,000 U.S. educators found that Instagram was not then among the most popular websites teachers used (Scholastic, 2014). However, the quickly shifting social media landscape can challenge researchers to keep up with the latest uses educators make of social media (Border, Hennessy, & Pickering, 2019), and there are indications that Instagram now attracts substantially more educator use than was found in the 2014 Scholastic study. For example, education-related hashtags are featured in millions of Instagram posts (e.g., #teachersofinstagram with more than 6.9 million posts and #teachersfollowteachers with more than 4.6 million posts as of June 2020). Furthermore, overall Instagram use has grown five-fold since 2014, from 200 million to more than 1 billion active users, suggesting its general increase in importance as a platform (Statista, 2020). Given Instagram's popularity, features that distinguish it from other social media, and the absence of extant research, exploratory research on educators' Instagram use can benefit the field.

3.1. Benefits of educators' uses of social media

Despite the shortage of literature on educators' Instagram use, this study can be situated within the literature on educators' professional uses of other social media. Educators have utilized multiple platforms to reach outside their individual schools to share ideas and to network (Carpenter & Green, 2017; Rehm & Notten, 2016; Smith Risser, 2013). For instance, Pinterest has been employed by educators to find, curate, and share curriculum materials and as a space for teacherpreneurship (Carpenter et al., 2018; Schroeder et al., 2019). By including hyperlinks, social media tools can function as "pointing devices" to content found elsewhere on the web (Forgie, Duff, & Ross, 2013). For example, Carpenter et al. (2020) found that among a sample of 2.6 million education-related tweets, one third included hyperlinks. However, in the case of Instagram, the platform currently restricts most users to only including a single hyperlink in their profile. The more limited role of hyperlinks suggests that educators may be likely to use Instagram in ways that are distinct from their use of other social media. For instance, educators might not see Instagram as a means for sharing, recommending, or finding articles or blog posts, which are relatively common practices in other educator online spaces (Carpenter & Krutka, 2014).

Educators can employ social media to fulfill needs related to professional identity, community, and affective support. Twitter has been utilized to build learning networks, develop new communities of practice, and combat the isolation long associated with the profession (Carpenter & Krutka, 2014; Harvey & Hyndman, 2018). Recently, some educators have leveraged social media's affordances to help organize protests and build momentum for strikes (Will, 2018). As previously noted, Instagram's visual nature differentiates it from more text-focused platforms and has been

credited with helping to build trust and credibility among users (Pittman & Reich, 2016); this could mean that the kinds of communities and networks that form via Instagram are substantively different from those associated with other social media (Waterloo, Baumgartner, Peter, & Valkenburg, 2018).

Generally, social media hosts a multitude of self-directed educator professional activities. Educators can challenge constraints on their professional identities via social media's new spaces for expression and identity development (e.g., Robson, 2018). Rather than being restricted to the interactions, opportunities, and colleagues at their schools, educators can take initiative to gain access to a larger professional sphere via social media. While schools may be staffed by adults who have been "brought together more by the vagaries of career paths and the central office than by affiliation or purpose" (Huberman, 1995, p. 195), social media can facilitate connections among educators with shared interests, needs, or goals. For example, various education-focused Twitter hashtags provide spaces where educators who might otherwise not have occasion to interact can discuss their particular content area (Rosell-Aguilar, 2018) and myriad other education topics (Carpenter et al., 2020; Greenhalgh & Koehler, 2017). Research on social media use during initial teacher preparation has also suggested potential benefits for aspiring educators, including access to increased sources of mentoring and development of professional networks (Carpenter, 2015; Smith Risser, 2013).

3.2. Challenges in educators' uses of social media

Alongside the various uses and benefits of social media for educators are potential challenges, four of which we describe in the sub-sections that follow.

3.2.1. Content challenges

With social media, the absence of traditional information gatekeepers can grant more voice and access to participants, or "the people formerly known as the audience" (Rosen, 2012, p. 13). However, the lack of gatekeepers also means that users face a greater obligation to assess the quality and veracity of content. Various concerns have been raised regarding the accuracy and appropriateness of some educational materials shared via social media. Gallagher, Swalwell, and Bellows (2019) suggested that educators develop critical skills to analyze social studies content found on platforms such as Pinterest and TPT. Two analyses of Pinterest posts related to teaching elementary math found frequent mathematical errors in widely pinned materials (Hertel & Wessman-Enzinger, 2017) and a preponderance of math tasks that placed lower-level cognitive demands on students (Sawyer, Dick, Shapiro, & Wismer, 2019). In Instagram's case, the platform's visual nature could place too much emphasis on content that is aesthetically pleasing rather than educationally beneficial.

In addition to quality-related challenges, the sheer quantity of content on social media can be overwhelming (e.g., Staudt Willet, 2019). For example, spam contributes to the glut of content in some education-focused Twitter hashtags (Carpenter et al., 2020). Additionally, the commercial imperatives of social media companies may sometimes mean that the content most useful to educators may not be prioritized by platform algorithms (Friesen & Lowe, 2012). Friesen and Lowe suggest that the necessity for social media companies to sell ads means they include features—such as a "like" function but no corresponding "dislike" function—that encourage shallow conviviality rather than supporting forms of deliberation that could likely lead to learning.

3.2.2. Discourse challenges

Social media platforms offer not just spaces for sharing and

acquiring teaching resources but also venues for discussions. It remains unclear, however, how generative or critical the discourse is in some educator social media spaces (Carpenter & Harvey, 2019). In offline contexts, researchers have noted a tendency among many teachers towards polite talk rather than more robust and productive discussions (e.g., Russo & Beyerbach, 2001). Huberman (1995) has suggested that in many schools a “discussion culture” (p. 195) among teachers features frequent talking about changes to teaching practices but very few instances of actually making those changes. Similar dynamics may well exist in education-focused social media spaces. The public nature of discourse on social media may constrain dialogue and contribute to the sharing of content that is relatively trite and uncontroversial (Kimmons & Veletsianos, 2014). Lantz-Andersson, Lundin, and Selwyn’s (2018) review of literature on online spaces for educators suggested that those spaces often feature relatively conflict-free forms of discourse, and that a lack of criticality “raises questions over the value of overly courteous discussions and curtailed reflection” (p. 312).

3.2.3. Network or community composition

One factor that may contribute to less generative discourse in educator social media spaces is the composition of educators’ online networks or communities. In some cases, social media can inform users of perspectives that they would not otherwise encounter (e.g., Messing & Westwood, 2012), but it has also been associated with *homophily*, a tendency among users to gravitate towards interactions with like-minded individuals (McPherson, Smith-Lovin, & Cook, 2001). Rather than joining online communities or building networks that challenge their thinking or push them to consider more complicated or thorny issues, educators can use social media—or be pushed by social media algorithms—to create echo chambers in which they only hear ideas and opinions that align with their preexisting beliefs (Pariser, 2011). Affinities shared with other users serve as powerful motivators for social media use, but educators are unlikely to reap the full benefits of social media if they restrict themselves only to interactions with individuals who are the most like them (see Kop, 2012). The extent to which educators’ Instagram networks or communities are diverse in perspectives will affect what could be learned through their Instagram activities.

3.2.4. Identity challenges

Educator professional identity is complex and continuously constructed in relation to institutions, policies, professional communities, and cultural scripts (Danielewicz, 2001; Zembylas, 2018). Social media creates opportunities for identity expression and construction, but these are affected by the hegemony of existing ideals (Lundin, Lantz-Andersson, & Hillman, 2017; Robson, 2018). Pittard (2017) noted ways in which social media can contribute to teachers’ internalizing unrealistic expectations regarding adequate performance of their roles. However, friendliness and vulnerability are important in forging social ties online (Varis & Blommaert, 2015); therefore, some mixing of professional and personal identities can be necessary to develop rapport and establish supportive online relationships among educators (Lasky, 2005).

Another factor that potentially influences the identities that educators portray on Instagram is *context collapse* (i.e., when posts can reach an almost infinite and unintended audience). While individuals often communicate on social media with a particular audience in mind, messages can often be seen by others. In face-to-face settings, people often tailor their message to fit the particular social context, but the collapse of contexts online can eliminate such adjustments (Marwick & Boyd, 2011). Context collapse can be challenging for educators to negotiate because of their professional responsibilities to multiple stakeholders, including students,

families, colleagues, administrators, and communities (Cho & Jimerson, 2017). Social media tools can blur boundaries that often partition professional and personal life and require users to negotiate what facets of themselves they reveal online.

Instagram’s particular technological features likely have implications related to context collapse. The default platform settings are that content shared on Instagram is public; unlike Facebook, relationships do not have to be reciprocal (i.e., a user can follow another user without being followed back). Instagram content is even visible to users who have not themselves created an Instagram account. Although some educators may adjust their Instagram settings to make their accounts private, many educators appear to keep their accounts public, and this less-bounded aspect of Instagram could increase the risks associated with context collapse.

3.3. Literature gaps

Prior research on educators’ uses of social media has suggested various associated benefits and challenges. However, educators’ online activities remain an understudied field, and the particular case of Instagram remains unexplored in published research. Instagram is different in notable ways (e.g., more visual, less oriented towards hyperlinks) from other social media that have received prior attention from scholars. Furthermore, Lantz-Andersson and colleagues’ (2018) review of literature related to online teacher communities identified multiple gaps, including research that addresses online professional learning’s role in educators’ identity development. For example, how teachers negotiate the tensions between professional and personal social media use is not well understood (Fox & Bird, 2017), and we address such tensions in this study. The online teacherpreneurship that appears to be a feature of Instagram is also a relatively new phenomenon that has been the subject of only a few peer-reviewed studies that have not addressed Instagram specifically (Carpenter et al., 2018; Pittard, 2017; Shelton & Archambault, 2018). To address these gaps in the literature, we surveyed educators regarding their Instagram use. By studying educators’ Instagram use, we advance understanding of the various roles—positive, negative, ambivalent, or neutral—that social media can play in education.

4. Research methods

To understand how and why educators use Instagram, we collected data via an online survey disseminated through multiple social media channels. First, the research team collaborated in the creation of the survey, informed by previous research on educators’ uses of online spaces (e.g., Carpenter & Krutka, 2014; Hur & Brush, 2009) and criteria for online survey design (Dillman, Smyth, & Christian, 2009). We collectively brainstormed an initial list of ten demographic items and 23 prompts specifically related to Instagram use, which were subsequently consolidated through two rounds of discussion. We sought expert feedback by sharing a draft survey with practitioners and researchers familiar with professional uses of social media and Instagram, and we made edits to the survey based on feedback from four individuals (Olson, 2010). The survey included both closed- and open-ended items. Closed-ended items included dichotomous, multiple-choice, checklist, and Likert-scale items. Depending on participants’ responses to particular items, the finalized survey length was between 14 and 16 items. Six items pertained to participant demographics, with gender and race/ethnicity as optional items, and ten items were related to Instagram use.

4.1. Data collection

Upon securing IRB approval for the study (Elon University IRB 19–071), the four members of the research team all began posting invitations to the survey to multiple online spaces including Instagram, Twitter, Reddit, and Facebook, making this a convenience sample. The online spaces other than Instagram were selected because of prior literature suggesting they were popular sites for online educator professional activity. We shared the largest number of invitations via Instagram and Twitter (Figs. 1 and 2), where we included various education-related hashtags (e.g., #teachersofinstagram, #teacher). We systematically shared survey invitations at different times of day, days of the week, and with various hashtags so they would be visible to a broad range of educators in various time zones and with different online habits. We also direct-messaged various educators with over 10,000 followers on Instagram, asking them to consider sharing the link to the survey. The survey remained open for 63 days and was closed when the number of respondents per day noticeably decreased.

4.2. Participants

On optional, open-ended prompts, more than 83% of our sample self-identified their gender as female, and more than 77% self-identified their race/ethnicity as White (Table 1). For comparison, the teaching workforce in the U.S.¹ was 77% female (Ingersoll, Merrill, Stuckey, & Collins, 2018) and 82% White (U.S. Department of Education, 2016) in 2015–2016. On average, respondents reported having 7.74 years of experience as educators. Just over half of the participants indicated their current job was at the elementary level (Table 2). Consistent with this larger representation of elementary teachers in the sample, many participants reported they were responsible for teaching multiple academic subjects (Table 3), with English/Language arts and Social studies/History being the most commonly selected content areas. To gauge the participants' general disposition towards technology—which we considered to be relevant to how and why they used Instagram—we also included an item that asked them to state their level of agreement or disagreement with the statement, “I am an early adopter of technology.” Forty-two percent strongly agreed, and 37% somewhat agreed.

4.3. Data analysis

We generated descriptive statistics for quantitative items, including means, standard deviations, and ranges using the reporting tools embedded in the commercial survey platform employed in this research. To analyze the qualitative data, we engaged in an open-coding process in line with Braun and Clarke's (2006) approach to thematic analysis. Thematic analysis is a theoretically flexible and organic approach to coding and theme generation that conceives of researchers as taking an active role in interpreting data. Data were coded for common words and phrases, which were later developed into categories. The researchers engaged in cycles of independent coding and group discussion to deliberate on emerging themes, refine the coding structure, reconcile differences of interpretation, and reach group consensus (Saldaña, 2016). To increase credibility and trustworthiness, we employed investigator triangulation by including at least two researchers in the analyses of all qualitative data, and data triangulation by having some overlap between topics addressed in

different survey items (Elliott, Fischer, & Rennie, 1999).

5. Findings

5.1. How educators use Instagram

Participants overwhelmingly indicated they had originally started using Instagram for non-professional purposes; on average, respondents had used Instagram for 5.54 years ($SD = 2.0$) but only professionally for 2.13 years ($SD = 1.4$). The respondents reported intensive professional Instagram use, with 71.2% indicating use more than once a day, and 20.1% about once a day (Table 4). The sample included educators who appeared to be active users of multiple social media, with more than 45% of the participants reporting at least weekly use of Facebook, Pinterest, and Twitter for professional purposes (Table 4). The sample also featured many active users of lesson marketplaces, with 68% reporting at least weekly use of TPT (Table 4). Although the participants indicated professional use of other social media, no other social media attracted use on a daily or greater basis by more than half of participants.

In terms of post content (Table 5), participants overwhelmingly mixed aspects of their personal lives with their professional Instagram use. More than 45 percent indicated they frequently posted about personal life activities and events, and only 9.1% reported that they never posted personal content on the Instagram account they use professionally. More than a quarter of respondents also reported frequently posting each of the following: advice, examples of instructional methods, and examples of curricular or organizational materials. Although some mainstream media descriptions of teacher Instagram have highlighted the sharing of classroom design touches and work outfits (e.g., Rozen, 2018), the overwhelming majority of the participants in our sample did not report that they frequently made such posts. Similarly, while teacherpreneurial activities have attracted attention in popular press accounts (e.g., Reinstein, 2018), in our sample, 68.3% of respondents indicated that they never used Instagram to try to sell educational products, and few reported that they did so frequently.

5.2. Why educators use Instagram

Regarding the motivations for their professional Instagram use (Table 6), 87.7% reported that a major reason was to look at ideas and content shared by other educators, and 84.3% stated that learning from other educators' wisdom and experience was a major motive for use. Over half of the participants described building an educator community or support network and collaborating with other educators as major reasons for use. Fewer than half (35.5%) described sharing their own ideas or content as a major reason for use.

Consistent with the earlier item on which relatively few participants indicated they frequently made posts with the intention of selling educational products, only 9.2% of participants indicated advertising or selling products was a major reason for their Instagram use. Using Instagram to communicate with students, families or the school community also did not appear to be common, with 72.1% indicating it was not a reason for their use of Instagram.

5.3. Educators and Instagram hashtags

Hashtags appeared to play an important role in the respondents' professional uses of Instagram. Among participants, 42.3% indicated they “always” included hashtags in their posts, and only 7.7% reported they “never” included hashtags. The participants indicated multiple reasons for why they included hashtags (Table 7); on

¹ Although we did not ask about participants' nationality, 86.7% of the responses were associated with URLs based in the U.S..

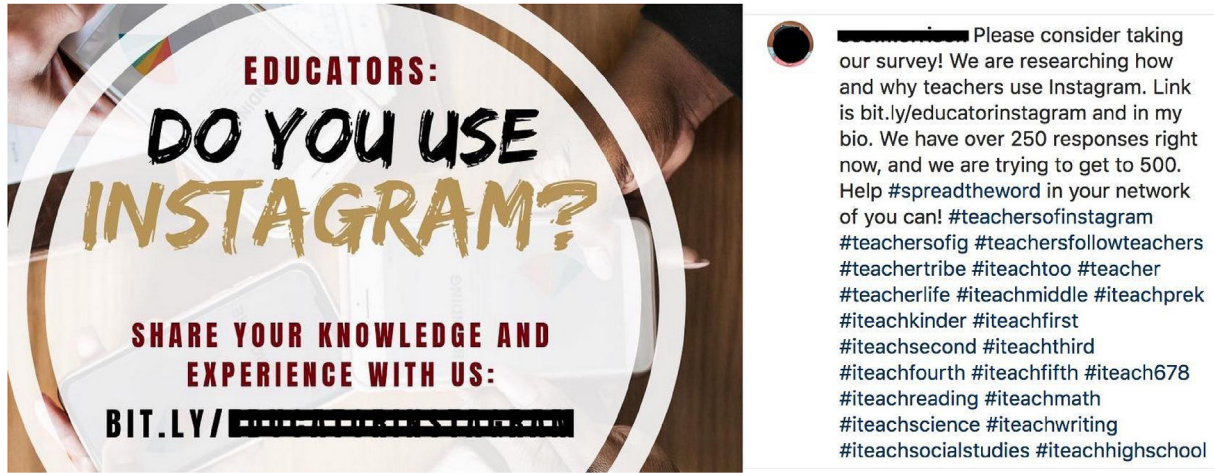


Fig. 1. Example of survey invitation posted to Instagram. [blinded for peer review].



Fig. 2. Example of survey invitation posted to Twitter. [blinded for peer review].

average, participants reported 3.1 different reasons for hashtag use. Most commonly, participants sought to link their posts to similar content shared by others. For example, educators might use #iteachfirst to increase the visibility of their post among other elementary educators who teach first grade. Over half of the participants indicated they included hashtags in posts in order to increase content visibility and to be witty, humorous, or ironic. Approximately a quarter of respondents connected their hashtag

use to making political statements. For instance, when the 2018 school shooting in Parkland, Florida, rekindled arguments from some quarters about arming teachers as a means to stop such school shootings, the #ArmMeWith hashtag was developed on Instagram by an educator as a way for educators to share what resources they should be “armed with” other than guns (Meixler, 2018).

5.4. Commenting on other educators' posts

Less than a third of respondents (30.6%) indicated they frequently commented on other Instagram users' posts, while 60.5%

Table 1
Race/Ethnicity (optional item).

Race/ethnicity	Count	% of 841
White/Caucasian	652	77.5
Did not answer	69	8.2
Hispanic/Latino/Latinx	53	6.3
Multiracial	28	3.3
African American/Black	21	2.5
Asian	10	1.2
Turkish	3	0.4
Five other identities were listed by one respondent: Native American, Indian, Pacific Islander, Hawaiian, and Jewish		

Table 2
“Grade level focus of your current professional role. (Check all that apply).”

Grade level	Count	% of 841
Elementary	477	56.7
Middle School/Jr. High School	262	31.2
High School	162	19.3
Pre-K	41	4.9
Post-Secondary	22	2.6
Other	17	2.0
Total	981	

Note: Percentages do not sum to 100 because respondents could check all options that applied.

Table 3
“Indicate the content area(s) you teach or for which you are responsible. (Check all that apply).”

Answer	Count	% of 841
English/Language arts	583	69.3
Social studies/History	457	54.3
Mathematics	453	53.9
Science	412	49.0
Technology	156	18.5
Special education	143	17.0
Art	119	14.1
ESL/ESOL	101	12.0
Health	94	11.2
Physical education	71	8.4
Other	67	8.0
Music	43	5.1
Media/Library	42	5.0
World languages	26	3.1
Career technical education (CTE)/Vocational education	13	1.5
Total	2780	

Note: Percentages do not sum to 100 because respondents could check all options that applied.

Table 4

"Indicate how frequently you access the following social media/technologies for professional and/or educational purposes. (Check all that apply)."

Question	More than once a day		About once a day		Weekly		Monthly or less		Never		Mean	SD
	%	n	%	n	%	n	%	n	%	n		
Instagram	71.2	599	20.1	169	6.9	58	1.4	12	0.4	3	1.4	0.7
Facebook	26.8	225	17.7	149	17.4	146	13.6	114	24.6	207	2.9	1.5
Twitter	16.9	142	12.6	106	16.5	139	14.6	123	39.4	331	3.1	1.5
Pinterest	9.8	82	17.5	147	36.3	305	28.1	236	8.4	71	3.0	1.1
Snapchat	10.5	88	7.0	59	7.4	62	8.2	69	66.9	563	4.1	1.4
Whatsapp	2.7	23	1.1	9	2.7	23	4.3	36	89.2	750	4.8	0.8
Voxer	0.7	6	0.8	7	1.0	8	3.2	27	94.3	793	4.9	0.5
YouTube	13.1	110	20.3	171	38.1	320	17.8	150	10.7	90	3.0	1.1
Teachers Pay Teachers	12.6	106	15.2	128	42.1	354	23.5	198	6.5	55	2.9	1.2

Note: Percentages do not sum to 100 because respondents could check all options that applied.

Table 5

"How often do you post the following kinds of content on Instagram?"

Post type	Frequently		Occasionally		Never		Mean	SD
	%	n	%	n	%	n		
Personal life activities/events	45.5	380	45.5	380	9.1	76	1.64	0.6
Advice/wisdom	29.4	246	47.7	399	22.9	191	1.93	0.7
Examples of instructional methods (e.g., Socratic seminar, cooperative learning, technology integration)	28.0	234	46.7	390	25.4	212	1.97	0.7
Examples of curricular or organizational materials that I'm not trying to directly sell	25.2	211	41.4	346	33.4	279	2.08	0.8
Classroom layout/design	17.7	148	55.1	461	27.2	227	2.09	0.7
Students at school-wide or extracurricular activities/events	17.9	150	46.8	391	35.3	295	2.17	0.7
Education politics/commentary on education policy, issues, or movements	16.2	135	42.0	351	41.9	350	2.26	0.7
Conference experiences	11.8	99	44.7	374	43.4	363	2.32	0.7
Professional work outfits/attire	11.4	95	34.5	288	54.2	453	2.43	0.7
Examples of curricular or organizational materials that I am trying to sell (e.g., TeachersPayTeachers.com products)	13.4	112	18.3	153	68.3	571	2.55	0.7

Note: Percentages do not sum to 100 because respondents could check all options that applied.

reported that they occasionally did so. Participants who indicated they commented on other users' posts were prompted with an open-ended item to explain why (Table 8). We grouped the codes that we applied to the responses (n=708, 84.2%) into three categories: 1) responding to content or ideas, 2) building relationships or community, and 3) teacherpreneurship activities.

Four codes comprised the *responding to content or ideas* category, and 68.2% of the responses received one or more of those codes. Participants (29.9%) most frequently indicated that they commented in order to show that they liked or agreed with a post's content or ideas. Asking questions and offering advice related to the post were also typical reasons for commenting. Consistent with the fact that liking or agreeing was so commonplace, it did not appear that Instagram comments were frequently used as a forum for

contentious debates. One middle school studies teacher explained that she commented "to challenge ideas mostly," but such a motive was absent from the other responses. More representative was a comment from a different middle school social studies teacher who wrote that she commented "to agree or respond to questions ... never to debate."

Two codes comprised the *building relationships or community* category, and 58.5% of the responses received one or more of those codes. One code pertained to providing affective support; this was the most frequent individual code for this prompt, as it applied to 43.5% of responses. A participant explained that she commented "[j]ust to let people know I see all the hard work they're putting in and that I think they're doing a great job." In some cases, participants alluded to the reciprocal benefits of offering affective support.

Table 6

"Why do you access Instagram professionally? (Check all that apply)."

Reason	Major reason for use		Minor reason for use		Not a reason for use	
	%	n	%	n	%	n
To look at other educators' ideas & content	87.7	732	10.9	91	1.4	12
To learn from other educators' wisdom/experience	84.3	702	13.2	110	2.5	21
To build an educator community or support network	58.6	489	30.9	258	10.4	87
To collaborate with other educators	51.4	429	37.0	309	11.6	97
To receive emotional support (e.g., inspiration, motivation)	36.6	303	47.2	391	16.3	135
To share my ideas & content	35.5	297	43.7	365	20.8	174
To communicate with students, families and/or the community about class or schoolwide activities/events	12.3	103	15.6	130	72.1	603
To advertise or sell products (e.g., TeachersPayTeachers.com)	9.2	77	16.2	135	74.6	621
Other	17.7	23	9.2	12	n/a	n/a

Note: Percentages do not sum to 100 because respondents could check all options that applied.

Note: Participants could enter text for the "Other" option. For example, respondents wrote that they used Instagram to "Elevate the status of bilingual education & educators of color" and "To extend discussion from class to home."

Table 7

"For what reasons do you include hashtags in your Instagram posts? (Check all that apply)."

	Count	% of 841
To link my content to similar content (e.g., #iteachmath, a conference hashtag)	612	72.8
To increase the visibility of my content	481	57.2
To be witty, humorous, or ironic	447	53.2
To emphasize an idea	375	44.6
To emphasize an emotion (e.g., #tired, #inspired)	301	35.8
To make a political statement (e.g., #ArmMeWith)	215	25.6
To organize my own content	180	21.4
Other	8	1.0

Note: Percentages do not sum to 100 because respondents could check all options that applied.

Note: Participants could enter text for the "Other" option. For example, one respondent wrote that they included hashtags "To connect to other male teachers."

For instance, a teacher explained, "I comment to help give encouragement. There can be a great sense of belonging when you are able to identify with what another teacher is experiencing." In many cases, participants mentioned multiple reasons for commenting, sometimes combining elements of both *responding to content or ideas* and *building relationships or community*. One participant wrote, "I comment to engage with other educators, praise ideas that I like, share similar experiences or give feedback they've requested, and to build real friendships with other passionate educators."

Finally, the *teacherpreneurship activities* category comprised two codes, and 13% of the responses received one or more of those codes. Participants described participating in activities both as teacherpreneurs themselves and/or as supporters or consumers of the work of other teacherpreneurs. Seven respondents mentioned *comment pods*, which teacherpreneurs coordinate to increase their collective visibility on Instagram by commenting on each other's posts. For example, one teacher wrote that she comments "[e]ither because I'm in a comment pod with other educators to boost engagement or posts or mainly because I connect with the content."

5.5. The effects of Instagram use

In terms of the effects of their Instagram activities on their own development as educators, 87.9% either strongly agreed or agreed that Instagram had increased their sense of self-efficacy. Just over 80% of participants strongly agreed or agreed that their Instagram use had enhanced their content knowledge and their pedagogical knowledge (Table 9).

5.6. Open-ended responses

In a final open-ended item, participants were invited to share anything important about their Instagram use that had not been addressed. Given the open nature of this prompt, the participants addressed a variety of themes (Table 10). Among those who responded to this item ($n=121$, 14.4%), many described how Instagram enabled them to contribute to, receive from, and connect with other educators. Consistent with the characteristics of an affinity space, Instagram thus appeared to facilitate various kinds of exchanges among users. Most frequently, respondents mentioned exchanges related to receiving resources or support, both in terms of ideas and affirmation, and professional networking and collaboration.

While participants most frequently mentioned receiving benefits, there were also references to contributing ideas and affirmation for others. Furthermore, some individuals referred to reciprocal scenarios in which they both provided for others and

acquired benefits for themselves. While the exchanges of ideas and affirmation that occurred on Instagram often appeared to be motivated simply by participants' desire to help others, profit-making also seemed to be part of some interactions. However, as indicated on other survey items, this did not appear to be a widespread behavior among our sample.

Some respondents were enthusiastic about the benefits of Instagram use, including the following individual:

I am able to really see how other teachers do the great things they do, and can then figure out how to make some of these best practices or fun ideas work in my own classroom. It is also motivating to connect with other passionate educators, and keeps me fueled to keep growing and learning.

Several such enthusiasts described multiple benefits from their Instagram activities. For example, one respondent who used Instagram to advertise her TPT site also saw it as a source of friendship and collaboration: "I have learned a TON about social justice and equity in my classroom through others on Instagram that I likely would not think about each day without it. It is continually forcing me to analyze what I do in my classroom." A handful of other participants also noted how Instagram supported their development as justice-oriented educators. For example, a White middle school teacher wrote, "Using Instagram professionally has opened my eyes to so many issues relating to diversity and inclusivity in the classroom that I likely would not have been exposed to otherwise."

Various participants described ways in which their Instagram use served to combat professional isolation (Lortie, 1975; Rosenholtz, 1989). For example, one teacher who did not feel much kinship with her building colleagues commented, "I have needed a dramatically larger pool of teachers in order to find people I have anything in common with." A Latinx elementary school teacher wrote, "Educators of color oftentimes can be very isolated in their buildings and roles at school. Following other educators of color who are interested in the same areas of education as me helps ease that feeling somewhat." Instagram thus served as a way for some teachers who can feel isolated to connect with other educators with whom they could identify.

Twenty respondents (2.3%) balanced such praise of the opportunities offered by Instagram with critiques. For example, the teacherpreneurship of other educators evidently rankled some of the participants. An elementary media specialist wrote:

The monetization and public face of Instagram is one thing I really do NOT like about teacher social media ... I love learning and seeing the cool things other teacher Instagram personalities are doing, but do NOT like the sponsored endorsements, patron accounts, or continued 'support my side hustle' nonsense.

Table 8
 “Why do you comment on other educators’ Instagram posts?” (n=705).

Category	Code	Definition	Example	Count
Responding to content or ideas	Like/agree with content/ideas	Participant indicates they comment to show that they like or agree with the ideas or content shared in a post.	“I typically only comment if something REALLY strikes a chord with me. That may be something that’s inspirational or a saying that really resonates with me.”	211
	Ask questions	Participant indicates they comment to ask questions about the ideas or content shared in a post.	“To ask questions such as where can I buy that item or how can use that resource with my class.”	188
	Offer advice, feedback	Participant indicates they comment to offer advice or feedback related to the ideas or content shared in a post.	“Share ideas or things that have worked for me in similar situations.”	161
	Dialogue	Participant indicates they comment to engage in dialogue on the basis of the ideas or content shared in a post.	“To start a conversation.”	88
Building relationships or community	Offer affective support	Participant indicates they comment to offer affective support to the individual who made the post.	“Sometimes just if they seem to be down and I feel they could use some love. Teaching is mentally taxing.”	308
	Foster collaboration, community, networking	Participant indicates they comment for purposes associated with networking, collaboration, or community building.	“Commenting helps build community and it helps me to feel connected to other educators even though I am the only moderate to severe special needs teacher at my school.”	256
Teacherpreneurship activities	Amplify content/ideas	Participant indicates they comment to increase the visibility of the content or ideas shared in a post.	“I am involved in ‘comment pods’ which we do to help increase each other’s engagement on Instagram and to get more views.”	52
	Participate in contests/giveaways	Participant indicates they comment to take part in contests or giveaways that require a comment to enter.	“To win giveaways.”	43

Note: Responses to this item could receive multiple codes.

Multiple participants specifically referenced ways in which Instagram’s visual nature can focus more attention on matters of aesthetics. One elementary school teacher commented, “I feel like there is an increase in pressure and competition for ‘pretty’ or ‘glittery’ teaching styles, activities and classrooms.”

The presence of so many carefully curated teacher accounts caused some participants to feel inadequate regarding their own teaching. A middle school math teacher explained, “It can make me feel like I’m not doing enough,” and an elementary school art teacher commented, “I’ve noticed myself comparing more and setting unrealistic expectations.” A teacher in her third year of teaching shared, “I was following a bunch of teacher Instagram accounts ... but after having a tough day at work, I didn’t want to see a bunch of perfect classrooms and perfect lessons and perfect teachers.” A 15-year teaching veteran wrote:

I do find myself getting sucked into a comparison spiral. When I begin to become discouraged that my room doesn’t look as cute, my activities are not as fancy, or my kids don’t look as excited all the time I take note and take a break from Instagram. Even though I know it’s a highlight reel, I have to consciously protect myself.

Eleven participants (1.3%) compared Instagram to other social media. For example, one respondent suggested that educators on Instagram

care more about making things pretty than actually challenging the status quo and making real change for student learning. I much prefer Twitter ... the ‘popular’ educators on Instagram are making a prettier worksheet; educators on Twitter are making the case for throwing out the worksheet altogether.

However, for some participants, Instagram fared well when compared to other social media. One teacher wrote, “[Instagram] seems more personal than Twitter because teachers, from their own mouths, explain/share things from their classroom vs on Twitter where you many times get articles to read that have ideas with theoretical application. IG seems more ‘real’.”

6. Discussion

These findings begin to delineate how and why educators use a popular social media platform, Instagram, at least in part for professional purposes. Understanding educators’ Instagram use provides insight into professional learning, networking, community, and identity in the current era of ubiquitous social media. As has been seen with other social media (e.g., Carpenter & Krutka, 2014; Hart & Steinbrecher, 2011; Hu, Torphy, Opperman, Jansen, & Lo, 2018), our analysis suggests Instagram can serve various professional purposes for educators. Participants appeared to use Instagram to meet both cognitive and affective needs. Educators employed Instagram to acquire and share knowledge, as well as to exchange emotional support and develop community. Similar to teachers’ Twitter use, hashtags appeared to be a common way to find and connect with content and people of interest (Rosenberg et al., 2016). By providing teachers a window into many other educators’ worlds, Instagram may serve to combat the isolation that has characterized the teaching profession (Lortie, 1975). Instagram offers relatively easy access to some elements of other practitioners’ experiences, knowledge, and wisdom. Importantly, participants also overwhelmingly reported that their Instagram use had increased their self-efficacy, content knowledge, and pedagogical knowledge, all of which could impact their teaching and their students’ learning.

Table 9
“Please indicate your level of agreement or disagreement with the following statements.”

Question	Strongly agree		Somewhat agree		Neither agree nor disagree		Somewhat disagree		Strongly disagree		Mean	SD
	%	n	%	n	%	n	%	n	%	n		
My Instagram use enhances my content knowledge.	33.0	256	48.7	377	12.5	97	4.1	32	1.7	13	1.93	0.9
My Instagram use enhances my pedagogical knowledge.	29.3	227	51.9	402	13.7	106	3.7	29	1.4	11	1.96	0.8
My Instagram use increases my confidence that I can have a positive impact on student learning.	51.5	399	36.4	282	8.5	66	2.5	19	1.2	9	1.65	0.8

Table 10
“Please share with us anything that is important for us to know about how and why you use Instagram that has not been addressed in previous items (optional item).” (n=121).

Code	Definition	Example	Count
Receiving affirmation	Participant identifies Instagram as a source of useful affective support or inspiration.	“I enjoy being part of a community that is uplifting and also inspiring.”	32
Networking/collaboration	Participant comments on ways in which Instagram supports community building, networking, or collaboration.	“I also use Instagram to build positive relationships with other like-minded educators and create a network of support for each other personally and professionally.”	30
Receiving ideas	Participant identifies Instagram as a source of useful advice or ideas related to teaching.	“I’ve learned so many great teaching strategies, classroom transformation ideas, creative crafts for the kids and so much more.”	26
Critique	Participant points out problems or challenges associated with educators’ Instagram use.	“Teaching is a tough job, and it’s stressful and confidence-crushing to see other teachers appear perfect 100% of the time when it is not true!”	20
Combating isolation	Participant notes how Instagram helps combat professional isolation associated with their school setting.	“As a specialist, a teacher can be isolated within their own school. Instagram provides an opportunity to collaborate and network with colleagues in a similar role (in my case, teaching Art)”	19
Communication with students	Participant describes use of Instagram to communicate with students.	“It’s a great way to connect your students to your classroom when they aren’t in your room each day of the school week.”	14
Teacherpreneur	Participant indicates that they use Instagram for purposes of teacherpreneurship.	“My Instagram use started off as a fun hobby for me, but has transitioned into a way of advertising my Teachers Pay Teacher store.”	13
Comparison	Participant compares and/or contrasts their professional use of Instagram to other social media.	“On Instagram there are a lot of ‘fashionista teachers’ who post selfies but it has NOTHING to do with teaching kids. I’ve learned so much more as a professional from using twitter than IG.”	11
Giving ideas	Participant indicates that they use Instagram to give advice or offer ideas related to teaching to other educators.	“I spend the majority of my time on Instagram answering questions via direct messages. I am able to help other educators in this way.”	11
Communication with families	Participant describes use of Instagram to communicate with families.	“It’s mainly used to communicate with the parents what we did in the classroom.”	10
Documentation	Participant describes use of Instagram to document their own work.	“Document my journey as a teacher- like a digital scrapbook.”	7
Giving affirmation	Participant indicates that they use Instagram to give affective support or to inspire other educators.	“I am a veteran teacher and I want to help new teachers since I felt very alone when I first started.”	3
As teaching/learning activity, curriculum	Participant describes use of Instagram itself as part of teaching and learning activities, and/or as a source of curricular materials.	“I encourage my students (all ELLs) to post photos and captions of them involved in English acquisition – reading, using vocab, etc.”	2

Note: Responses to this item could receive multiple codes.

Among our sample, there appeared to be widespread mixing of personal and professional content on Instagram, in contrast to findings related to educators’ use of Twitter (Carpenter, Kimmons, Short, Clements, & Emmett Staples, 2019) and Facebook (Thunman & Persson, 2018). Distinct from other social media, Instagram may be appealing specifically because the line between personal and professional is fluid. It could be that participants were less concerned about the risks of context collapse associated with Instagram than is the case with other social media. Alternatively, as social media tools have become more commonplace, more educators may have simply become accustomed to and comfortable with navigating the implications of context collapse. However, a few viral stories about teachers being fired for Instagram posts could quickly change that reality and lead to increased awareness of possible pitfalls of Instagram use.

It could be that more text-based platforms are likely to host discussions that become contentious or divisive or lead to isolated statements being taken out of context and misinterpreted, but few participants in our sample indicated they commented on Instagram posts in order to engage in discussions with other educators; nor did the majority of participants appear to use Instagram to engage in political activism. Educators may use Instagram in part to post relatively innocuous personal content, such as pictures or video from family activities or personal hobbies. The “highlight reel” nature of Instagram posting mentioned by two of our participants may also mean that users tend to share positive and carefully-crafted content that is generally considered acceptable to most potential audiences (see Kimmons & Veletsianos, 2014).

Instagram may also be a platform that invites personal disclosure; Pittman and Reich (2016) found evidence that image-based

platforms like Instagram and Snapchat generate feelings of enhanced intimacy and connectedness relative to text-based platforms. Given that many of our participants first began using Instagram for personal purposes, and later added some professional uses, they may have already been habituated to sharing some kinds of personal content with broad audiences. Furthermore, teaching is emotional work, and this emotional character carries over into teachers' professional activities outside their classrooms and schools (Schutz, 2014; Uitto, Jokikokko, & Estola, 2015), including their use of online spaces (Hur & Brush, 2009). Many of our participants used Instagram to engage in affective exchanges, and while these exchanges were at least in part work-related, maybe it should not be surprising that the line between the personal and professional blurs at times. Teachers may not strictly partition the personal and professional on Instagram in part because sharing more of who they are on a personal level could invite more emotional support. Furthermore, professional spaces that feature the positive emotions that can emerge from personal interactions and affective exchanges may also be spaces in which teachers are more willing to engage with new ideas and perspectives (Gaines, Osman, Maddocks, & Warner, 2019).

6.1. Instagram and affinity spaces

Prior affinity space conceptualizations have foregrounded the content of the space as the initial driver of participation, but it may be that other affinities could be at least as important. Instagram may provide spaces in which educators can interact with other educators in part because of who those educators are—or at least who they represent themselves to be—rather than due to a specific shared professional interest (Noonan, 2019). While education-focused posts can be the centerpiece to educator Instagram activities, it may be that the mixing of personal and professional content allows some users to create something akin to a teacher *lifestyle brand* that other educators find appealing (see Saviolo & Marazza, 2012). The visual aspect of Instagram likely influences the affinities that are foregrounded for educators and what content is and is not shared.

Different educators may not experience an affinity space in the same way, and professional learning experiences are variably received by participants: “One teacher’s transformative experience may be just another Tuesday for her colleague sitting a few feet away” (Noonan, 2019, p. 526). This is likely the case with Instagram professional activities as well. While Instagram’s visual element may help some educators to develop trust in virtual colleagues and gain a richer understanding of their beliefs and practices, other educators may find the prevalence of images and videos to be a distraction from the consideration of ideas. Indeed, a few of the participants noted that Instagram’s emphasis on aesthetics could divert educators’ attention away from more meaningful educational matters (see Gallagher et al., 2019; Sawyer et al., 2019). Classroom design and aesthetics affect the learning environment (Rands & Gansemer-Topf, 2017) but may not be topics that many teachers feel they need to invest significant time in discussing. Also, while learning can often be messy and dynamic, the curated nature of Instagram posts may lead to an overemphasis on hyper-organized and visually pleasing classrooms. In other words, the medium of Instagram may at times lead to—or at least contribute to—particular kinds of conversations about and understandings of education (see McLuhan, 1964).

In addition to the variety of experiences individual educators can have in a single online space, it is also the case that one platform can serve multiple purposes. For example, Staudt Willet and Carpenter (2020) found that subreddits related to discussing education matters were quite distinct in terms of levels of interactions

and the social networks that they hosted. Similarly, Instagram may serve as the means by which educators access a diverse array of affinity spaces. Instagram’s technical features undoubtedly have some bearing on the uses educators make of it, but users also have some capacity to shape affinity spaces, innovate in how they use Instagram, and even influence the evolution of the technology (see van Dijck, 2011). Educators’ Instagram networks may vary widely in nature, with some users being exposed to ideas and resources that push their teaching to new levels, while others may not see much novel content or challenging perspectives in their feeds.

6.2. Instagram and teacherpreneurship

A subset of users in our sample engaged in monetizing some of the exchanges occurring on Instagram, and indeed many of the participants indicated they regularly visited the TPT website. However, the overwhelming majority of participants reported that they did not try to market or sell educational materials on Instagram. This finding is noteworthy in light of accounts of educators’ Instagram use in the popular media, which have foregrounded teacherpreneurship (Reinstein, 2018; Rozen, 2018). Online teacherpreneurship is certainly an interesting and complex new phenomenon and is thus worthy of investigation, but it may be a small percentage of educators who attempt to use Instagram for financial gain. In most marketplaces, the number of individuals buying goods exceeds the number selling goods, so it is perhaps not surprising that in our sample a relatively small percentage of respondents were online teacherpreneurs trying to sell goods via Instagram. However, given that TPT has more than 180,000 stores, it is possible that teacher-focused Instagram spaces that begin based on shared affinity among users could eventually become inundated by commercially focused posts advertising wares from those many sellers.

The presence of teacherpreneurship activities on Instagram could have additional effects upon the kinds of affinity spaces it hosts, even for teachers who do not directly engage in teacherpreneurship. In theory, Instagram can connect teachers across geographical distance, and this could facilitate teachers organizing to take collective action. For example, social media tools including Facebook and Twitter have played important roles in facilitating recent teacher protests and activism (Brickner, 2016; Naison, 2014). As previously noted, the #ArmMeWith hashtag that was associated with gun control activism originated on Instagram and eventually was taken up by mainstream teacher organizations such as the American Federation of Teachers. Approximately a quarter of the participants reported using Instagram hashtags to make political statements. However, tensions may emerge as users and spaces attempt to accommodate both teacherpreneurship and political activism. Online teacherpreneurship may encourage sellers to see their fellow teachers as potential customers rather than as colleagues with whom they should be in solidarity and with whom they could engage in collaborative action. Connell (2009) has noted how neo-liberal policies can encourage a conceptualization of “the good teacher as an entrepreneurial self, forging a path of personal advancement” (p. 220) rather than as a member of a collective of educators working towards common goals.

6.3. Limitations

There are several limitations to this study. As noted in the data collection section, we relied upon a convenience sample and our results are therefore not generalizable; the participants may not represent trends among all educators or even educators who use Instagram. For example, those who were motivated to respond to the survey could have been educators who are most enthusiastic

about Instagram. It is almost certain that some educators have tried to make professional use of Instagram but subsequently gave up such activities, and such “hard-to-capture ‘anti’ voices” (Owen, Fox, & Bird, 2016, p. 171) may be unlikely to visit the online spaces where we solicited participants.

The participants self-reported their Instagram use; we did not attempt to observe their actual social media behaviors, and we did not analyze the content of their posts on Instagram. Self-reports are inherently limited (Cohen, 1990), but they can nonetheless provide useful data regarding educators’ motivations for participating in professional activities, and those motivations can be important moderating factors on professional learning experience outcomes (Kennedy, 2016; Kyndt, Gijbels, Grosemans, & Donche, 2016; Noonan, 2019). We did not ask participants if they used multiple Instagram accounts. Many adolescents maintain a public Instagram account while also using a “Finsta” (“fake”+ “Instagram”) account to communicate with close friends in a more unfiltered manner (Dewar, Islam, Resor, & Salehi, 2019; Throuvala, Griffiths, Rennoldson, & Kuss, 2019), and teachers may also manage multiple accounts. We present our results so that fellow researchers and educators might further interpret the findings in light of their experiences, contexts, and research.

6.4. Future research

More research is needed to understand the complexities of educators’ uses of Instagram. While our participants generally seemed positive about educator Instagram use, it could benefit the field to hear the perspectives of those who have explored professional uses of Instagram and decided it was not for them. A small number of our participants noted that Instagram did not always contribute to positive or helpful emotions and thoughts. Pittard (2017) suggested that social media can contribute to some teachers developing problematic visions of what it means to be a “good enough teacher” (p. 30), and some participants reported feelings of insecurity and self-doubt as a result of exposure to other teachers’ carefully curated Instagram content. In what ways might Instagram cause unhealthy comparisons, contribute to anxiety, and reinforce self-doubt? Content analysis of educator Instagram posts would also help contextualize the self-reports from this study’s participants and add to understanding of the quality of experiences educators may have on the platform (see Shelton et al., 2020).

Since participants indicated that they were willing to post aspects of their personal lives on their professional Instagram accounts, others could explore whether social presence (Short, Williams, & Christie, 1976) may be higher on Instagram compared to other social media platforms and if this makes users seem more trustworthy to others. Online professional communities often feature the presence of micro-celebrities (Marwick, 2015) and studies could examine the role they play on Instagram and how their status informs and affects their own work in classrooms and schools. Further research around the effects of teacherpreneurship on educators’ Instagram experiences would also advance the knowledge base. While critiques of online teacherpreneurship activities have been offered (e.g., Carpenter & Harvey, 2019; Sawyer et al., 2019; Staudt Willet, 2019), empirical work could address, for example, the ethical dilemmas that arise from promotion of content on Instagram for sale in lesson marketplaces (Shelton & Archambault, 2018). Research could further delve into the prevalence and impacts of comment pods and giveaways that promote teacherpreneurs. Future studies could also analyze how more indirect “influencer” teacherpreneurship activities compare and contrast with the direct sale of goods on TPT (Djafarova & Rushworth, 2017). Other potential lines of inquiry include the following:

- To what extent does participating in online professional affinity spaces improve educators’ knowledge and skills in ways that benefit their students? To what extent does it distract them from their primary responsibilities as teachers?
- How do users assess the quality of content on social media platforms (see Sawyer & Myers, 2018)?
- To what extent can Instagram facilitate organizing and activism on current and critical topics such as educational inequalities during the COVID-19 pandemic and anti-racist education?

6.5. Implications for policy and practice

Educational institutions and policy makers have often attempted to curtail teachers’ social media use, especially their interactions with students. However, such policies often fail to consider the ways educators use social media for professional learning. The findings from this study corroborate what others have reported regarding educators’ uses of social media. That is, educators can use platforms like Instagram to connect with others in their field across contexts and engage in various kinds of professional exchanges. In light of these potential benefits and previously discussed challenges, school leaders, policymakers, and teacher educators alike could consider ways in which wise professional uses of social media could be scaffolded and encouraged, while pitfalls and problems could be minimized or avoided.

Given how social media has become an “indispensable part of everyday adolescent life” (Throuvala et al., 2019, p. 164), it is likely that many prospective teachers will at some point explore professional social media uses. To increase the likelihood that they employ social media in more beneficial ways, initial teacher education programs could help aspiring educators learn how to leverage the learning affordances and mitigate the challenges of social media. Social media can provide prospective teachers with access to otherwise unavailable resources and educators (Carpenter, 2015; Hsieh, 2017), but navigating the copious content and ascertaining its quality can prove difficult (Sawyer et al., 2019; Sawyer & Myers, 2018). Prospective teachers could benefit from activities that help them consider the relative strengths and weaknesses of tools such as Instagram and heuristics that help them assess the content and ideas they find via such media (e.g., Gallagher et al., 2019). Postman (1985) asserted, “No medium is excessively dangerous if its users understand what its dangers are” (p. 161), and teacher educators may be able to play a key role in helping future educators understand the dangers associated with Instagram and other social media platforms.

7. Conclusion

Educators today access the Internet for various professional reasons. They use purpose-built educational sites such as learning management systems, rely upon online resources provided by traditional publishing houses, and engage in formal professional communities (e.g., Lantz-Andersson, Lundin, & Selwyn, 2018). They also make professional use of sites not originally created with educators in mind, and Instagram is yet another example of this phenomenon. Instagram appears to be a portal to access professional affinity spaces where teachers exchange ideas and affirmation, with a subset of users monetizing some of the idea exchanges. This study contributes to the field by documenting various aspects of educators’ Instagram use that suggest avenues for future research on challenges and opportunities associated with the platform.

Author statement

Jeffrey Carpenter - Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Writing - original draft; Writing - review & editing. Scott A. Morrison - Conceptualization; Formal analysis; Investigation; Methodology; Writing - original draft; Writing - review & editing. Madeline Craft - Conceptualization; Formal analysis; Investigation; Writing - review & editing. Michalene Lee - Conceptualization; Formal analysis; Investigation; Writing - review & editing.

References

- Anderson, M., & Jiang, J. (2018, May). *Teens, social media & technology 2018*. Pew Research Center. Retrieved from <http://www.pewinternet.org/2018/05/31/teens-social-media-technology-2018/>.
- Andrews, N., & Schwartz, F. (2014). *Islamic state pushes social media battle with west*. *The wall street journal*. August 22. <https://www.wsj.com/articles/isis-pushes-social-media-battle-with-west-1408725614>.
- Arceneaux, P. C., & Dinu, L. F. (2018). The social mediated age of information: Twitter and Instagram as tools for information dissemination in higher education. *New Media & Society*, 20(11), 4155–4176.
- Berry, B., Byrd, A., & Wieder, A. (2013). *Teacherpreneurs: Innovative teachers who lead but don't leave*. San Francisco, CA: Jossey-Bass.
- Border, S., Hennessy, C., & Pickering, J. (2019). The rapidly changing landscape of student social media use in anatomy education. *Anatomical Sciences Education*, 12(5), 577–579.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
- Brickner, R. K. (2016). Tweeting care: Educators' dissent through social media in the US and Canada. *Labour/Le Travail*, 77, 11–36.
- Brunton, F. (2013). *Spam: A shadow history of the Internet*. Cambridge, MA: MIT Press.
- Carpenter, J. P. (2015). Preservice teachers' microblogging: Professional development via Twitter. *Contemporary Issues in Technology and Teacher Education*, 15(2), 209–234.
- Carpenter, J. P., Cassaday, A., & Monti, S. (2018). Exploring how and why educators use Pinterest. In E. Langran, & J. Borup (Eds.), *Proceedings of the Society for Information Technology & Teacher Education International Conference* (pp. 2222–2229). Waynesville, NC: AACE.
- Carpenter, J. P., & Green, T. D. (2017). Mobile instant messaging for professional learning: Educators' perspectives on and uses of Voxel. *Teaching and Teacher Education*, 68, 53–67. <https://doi.org/10.1016/j.tate.2017.08.008>
- Carpenter, J. P., & Harvey, S. (2019). "There's no referee on social media": Challenges in educator professional social media use. *Teaching and Teacher Education*, 86, Article 102904.
- Carpenter, J. P., & Justice, J. E. (2017). Evaluating the roles of technology in the Global Read Aloud project. *Computers in the Schools*, 34(4), 284–303. <https://doi.org/10.1080/07380569.2017.1387464>
- Carpenter, J. P., Kimmons, R., Short, C. R., Clements, K., & Emmett Staples, M. (2019). Teacher identity and crossing the professional-personal divide on Twitter. *Teaching and Teacher Education*, 81, 1–12.
- Carpenter, J. P., & Krutka, D. G. (2014). How and why educators use Twitter: A survey of the field. *Journal of Research on Technology in Education*, 46(4), 414–434.
- Carpenter, J. P., Morrison, S. A., Craft, M., & Lee, M. (2019). Exploring how and why educators use Instagram. In K. Graziano (Ed.), *Proceedings of the Society for Information Technology & Teacher Education International Conference* (pp. 2686–2691). Waynesville, NC: AACE.
- Carpenter, J. P., Staudt Willet, K. B., Koehler, M. J., & Greenhalgh, S. P. (2020). Spam and educators' Twitter use: Methodological challenges and considerations. *TechTrends*, 64, 460–469.
- Carpenter, J. P., Tani, T., Morrison, S. A., & Keane, J. (2020). Exploring the landscape of educator professional activity on Twitter: An analysis of 16 education-related Twitter hashtags. *Professional Development in Education*. <https://doi.org/10.1080/19415257.2020.1752287>
- Carpenter, J. P., Trust, T., & Krutka, D. G. (2019). Exploring continuity and change in educators' professional learning networks. In K. Graziano (Ed.), *Proceedings of the Society for Information Technology & Teacher Education International Conference* (pp. 2680–2685). Waynesville, NC: AACE.
- Cho, V., & Jimerson, J. B. (2017). Managing digital identity on Twitter: The case of school administrators. *Educational Management Administration & Leadership*, 45(5), 884–900.
- Cohen, D. K. (1990). A revolution in one classroom: The case of Mrs. Oublier. *Educational Evaluation and Policy Analysis*, 12(3), 311–329.
- Connell, R. (2009). Good teachers on dangerous ground: Towards a new view of teacher quality and professionalism. *Critical Studies in Education*, 50(3), 213–229.
- Danielewicz, J. (2001). *Teaching selves: Identity, pedagogy, and teacher education*. Albany, NY: SUNY Press.
- Dewar, S., Islam, S., Resor, E., & Salehi, N. (2019). Finsta: Creating "fake" spaces for authentic performance. In *Extended abstracts of the 2019 CHI conference on human factors in computing systems* (p. LBW1214). ACM.
- van Dijck, J. (2011). Tracing Twitter: The rise of a microblogging platform. *International Journal of Media and Cultural Politics*, 7(3), 333–348.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method*. Hoboken, NJ: Wiley.
- Djafarova, E., & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior*, 68, 1–7.
- Douglas, N. K. M., Scholz, M., Myers, M. A., Rae, S. M., Elmansouri, A., Hall, S., et al. (2019). Reviewing the role of Instagram in education: Can a photo sharing application deliver benefits to medical and dental anatomy education? *Medical Science Educator*, 29(4), 1117–1128.
- Elliott, R., Fischer, C. T., & Rennie, D. L. (1999). Evolving guidelines for publication of qualitative research studies in psychology and related fields. *British Journal of Clinical Psychology*, 38(3), 215–229.
- Erarslan, A. (2019). Instagram as an education platform for EFL Learners. *Turkish Online Journal of Educational Technology*, 18(3), 54–69.
- Esteban-Guitart, M. (2015). The medium is the message: Online learning, communities, and identities. *Theory & Psychology*, 25(4), 546–548.
- Forgie, S. E., Duff, J. P., & Ross, S. (2013). Twelve tips for using Twitter as a learning tool in medical education. *Medical Teacher*, 35(1), 8–14.
- Fox, A., & Bird, T. (2017). The challenge to professionals of using social media: Teachers in England negotiating personal-professional identities. *Education and Information Technologies*, 22(2), 647–675.
- Friesen, N., & Lowe, S. (2012). The questionable promise of social media for education: Connective learning and the commercial imperative. *Journal of Computer Assisted Learning*, 28(3), 183–194.
- Gaines, R. E., Osman, D. J., Maddocks, D. L., & Warner, J. R. (2019). Teachers' emotional experiences in professional development: Where they come from and what they can mean. *Teaching and Teacher Education*, 77, 53–65.
- Gallagher, J. L., Swalwell, K. M., & Bellows, M. E. (2019). "Pinning" with pause: Supporting teachers' critical consumption on sites of curriculum sharing. *Social Education*, 83(4), 217–224.
- Gee, J. P. (2005). Semiotic social spaces and affinity spaces. In D. Barton, & K. Tusting (Eds.), *Beyond communities of practice: Language, power and social context* (pp. 214–232). Cambridge, UK: Cambridge University Press.
- Gee, J. P., & Hayes, E. (2012). Nurturing affinity spaces and game-based learning. In C. Steinkuehler, K. Squire, & S. Barab (Eds.), *Games, learning, and society: Learning and meaning in the digital age* (pp. 129–155). Cambridge, UK: Cambridge University Press.
- Greenhalgh, S. P., & Koehler, M. J. (2017). 28 days later: Twitter hashtags as "just in time" teacher professional development. *TechTrends*, 61(3), 273–281.
- Greenhalgh, S. P., Rosenberg, J. M., Staudt Willet, K. B., Koehler, M. J., & Akcaoglu, M. (2020). Identifying multiple learning spaces within a single teacher-focused Twitter hashtag. *Computers & Education*, 148, 103809.
- Hart, J. E., & Steinbrecher, T. (2011). Omg! Exploring and learning from teachers' personal and professional uses of Facebook. *Action in Teacher Education*, 33(4), 320–328.
- Harvey, S., & Hyndman, B. (2018). An investigation into the reasons physical education professionals use Twitter. *Journal of Teaching in Physical Education*, 37(4), 383–396.
- Hertel, J. T., & Wessman-Enzinger, N. M. (2017). Examining Pinterest as a curriculum resource for negative integers: An initial investigation. *Education Sciences*, 7(2), 45. <https://doi.org/10.3390/educsci7020045>
- Hong, S., Jahng, M. R., Lee, N., & Wise, K. R. (2020). Do you filter who you are?: Excessive self-presentation, social cues, and user evaluations of Instagram selfies. *Computers in Human Behavior*, 104, 106159.
- Hsieh, B. (2017). Making and missing connections: Exploring Twitter chats as a learning tool in a preservice teacher education course. *Contemporary Issues in Technology and Teacher Education*, 17(4), 549–568.
- Huberman, M. (1995). Networks that alter teaching: Conceptualizations, exchanges and experiments. *Teachers and Teaching*, 1(2), 193–211.
- Hur, J. W., & Brush, T. A. (2009). Teacher participation in online communities: Why do teachers want to participate in self-generated online communities of K–12 teachers? *Journal of Research on Technology in Education*, 41(3), 279–303.
- Hu, S., Torphy, K. T., Opperman, A., Jansen, K., & Lo, Y. J. (2018). What do teachers share within socialized knowledge communities: A case of pinterst. *Journal of Professional Capital and Community*, 3(2), 97–122.
- Ingersoll, R., Merrill, E., Stuckey, D., & Collins, G. (2018). *Seven trends: The transformation of the teaching force, updated october 2018*. Research report (#RR 2018–2). Consortium for policy research in education. University of Pennsylvania. Retrieved from https://repository.upenn.edu/cpre_researchreports/108/.
- Kelly, N., & Antonio, A. (2016). Teacher peer support in social network sites. *Teaching and Teacher Education*, 56, 138–149.
- Kennedy, M. M. (2016). How does professional development improve teaching? *Review of Educational Research*, 86(4), 945–980.
- Kimmons, R., & Veletsianos, G. (2014). The fragmented educator 2.0: Social networking sites, acceptable identity fragments, and the identity constellation. *Computers & Education*, 72, 292–301.
- Kop, R. (2012). The unexpected connection: Serendipity and human mediation in networked learning. *Journal of Educational Technology & Society*, 15(2), 2–11.
- Kyndt, E., Gijbels, D., Grosemans, I., & Donche, V. (2016). Teachers' everyday professional development: Mapping informal learning activities, antecedents, and learning outcomes. *Review of Educational Research*, 86(4), 1111–1150.
- Lantz-Andersson, A., Lundin, M., & Selwyn, N. (2018). Twenty years of online

- teacher communities: A systematic review of formally-organized & informally-developed professional learning groups. *Teaching and Teacher Education*, 75, 302–315.
- Lasky, S. (2005). A sociocultural approach to understanding teacher identity, agency and professional vulnerability in a context of secondary school reform. *Teaching and Teacher Education*, 21(8), 899–916.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Little, J. W. (2003). Inside teacher community: Representations of classroom practice. *Teachers College Record*, 105(6), 913–945.
- Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago, IL: University of Chicago Press.
- Lundin, M., Lantz-Andersson, A., & Hillman, T. (2017). Teachers' reshaping of professional identity in a thematic FB-group. *Qwerty-Open and Interdisciplinary Journal of Technology, Culture and Education*, 12(2), 12–29.
- Marwick, A. E. (2015). You may know me from YouTube: (Micro-)celebrity in social media. In P. Marshall, & S. Redmond (Eds.), *A companion to celebrity* (pp. 333–340). West Sussex, UK: John Wiley.
- Marwick, A. E., & Boyd, D. (2011). I tweet honestly, I tweet passionately: Twitter users, context collapse, and the imagined audience. *New Media & Society*, 13(1), 114–133.
- McLuhan, M. (1964). *Understanding media: The extensions of man*. New York, NY: McGraw-Hill.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, 27(1), 415–444.
- Meixler, E. (2018). *Teachers are using #ArmMeWith to demand they be armed with supplies, not guns*. *Time*. February 23 Retrieved from <https://time.com/5172245/armewith-teachers-gun-control/>
- Messing, S., & Westwood, S. J. (2012). Selective exposure in the age of social media: Endorsements trump partisan source affiliation when selecting news online. *Communication Research*, 41(8), 1042–1063.
- Nagle, J. (2018). Twitter, cyber-violence, and the need for a critical social media literacy in teacher education: A review of the literature. *Teaching and Teacher Education*, 76, 86–94.
- Naison, M. (2014). *Badass teachers unite!: Writing on education, history, and youth activism*. Chicago, IL: Haymarket Books.
- Noonan, J. (2019). An affinity for learning: Teacher identity and powerful professional development. *Journal of Teacher Education*, 70(5), 526–537.
- Olson, K. (2010). An examination of questionnaire evaluation by expert reviewers. *Field Methods*, 22(4), 295–318.
- Owen, N., Fox, A., & Bird, T. (2016). The development of a small-scale survey instrument of UK teachers to study professional use (and non-use) of and attitudes to social media. *International Journal of Research and Method in Education*, 39(2), 170–193.
- Pariser, E. (2011). *The filter bubble: What the Internet is hiding from you*. New York, NY: Penguin.
- Perrin, A., & Anderson, M. (2019). *Share of U.S. adults using social media, including Facebook, is mostly unchanged since 2018*. *Pew Research Center*. Retrieved from <https://www.pewresearch.org/fact-tank/2019/04/10/share-of-u-s-adults-using-social-media-including-facebook-is-mostly-unchanged-since-2018/>.
- Pittard, E. A. (2017). Gettin'a little crafty: Teachers Pay Teachers, Pinterest and neoliberalism in new materialist feminist research. *Gender and Education*, 29(1), 28–47.
- Pittman, M., & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Computers in Human Behavior*, 62, 155–167.
- Postman, N. (1985). *Amusing ourselves to death: Public discourse in the age of show business*. New York, NY: Penguin.
- Rands, M. L., & Gansemper-Topf, A. M. (2017). The room itself is active: How classroom design impacts student engagement. *Journal of Learning Spaces*, 6(1), 26.
- Rehm, M., & Notten, A. (2016). Twitter as an informal learning space for teachers? The role of social capital in twitter conversations among teachers. *Teaching and Teacher Education*, 60, 215–223.
- Reinstein, J. (2018). *Teachers are moonlighting as Instagram influencers to make ends meet*. Aug 31. Retrieved from <https://www.buzzfeednews.com/article/juliareinstein/teachers-instagram-influencers-school-tpt-pinterest>.
- Robson, J. (2018). Performance, structure and ideal identity: Reconceptualising teachers' engagement in online social spaces. *British Journal of Educational Technology*, 49(3), 439–450.
- Rosell-Aguilar, F. (2018). Twitter: A professional development and community of practice tool for teachers. *Journal of Interactive Media in Education*. <https://doi.org/10.5334/jime.452>
- Rosen, J. (2012). The people formerly known as the audience. In M. Mandiberg (Ed.), *The social media reader* (pp. 13–16). New York, NY: NYU Press.
- Rosenberg, J. M., Greenhalgh, S. P., Koehler, M. J., Hamilton, E. R., & Akcaoglu, M. (2016). An investigation of state educational Twitter hashtags (SETHs) as affinity spaces. *E-learning and Digital Media*, 13(1–2), 24–44.
- Rosenholtz, S. (1989). *Teachers' workplace: The social organization of schools*. New York, NY: Longman.
- Rozen, C. (2018). *Teachers turn lessons into Instagram-worthy photos*. Dec 4. Retrieved from <https://www.npr.org/2018/12/04/670829785/teachers-turn-lessons-into-instagram-worthy-photos>.
- Russo, P., & Beyerbach, B. (2001). Moving from polite talk to candid conversation: Infusing foundations into a professional development project. *Educational Foundations*, 15(2), 71–90.
- Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: Sage.
- Saviolo, S., & Marazza, A. (2012). *Lifestyle brands: A guide to aspirational marketing*. New York, NY: Palgrave Macmillan.
- Sawyer, A., Dick, L., Shapiro, E., & Wismer, T. (2019). The top 500 mathematics pins: An analysis of elementary mathematics activities on Pinterest. *Journal of Technology and Teacher Education*, 27(2), 235–263.
- Sawyer, A. G., & Myers, J. (2018). Seeking comfort: How and why preservice teachers use Internet resources for lesson planning. *Journal of Early Childhood Teacher Education*, 39(1), 16–31.
- Scholastic. (2014). *Primary sources: America's teachers on teaching in an era of change* (3rd ed.). Retrieved from <http://bit.ly/1UE5YRT>.
- Schroeder, S., Curcio, R., & Lundgren, L. (2019). Expanding the learning network: How teachers use Pinterest. *Journal of Research on Technology in Education*, 51(2), 166–186.
- Schultz, F., Utz, S., & Göritz, A. (2011). Is the medium the message? Perceptions of and reactions to crisis communication via twitter, blogs and traditional media. *Public Relations Review*, 37(1), 20–27.
- Schutz, P. A. (2014). Inquiry on teachers' emotion. *Educational Psychologist*, 49(1), 1–12.
- Shane-Simpson, C., Manago, A., Gaggi, N., & Gillespie-Lynch, K. (2018). Why do college students prefer Facebook, twitter, or Instagram? Site affordances, tensions between privacy and self-expression, and implications for social capital. *Computers in Human Behavior*, 86, 276–288.
- Shelton, C. C., & Archambault, L. M. (2018). Discovering how teachers build virtual relationships and develop as professionals through online teacherpreneurship. *Journal of Interactive Learning Research*, 29(4), 579–602.
- Shelton, C. C., & Archambault, L. M. (2020). Learning from and about elite online teacherpreneurs: A qualitative examination of key characteristics, school environments, practices, and impacts. *Teachers College Record*, 122(7).
- Shelton, C., Curcio, R., & Schroeder, S. (2020). Instagramming their hearts out: Teacher influencers on Instagram. In D. Schmidt-Crawford (Ed.), *Society for information technology & teacher education international conference* (pp. 1470–1476). Waynesville, NC: Association for the Advancement of Computing in Education (AACE).
- Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London, UK: John Wiley & Sons.
- Smith Risser, H. (2013). Virtual induction: A novice teacher's use of twitter to form an informal mentoring network. *Teaching and Teacher Education*, 35, 25–33.
- Statista. (2020). *Most popular social networks worldwide as of April 2020, ranked by number of active users*. Retrieved from <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/>.
- Staudt Willet, K. B., & Carpenter, J. P. (2020). Teachers on **Reddit**? Exploring contributions and interactions in four teaching-related subreddits. *Journal of Research on Technology in Education*, 52(2), 216–233. <https://doi.org/10.1080/15391523.2020.1722978>
- Staudt Willet, K. B. (2019). Revisiting how and why educators use Twitter: Tweet types and purposes in #Edchat. *Journal of Research on Technology in Education*, 51(3), 273–289.
- Throuvala, M. A., Griffiths, M. D., Rennoldson, M., & Kuss, D. J. (2019). Motivational processes and dysfunctional mechanisms of social media use among adolescents: A qualitative focus group study. *Computers in Human Behavior*, 93, 164–175.
- Thunman, E., & Persson, M. (2018). Ethical dilemmas on social media: Swedish secondary teachers' boundary management on Facebook. *Teacher Development*, 22(2), 175–190.
- Tufekci, Z. (2017). *Twitter and tear gas: The power and fragility of networked protest*. New Haven, CT: Yale University Press.
- Uitto, M., Jokikokko, K., & Estola, E. (2015). Virtual special issue on teachers and emotions in Teaching and Teacher Education (TATE) in 1985–2014. *Teaching and Teacher Education*, 50, 124–135.
- U.S. Department of Education. (2016). *The state of racial diversity in the educator workforce*. Retrieved from <https://eric.ed.gov/?id=ED571989>.
- Vaidyanathan, S. (2018). *Antisocial media: How Facebook disconnects us and undermines democracy*. New York, NY: Oxford University Press.
- Varis, P., & Blommaert, J. (2015). Conviviality and collectives on social media: Virality, memes, and new social structures. *Multilingual Margins: A Journal of Multilingualism from the Periphery*, 2(1), 31–31.
- Waterloo, S. F., Baumgartner, S. E., Peter, J., & Valkenburg, P. M. (2018). Norms of online expressions of emotion: Comparing Facebook, twitter, Instagram, and WhatsApp. *New Media & Society*, 20(5), 1813–1831.
- Will, M. (2018). *Push for higher teacher pay has a new starting point: Facebook*. March 29. *Edweek*. Retrieved from <https://www.edweek.org/ew/articles/2018/03/29/push-higher-teacher-pay-new-starting-point.html>.
- Xing, W., & Gao, F. (2018). Exploring the relationship between online discourse and commitment in Twitter professional learning communities. *Computers & Education*, 126, 388–398.
- Zembylas, M. (2018). Rethinking the demands for 'preferred' teacher professional identities: Ethical and political implications. *Teaching and Teacher Education*, 76, 78–85.