



Adjusting sails for changing winds: exploring Reddit use for professional purposes in higher education

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Abstract

Emerging practices of social media for professional purposes in higher education merit further attention. Reddit, a social media platform, is under-studied despite its significant presence. This study explores participation patterns on Reddit for two summer periods during 2019–2020, before and during COVID-19. We collected a total of 82,494 contributions from two subreddits, *r/highereducation* and *r/Professors*. Results show changes in contributions and interactions, with more consistent growth in *r/Professors*. Major topics discussed in both subreddits during summer 2020 had shifted from 2019, largely related to COVID-19. Findings are discussed with a community of practice lens, noting changes in participation and adjustment to the crisis. Additionally, we present implications for supporting and sustaining higher education professionals through Reddit during and after massive disruptions like those experienced during the COVID-19 pandemic.

Keywords COVID-19 · Community of practice · Digital traces · Higher education · Social media · Reddit

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Introduction

As technology initiatives and online learning become fundamental in higher education, designing courses and selecting appropriate instructional strategies and technology are crucial (Ritzhaupt & Kumar, 2015). These topics have become even more imperative as traditional modes of instruction shifted to remote and online learning due to the COVID-19 pandemic, demanding that education professionals seek tips and best practices. Fortunately, opportunities for just-in-time knowledge-seeking are feasible through social media platforms that are not constrained by geographical and temporal boundaries, allowing educators to seek and share timely information (Greenhalgh & Koehler, 2017; Krutka et al., 2017; Trust et al., 2017). These tools have gained significant attention from education professionals as a means to exchange ideas, find resources, discuss educational trends, and combat isolation when colleagues are not available in-person (Carpenter & Krutka, 2014; Staudt Willet & Carpenter, 2020, 2021).

Studies investigating professional uses of social media in education are becoming well established. Numerous studies have explored how teachers use social media platforms, such as Facebook, Twitter, or Reddit, for professional purposes (Carpenter et al. 2018; Greenhalgh et al., 2020; Kelly & Antonio, 2016; Staudt Willet & Carpenter, 2020, 2021). Although this body of research continues to grow, research focusing on social media use for professional purposes in the higher education setting is still needed (Luo et al., 2020; Veletsianos & Kimmons, 2016). For example, a recent systematic review conducted by Luo et al. (2020) found a limited number of empirical studies investigating the use of social media for professional development in the higher education setting, highlighting the need for further exploration.

Furthermore, Reddit, a social media platform with a significant presence (Staudt Willet & Carpenter, 2020, 2021), has been under-researched compared to other platforms like Facebook and Twitter. Due to little previous research, there remain questions regarding to what extent Reddit is utilized for professional purposes, such as exchanging ideas, learning in interaction, and combating isolation (Staudt Willet & Carpenter, 2020), thereby necessitating further exploration. Still, two past studies showed that educators used Reddit as a place to follow and discuss changes and reforms in educational policy (Carpenter & Staudt Willet 2021; Staudt Willet & Carpenter, 2021).

Because Reddit allows usernames that are not linked to the users' real identities (e.g., legal name and geographic location), user anonymity is one of the platform's norms. This distinguishes Reddit from other social media platforms like Facebook and Twitter (Haythornthwaite et al., 2018). Past research has suggested that further work is needed to understand how professionals interact with others in an anonymous environment (Staudt Willet & Carpenter, 2021). Additionally, researchers have not yet studied Reddit during unplanned disruptions affecting the entire field of education, such as the global COVID-19 pandemic spanning at least the years 2020–2021. The disruptions of COVID-19 would seem to be a valuable setting to investigate such effects.

The purpose of this study is to explore participation patterns of Reddit users in two *subreddits* (i.e., distinct, themed discussion forums hosted on Reddit) relevant to the interests of higher education professionals: r/highereducation and r/Professors. In this paper, we define “higher education professionals” as the people who work in post-secondary institutions (e.g., colleges and universities), such as administrators, faculty members, and staff members. They may hold roles and responsibilities in teaching, student affairs, enrollment management, library, or instructional technology, among others. In addition, when we refer to “faculty” or “faculty members,” we specifically mean the academic professionals who teach in the higher education setting who are either tenured, on a tenure track, lecturers, adjunct faculty members, or graduate teaching assistants.

With a higher education context in mind, we examine the time period between semesters when presumably much planning occurs (i.e., the summer months May–August), both before and during the COVID-19 pandemic (i.e., summer 2019 and summer 2020). Results from this exploration address a gap in the literature at the intersection of higher education professionals’ ongoing knowledge-seeking and -sharing, responses to the COVID-19 pandemic, and the use of Reddit to accomplish these purposes. Furthermore, we discuss the implications of these findings for supporting the ongoing knowledge-seeking of higher education professionals, as well as sustaining higher education during and after massive disruptions and rapid changes like those experienced during the COVID-19 pandemic.

Conceptual framework

We frame our investigation with a community of practice lens. A *community of practice* (CoP) is a group where people with similar interests, identities, and values can share and discuss a topic, concerns, or problem (Wenger et al., 2002). In a CoP, learning is *situated*, meaning that participants in a CoP grow their knowledge and expertise through ongoing interaction with one another (Wenger et al., 2002). These interactions develop a sense of belonging to the community over time (Eaton & Pasquini, 2020). CoPs have three primary characteristics: (a) a common domain, displaying a shared commitment and competence among the members; (b) a community, where members can interact with one another and learn together; and (c) shared practice, indicating the creation and contribution of knowledge as a result of the interaction (Wenger, 1998; Wesely, 2013). The domain characteristic allows members to share interests, passions, and commitments about the field. Members value the collective expertise of the group and are therefore willing to learn from each other (Wenger & Wenger-Trayner, 2015). The community characteristic provides a space for members to dialogue and share activities. In turn, such interactions generate the knowledge base and resources that represent the group’s shared-practice characteristic (Wenger & Wenger-Trayner, 2015). A CoP is beyond a project team or work group because these three characteristics allow the members to “actively learn from their colleagues’ expertise and work collaboratively to transfer knowledge, build skills and solve problems” (Berry, 2019, p. 133).

Members of a CoP can participate and interact with other group members in various ways (Wenger et al., 2002). New members may start with peripheral participation, such as observing the actions of others and following group discussions, particularly as a means of learning the norms and expectations of the community (Lave & Wenger, 1991). They may initially prefer to read discussions without responding, attain information rather than sharing insights, and ask questions more than answering others' questions (Kollock & Smith, 1996; Muljana et al., 2020). As new members become more familiar with the group, they may increase their participation and become more active participants by sharing insights and resources and responding to questions while still seeking knowledge. Other members may be in a more core position in the community by holding leadership roles, facilitating discussions, and/or promoting group interactions. This means that the behaviors of group members may appear differently, with a few members contributing a significant amount of content and the majority of the members merely observing. A CoP view of learning indicates that both individual learners and the collective group are important, and there is a mutuality between the two (Berry, 2018). Finally, participation in a CoP may be fluid and can change over time (Guldberg & MacKness, 2009; Muljana et al., 2020).

A CoP framework is appropriate for our current study as we investigate changes in participation and interaction, including individual phenomena (i.e., higher education professionals' knowledge-seeking and use of Reddit) and collective behavior (i.e., higher education's response to COVID-19). A CoP approach allows us to view our investigation through a community-focused lens for explaining knowledge-seeking and -sharing activities occurring in a social media platform like Reddit, resonating with Luo et al. (2020). Additionally, with a CoP perspective, we can gain insight into a community where interaction, joint activities, and collective learning occur (Luo et al., 2020; Muljana et al., 2020).

Literature review

The use of social media for professional purposes in higher education

Educators often self-identify a need for continuous knowledge-seeking for improving teaching practice and impacting students' learning outcomes (Darling-Hammond et al. 2009; Kennedy, 2016; Krutka et al., 2017; Timperley & Alton-Lee, 2008; Van den Bergh et al. 2014). In particular, faculty members in higher education are experts in their fields who often seek innovative instructional strategies beyond traditional lectures, including ideas on integrating technology and staying abreast of current educational trends (Luo et al., 2020; Mundy et al., 2012). However, geographic and temporal barriers may have frequently limited their opportunities to connect and collaborate with others with similar interests, roles, and expertise (Trust et al., 2017). Utilizing social media is beneficial in this regard.

Social media platforms transcend traditional boundaries and can be accessed asynchronously using small devices; this allows people to communicate with others without being constrained by funding, time, and location (Luo et al., 2020, Luo

& Hostetler, 2020; Trust et al., 2017). Social media's affordances offer knowledge-seeking possibilities different from traditional settings, such as connecting with colleagues they have not met in-person. Furthermore, social media are open, meaning that higher education professionals can "discover exciting, relevant new information, connections, and opportunities that they were not originally seeking" (Trust et al., 2017, p. 2). For example, faculty members utilize social media to attain professional knowledge, share ideas and resources, seek advice, and extend networks (Meishar-Tal & Pieterse, 2017; Veletsianos, 2012). Administrators and staff members use social media to share information, support students, build community, and extend outreach (Davis et al., 2012; Junco, 2014; Veletsianos & Woodward, 2017). Similarly, staff members such as librarians are interested in using social media for just-in-time knowledge-seeking because it allows them to learn from others across various contexts (Luo & Hostetler, 2020).

Social media use during COVID-19

The COVID-19 pandemic has changed educators' personal and professional lives. Due to the new governmental guidelines in many countries (e.g., physical distancing, quarantine, and lockdown), courses that were delivered traditionally in-person have shifted to a virtual format (Favale et al., 2020; Johnson et al. 2020; Verma et al., 2020; Sandars et al., 2020; Toquero, 2020). The result of this disruption and shift has been referred to as *emergency remote teaching* (Hodges et al. 2020). Educators quickly adjusted their instructional strategies, often within several days, to fit into the virtual mode (Archambault & Borup, 2020). These changes necessitated just-in-time learning that aided emergency remote teaching (Trust et al. 2020).

Educators faced numerous challenges while adjusting traditional courses for emergency remote teaching. At the beginning of the shift, educators were overwhelmed by the wide variety of online learning resources and tools from which to select, largely due to the lack of knowledge and experience with online and/or virtual teaching tools and strategies (Trust & Whalen, 2020; Verma et al., 2020). Additional challenges included inadequate quality of internet access (Trust & Whalen, 2020), limited access to technological tools (Aguilar, 2020; Galperin et al. 2020; Verma et al., 2020), student attrition (Verma et al., 2020), heavy internet traffic (Favale et al., 2020), lack of support from institutions, inability to access laboratories remotely (Verma et al., 2020), and overwhelming influx of communication (Bal et al., 2020).

Among the aforementioned studies related to emergency remote teaching, social media communities were mentioned as communication venues where educators could seek knowledge, resources, and support during the pandemic (Bozkurt et al., 2020; Trust et al., 2020). Trust and Whalen (2020) discovered that more than half of their study participants, who were primarily educators in Massachusetts school districts, turned to social media to read posts (168 out of 325 participants), and comments (177 out of 325 participants) from other educators, and nearly a quarter asked for help, ideas, or resources (79 out of 325 participants). Faculty members teaching in higher educational institutions in India also turned to social media to connect with

others (Verma et al., 2020). Faculty members working at higher educational institutions in the U.S. used social media as a means of communication during the pandemic (Johnson, Veletsianos, and Seaman, 2020). Trust et al. (2020) found that two Twitter hashtags (#RemoteTeaching and #RemoteLearning) were actively used by educators to interact with peers, combat physical isolation, and find and share information that assisted them in shifting to emergency remote teaching during the pandemic. When there was a lack of sufficient, timely resources, social media offered affordances to promote engagement with and learn from colleagues (Bozkurt et al., 2020). In sum, during the challenging time of the COVID-19 pandemic, educators used social media to provide mutual emotional support and motivation in addition to seeking knowledge and resources.

The use of Reddit for professional purposes

The social media platform Reddit is highly popular (Schrader et al., 2020), ranking as the sixth most visited website in the United States and 14th globally (Alexa Internet, 2022). Reddit hosts more than 50 million daily active users, with more than 13 billion posts and comments (Reddit Inc., 2022). Like other social media, Reddit users take on different roles, such as moderators who provide guidelines. Reddit allows asynchronous threaded conversations; therefore, contributors can generate posts and comments (i.e., responses to others' posts) in a threaded format. For users who prefer not to post or comment, Reddit provides a voting feature where users can either upvote or downvote a post or comment (Carpenter et al., 2018; Schrader et al., 2020; Staudt Willet & Carpenter, 2020).

Reddit's distinct features support communities where users can carry out authentic dialogues (Carpenter et al., 2018; Carpenter & Staudt Willet, 2021; Kennedy et al., 2016; Singer et al. 2014; Țăran, 2017). Reddit allows the formation of themed discussion forums, called subreddits. At the time of writing, there are more than 100,000 active subreddits (Reddit Inc., 2021). Each subreddit is a community dedicated to facilitating discussions about common topics of interest, open to anyone with common interests, passion, and goals—thereby encouraging participation from members (Moore & Chuang, 2017). Additionally, registered Reddit users can create usernames not associated with their real identities (e.g., legal name or location). As a result of this anonymity, Reddit users can discuss any topic and ask questions without feeling intimidated or judged by other users. With these distinct features, Reddit may offer a safe environment for higher education professionals to seek knowledge and share resources related to sensitive topics that they may otherwise be reluctant to discuss in-person or with local colleagues (Carpenter & Staudt Willet, 2021; Staudt Willet & Carpenter, 2020, 2021).

Past research has documented investigations of education-related topics on Reddit. Chang-Kredl and Colannino (2017) analyzed 600 entries to discover what people remembered about their best, worst, favorite, and least favorite teacher. By analyzing the top 25 entries in the r/Teachers subreddit, Carpenter et al. (2018) found that users engaged in advice-seeking and advice-giving related to technical and emotional aspects of teaching, which might be sensitive and uncomfortable to discuss

in-person. Staudt Willet and Carpenter (2020) analyzed a full year of entries from four subreddits (i.e., r/education, r/Teachers, r/teaching, and r/teachingresources), revealing educators' various contributions and interaction levels in Reddit. Finally, Staudt Willet and Carpenter (2021) studied how contributions, conversation topics, and discourse in r/education and r/Teachers changed across three-and-a-half years, and Carpenter and Staudt Willet (2021) used qualitative analysis to explore how educators apply the affordances of anonymity in these two subreddits. Despite these examples of past studies, research exploring the use of Reddit for professional purposes in higher education is still limited. There remain questions about how professionals in higher education interact with each other and seek and share advice in Reddit.

Communities of practice and Reddit

Modern technologies like the internet allow more CoP groups to emerge and organize differently. For instance, the connective affordances of the internet help collapse geographical and temporal limitations, which is especially useful when CoP members live in dispersed areas and time zones (Wenger et al., 2002; Woo, 2015). CoPs have often been studied in the context of social media research. Several studies found that teachers used Twitter to find, interact with, and learn from other teachers without meeting in-person (Carpenter & Krutka, 2015; Krutka et al., 2017). For instance, Twitter hashtags can serve as CoPs where meaningful dialogues, mentoring, and resource sharing can occur (Britt & Paulus, 2016). Gao and Li (2017) examined how educational professionals participated in a one-hour synchronous chat event on Twitter and explored the participants' interaction levels. Eaton and Pasquini (2020) analyzed Twitter #AcAdv chats, interviewed participants, and discussed how a Twitter-facilitated CoP supports the ongoing learning and practice of the academic advising professionals in higher education. A sense of social presence may play a role in this type of dialogue and interaction (Lomicka & Lord, 2012). Gradually, this sense of social presence may further contribute to a sense of community (Lomicka & Lord, 2012; Rosell-Aguilar, 2018), where joint activities and discussions take place (Lord & Lomicka, 2014).

Reddit's features and affordances can be understood through a CoP lens. For instance, a CoP lens highlights that subreddit user membership can take form in core (e.g., moderator), active (e.g., those who frequently post and comment), or peripheral (e.g., those who prefer to merely read the content) roles. This variety of roles resonates with findings from Muljana et al. (2020) and Wenger et al. (2002). For example, at least one moderator in each subreddit provides guidelines and monitors conversations. All other members are welcome to post or comment, but the moderator may delete any inappropriate posts or comments. Those who do not wish to post or comment can participate in a less demanding way by upvoting or downvoting subreddit content (Carpenter et al., 2018; Schrader et al., 2020; Staudt Willet & Carpenter, 2020). In addition, the anonymity feature of Reddit provides a safe environment where people can freely interact with the topic, content, and others without feeling afraid to be judged (Carpenter & Staudt Willet, 2021). "Joining" a subreddit

initially can be seen as low engagement as reading a single post in that subreddit; there are no expectations to contribute at a certain level. That is, a CoP welcomes participation regardless of users' contribution and interaction levels. In fact, Lave and Wenger (1991) argued that newcomers entering a group should contribute less and observe more as a form of *legitimate peripheral participation* that is essential for situated learning. As peripheral members become more comfortable interacting in the community, they may be more motivated to participate further (Lai & Chen, 2014). In this way, participation is fluid and can change over time (Guldberg & MacKness, 2009).

Also, subreddits' features and affordances resonate with the CoP's three characteristics: common domain, community, and shared practice. For example, most subreddits include a welcome statement describing the purpose and the members who may want to join. This type of welcome statement may suggest that the moderator and existing members would like to share interests or passions about common topics, resonating with the *domain* characteristic. Reddit itself refers to a community dedicated to facilitating discussions about common topics of interests (Moore & Chuang, 2017), allowing the members to engage one another, which aligns with the *community* characteristic of CoP. Through the engagement afforded by the community characteristics, the subreddit members can actively seek advice and share knowledge. Over time, their interactions can generate a knowledge base and resources, representing the members' *shared practice* characteristics. In other words, if subreddits include a clear purpose statement about their communities, the common topics or fields the members share, how the discussions are moderated, and a description of the target members, their existences are likely to resonate with the three CoP characteristics.

Purpose

This study addresses a gap in the literature at the intersection of higher education professionals' just-in-time knowledge-seeking and -sharing, responses to the COVID-19 pandemic, and the use of Reddit to accomplish these purposes. In this study, we examined participation patterns of Reddit users in two subreddits relevant to the interests of higher education professionals, *r/highereducation* and *r/Professors*, during the time period between semesters when presumably much planning occurred, both before and during the COVID-19 pandemic. Three research questions guided this study:

- RQ1: To what extent, if any, did individual contributions in *r/highereducation* and *r/Professors* change during COVID-19?
- RQ2: To what extent, if any, did content interactions in *r/highereducation* and *r/Professors* change during COVID-19?
- RQ3: To what extent, if any, did popular topics in *r/highereducation* and *r/Professors* change during COVID-19?

Method

This study aimed to examine the participation patterns and higher education topics on Reddit via a descriptive study, allowing us to observe “a situation as it is [...] without changing or modifying the situation under investigation” (Leedy & Ormrod, 2016, p. 136). This descriptive design guided us through analyzing people’s behaviors (Leedy & Ormrod, 2016). In the context of this study, we specifically took a quantitative approach by collecting and analyzing *digital traces* (Lee et al. 2017) of activity in two subreddits, *r/highereducation* and *r/Professors*. Digital traces can be found in the self-documenting and self-archiving information left behind by social media users as they participate online, such as posts and comments on Reddit (Staudt Willet & Carpenter, 2020). Studying digital traces is a means to unobtrusively examine behaviors in a natural setting (Lee et al., 2017). Because digital traces can provide researchers with “comprehensive pictures of both individual and group behavior” (Lazer et al., 2009, p. 721) and “a moment-by-moment picture of interactions over extended periods of time” (p. 722), this approach may offer effective insight into activity in Reddit communities of practice at a large scale.

Sampling

We selected two subreddits used by those interested in higher education, including higher education professionals: *r/highereducation* and *r/Professors*. The *r/highereducation* subreddit was created in 2009 and had 48,300 members as of April 2022 (*r/highereducation*, 2022). *r/highereducation* invites “news, articles, and discussion related to professional and policy issues in higher education” (*r/highereducation*, 2022, About Community section). The welcome message of *r/highereducation* describes the use of moderated flair; with the members’ permission, a moderator can tag the members with the employment category or department (e.g., administrator, faculty, staff of student affairs, or “any other subfield in higher education”) (*r/highereducation*, 2022, Welcome section). Although there is no way to prevent other stakeholders (e.g., parents and students) from joining *r/highereducation*, the welcome message suggests that the content of this subreddit targets higher education professionals.

The *r/Professors* subreddit, created in 2011, is a community for tenured and tenure-track faculty members, lecturers, adjunct faculty members, or graduate teaching assistants to engage one another (*r/Professors*, 2022). There were approximately 101,000 members in *r/Professors* as of April 2022 (*r/Professors*, 2022). Although *r/highereducation* may welcome all higher education professionals (e.g., administrators, faculty, and staff members), *r/Professors* appeals specifically to educators teaching in higher education institutions as the target members. For example, students may join *r/Professors*, but their posts (e.g., questions about professors) may be subject to removal at the moderator’s discretion (*r/Professors*, 2022).

The purpose of this study is to explore participation patterns of Reddit users in two subreddits relevant to the interests of higher education professionals, *r/highereducation* and *r/Professors*, during the time period between semesters when

presumably much planning occurs, both before and during the COVID-19 pandemic. Therefore, we collected posts and comments in r/highereducation and r/Professors generated from May 1, 2020, to August 31, 2020. To understand how members' subreddit participation and activity may have changed during COVID-19 relative to the year before the pandemic, we also collected posts and comments generated from May 1 to August 31, 2019.

Data collection

To obtain digital traces from these subreddits, we downloaded posts and comments from both subreddits in 2019 using Google Cloud's (2020) BigQuery web service. However, because of a delay in when BigQuery's Reddit archive is updated, we were unable to obtain Reddit posts and comments from 2020 through BigQuery. To collect the more current 2020 data, we wrote an original web scraping script in the R programming language (R Core Team, 2020) that queried the Reddit API and returned the most recent posts and comments.

From 2019, we collected a total of 765 posts and 1487 comments within 253 threads (i.e., posts that receive responses) in r/highereducation dated May 1 to August 31, 2019. We additionally collected 1458 posts and 25,722 comments within 1361 threads in r/Professors. From 2020, we collected 666 posts and 4969 comments within 512 threads from r/highereducation dated May 1 to August 31, 2020. We further collected 2,065 posts and 45,326 comments within 2,013 threads from r/Professors.

Data analysis

We used R to conduct all analyses. To address RQ1 and RQ2, we analyzed the numbers of contributors, posts, threads, and responses. To address RQ3, we identified the five most popular conversation topics in 2019 and 2020 through a procedure that expanded upon the topic modeling example from Silge and Robinson (2017). First, we made all text from the subreddits posts and comments lower case. Then, we removed punctuation marks, symbols, numbers, and URLs (i.e., links to websites). We also removed the default English stopwords identified by the *quanteda* R package (Benoit et al., 2020). In addition to these default stopwords, we also removed "NA," "removed," and "deleted" which indicated posts and comments that were no longer available, as well the words "just," "can," "like," "also," and "even" which seemed to be used frequently as colloquial "filler" words as part of the informal authorship in these subreddits. We then organized the cleaned text into a document-feature matrix.

With the text in this required format, we were able to create topic models through latent Dirichlet allocation (LDA), a statistical method of grouping words together using frequency and likeness, by using the *topicmodels* R package (Grün & Hornik, 2020). This process calculated per-topic-per-word probabilities, called "betas" (Silge & Robinson, 2017). Finally, we used the *seriation* R package (Hahsler et al.,

2020) to reorder the terms within each topic. We used the default parameters for the “seriate” function, which set the reordering method as principal components analysis (PCA). The seriation process did not change the beta values but simply clustered them within topics according to frequency. In other words, after reordering, adjacent rows were more similar than non-adjacent rows. This allowed us to plot the per-topic-per-word probabilities in a data visualization affording a direct comparison between topics (see Fig. 2).

Results

RQ1: changes in individual contributions

We analyzed changes in individual contributions in the two subreddits by calculating the number of posts, posters, comments, and commenters (Table 1). In r/highereducation, the number of posts and posters decreased from 2019 to 2020, while the number of comments and commenters increased more than 100%. This would seem to suggest a significant change in conversation patterns in r/highereducation. That is, there were fewer new conversations during COVID-19 relative to the prior year, but those conversations that were started received much more attention. In contrast, all four measures of individual contributions increased in r/Professors.

We additionally analyzed the number of daily posts and comments in both subreddits (Fig. 1). We observe fewer daily posts in r/highereducation during June–July 2020 than during the same months in 2019. However, the number of 2020 daily posts trended upward at the end of the summer (i.e., August 2020). As a result, during the COVID-19 pandemic, there were more daily posts in r/highereducation just before a new semester started than at the same time the previous year. Additionally, there were more daily comments in r/highereducation throughout summer 2020.

In r/Professors, there was a noticeable decrease in the number of daily posts and comments from May to June, followed by steady increases in July and August 2020. This would seem to suggest that r/Professors participants were less active during the summer months but then became more engaged as a new semester approached. Although this pattern was evident in both 2019 and 2020, there were more r/Professors posts and comments during the COVID-19 summer of 2020 than the year before.

Table 1 Individual contributions by subreddit from May to August (2019 vs. 2020)

Measure	r/highereducation			r/Professors		
	2019 (<i>n</i>)	<i>n</i> _{difference} (%)	2020 (<i>n</i>)	2019 (<i>n</i>)	<i>n</i> _{difference} (%)	2020 (<i>n</i>)
Posts	765	−99 (13% decrease)	666	1458	607 (41.6% increase)	2065
Posters	269	−5 (2% decrease)	264	751	413 (55% increase)	1164
Comments	1487	3482 (243% increase)	4,969	25,722	19,604 (76% increase)	45,326
Commenters	545	600 (110% increase)	1145	3,248	2,011 (62% increase)	5,259

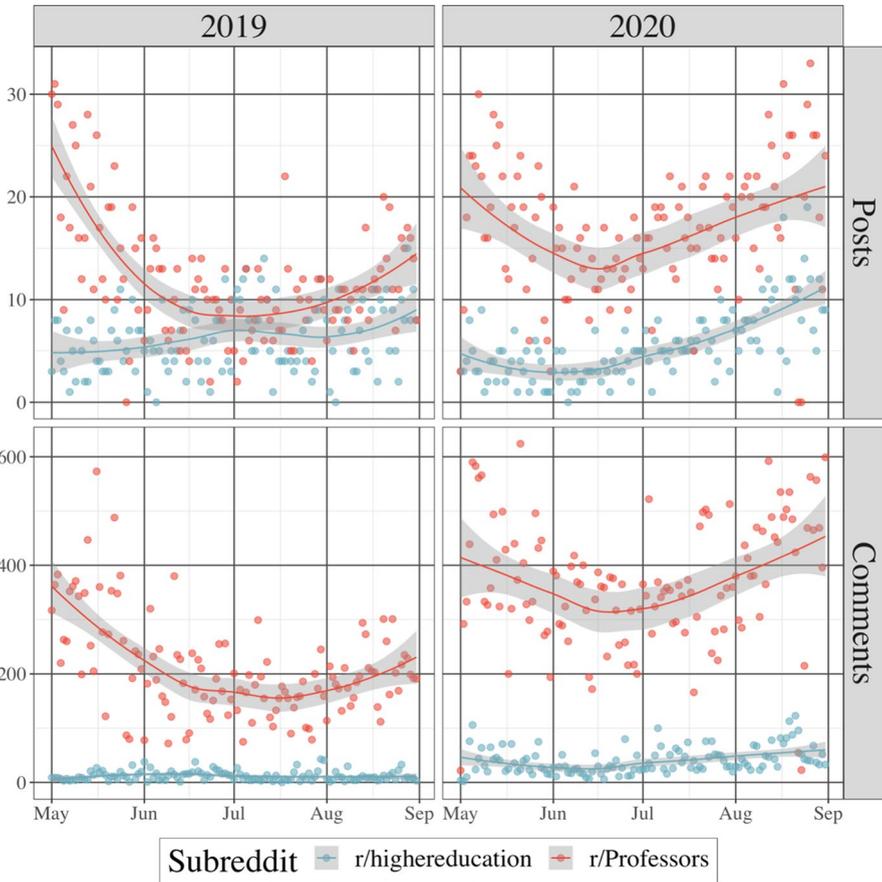


Fig. 1 Daily posts and comments by subreddit from May to August (2019 vs. 2020)

Table 2 Content interactions by subreddit from May to August (2019 vs. 2020)

		r/highereducation		r/Professors	
		2019	2020	2019	2020
Response rate	Posts	765	666	1,458	2065
	Threads	253	512	1,361	2013
	Comments	1474	4,987	25,645	45,572
	Response rate	33.07%	76.88%	93.35%	97.48%
Thread length	Mean	5.83	9.74	18.84	22.64
	SD	7.11	12.36	21.36	25.88
	Median	3	5	12	14
	Maximum	50	89	225	191

RQ2: changes in content interactions

We analyzed *response rate* (i.e., the percentage of subreddit posts that received comments) and *thread length* (i.e., the average number of comments to posts that received at least one response) as measures of change in content interactions (Table 2). The response rate in r/highereducation more than doubled, increasing from 33.07% in 2019 to 76.88% in 2020. The response rate in r/Professors was already high in 2019 at 93.35%. Nevertheless, this rate still increased in 2020, to 97.48%. In addition, the average thread length in both subreddits increased from 2019 to 2020. In 2019, r/highereducation threads contained a mean of 5.83 comments; this increased to 9.74 comments in 2020. The average thread length in r/Professors also changed, but it was not as steep as in r/highereducation. In r/Professors, the mean 2020 thread length was 22.64 comments, an increase from 18.84 comments per thread the prior year.

RQ3: changes in popular topics

Through topic modeling, we juxtapositionally analyzed popular topics in r/highereducation and r/Professors posts and comments, comparing 2019 to 2020 (Fig. 2). We also analyzed the most frequent words used within each topic (Table 3). We report findings by how the top-five topics in posts and comments changed from 2019 and 2020, organized by subreddit.

r/highereducation

In 2019, posts in r/highereducation covered a broad range of issues related to colleges and universities. Three of the five topics were student-focused, including a topic on student admissions featuring terms such as “top,” “SAT,” “score,” “get,” and school (Topic 5). A second student topic seemed more focused on students’ experiences of Master’s degrees and getting a job (Topic 4). A third student topic seemed to be conversations about career concerns (Topic 3), with terms such as “unemployed,” “underemployment,” “rate,” “median,” and “wage.” Global education was a fourth area (Topic 1), with terms like “six sigma” (a process-improvement certification), “NCERT” (the National Council of Educational Research and Training, an educational reform movement in India), and “MBBS” (the Bachelor of Medicine and Bachelor of Surgery degree in the U.K.). A final topic in r/highereducation posts seemed to be related to news in higher education (Topic 2), with additional terms “online,” “survey,” “interviews,” and “people.”

r/highereducation comments in 2019 seemed to be connected to jobs and careers, with Topic 4 including the terms “job,” “degree,” “work,” “get” and Topic 2 including “want,” “make,” and “much.” Another topic in the comments was focused on students’ discussions in online courses (Topic 1). Faculty were the focus of another comments topic (Topic 5) and a final topic in the comments seemed concerned with time issues (Topic 3).

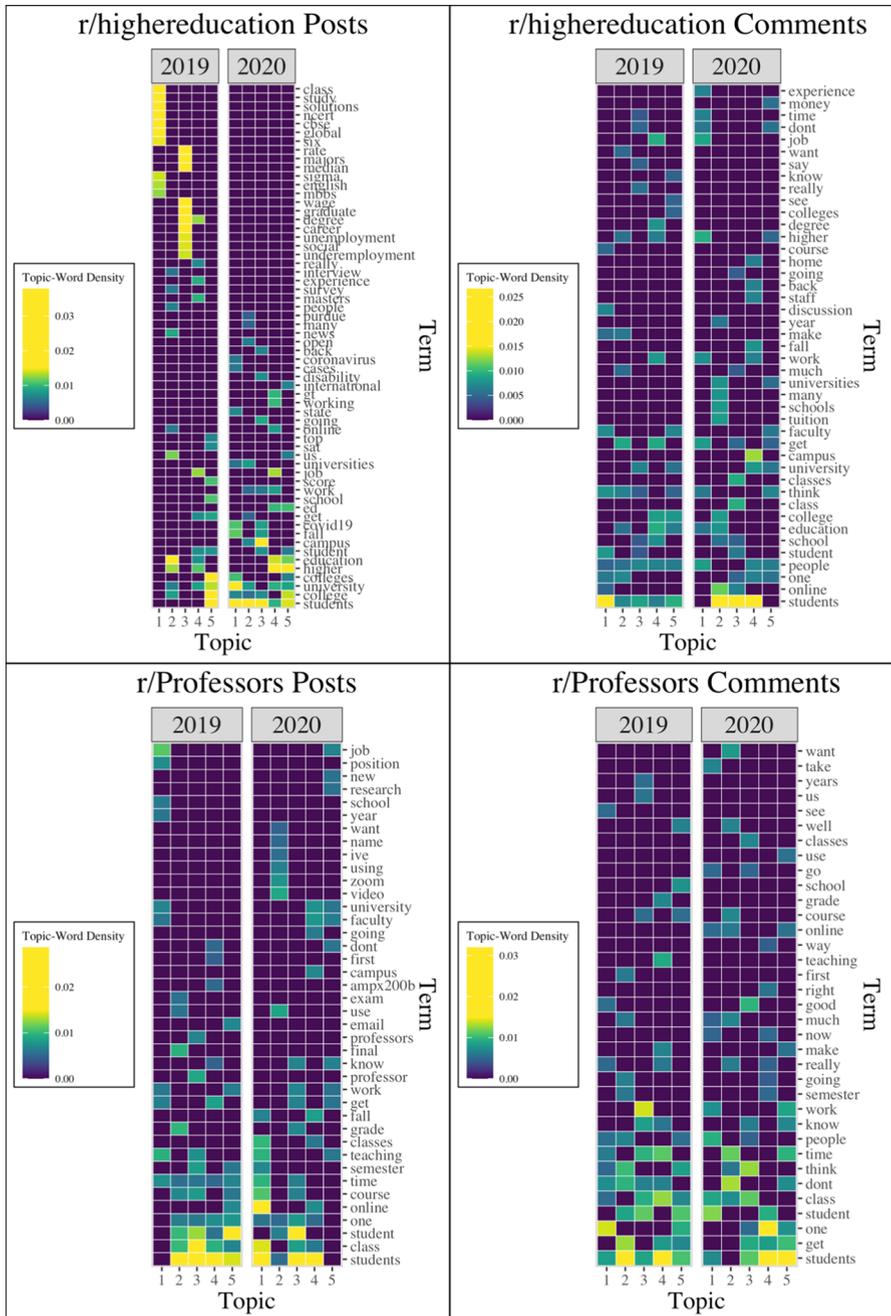


Fig. 2 Popular topics by subreddit from May to August (2019 vs. 2020). *Note* Columns depict five topics from 2019 and five from 2020. Brighter colors show a higher density of terms in a topic, with the dark purple color meaning that a term was absent from a topic. Rows have been computationally reordered using principal components analysis (PCA) so that adjacent rows are more similar than non-adjacent rows

Table 3 Per-topic-per-word probabilities (betas) by subreddit, type, and year

Subreddit	Type	Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5					
r/highereducation	posts	2019	Class	0.0379	Education	0.0165	Rate	0.0263	0.0126	College	0.0272	
			Study	0.0278	Higher	0.0128	Majors	0.0257	Degree	0.0126	Students	0.0216
			Solutions	0.0213	Us	0.0119	Median	0.0257	Higher	0.0109	Colleges	0.0152
			Ncert	0.0179	News	0.0091	Wage	0.0227	Masters	0.0097	University	0.0135
			Cbse	0.0169	College	0.0085	Degree	0.0198	Experience	0.0093	School	0.0108
			Global	0.0152	People	0.0065	Graduate	0.0183	University	0.0085	Score	0.0105
			Six	0.0145	University	0.0064	Career	0.0156	Education	0.0074	Get	0.0087
		2020	Sigma	0.0139	Online	0.0060	Unemployment	0.0144	Student	0.0073	Student	0.0076
			English	0.0133	Survey	0.0059	Social	0.0142	Get	0.0072	Sat	0.0072
			mbbs	0.0125	Interview	0.0057	Underemployment	0.0139	Really	0.0070	Top	0.0067
			Students	0.0194	Students	0.0213	Students	0.0222	Higher	0.0163	Higher	0.0154
			University	0.0179	Universities	0.0083	Campus	0.0183	Education	0.0138	Students	0.0142
			Fall	0.0112	University	0.0082	Going	0.0090	Job	0.0130	College	0.0136
			Covid19	0.0108	Campus	0.0069	Covid19	0.0084	Working	0.0100	Education	0.0118
Comments	2019	Colleges	0.0104	Open	0.0063	Fall	0.0082	ed	0.0100	Ed	0.0103	
		State	0.0070	College	0.0055	Student	0.0075	gt	0.0098	University	0.0087	
		College	0.0070	Work	0.0051	College	0.0073	Students	0.0097	International	0.0067	
		Cases	0.0059	Get	0.0046	Disability	0.0072	University	0.0095	Colleges	0.0067	
		Coronavirus	0.0058	Many	0.0046	Back	0.0067	Work	0.0083	Us	0.0062	
		Universities	0.0056	Purdue	0.0046	Work	0.0060	Online	0.0083	Student	0.0061	
		Students	0.0184	Get	0.0089	Students	0.0087	Education	0.0093	Students	0.0095	
		Student	0.0079	One	0.0071	People	0.0069	Job	0.0092	College	0.0079	
		Think	0.0076	Students	0.0070	University	0.0065	Get	0.0090	Faculty	0.0067	
		Faculty	0.0073	Think	0.0066	Really	0.0055	College	0.0083	Education	0.0063	
		Discussion	0.0067	Make	0.0059	Dont	0.0049	Work	0.0079	People	0.0062	
		One	0.0060	People	0.0056	Say	0.0046	Degree	0.0078	University	0.0055	

Table 3 (continued)

Subreddit	Type	Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5					
r/Professors	Posts	2020	Make	0.0052	Higher	0.0055	Think	0.0043	School	0.0073	Colleges	0.0048
			Course	0.0049	Education	0.0054	School	0.0042	People	0.0066	See	0.0048
			People	0.0048	Much	0.0052	Time	0.0041	Students	0.0064	Think	0.0047
			Online	0.0048	Want	0.0051	Student	0.0040	Higher	0.0064	Know	0.0046
			Higher	0.0093	Students	0.0228	Students	0.0266	Students	0.0195	Think	0.0068
			Job	0.0088	Online	0.0116	Class	0.0094	Campus	0.0128	People	0.0063
			People	0.0083	Tuition	0.0082	Classes	0.0092	University	0.0079	Faculty	0.0059
			Get	0.0082	College	0.0081	Online	0.0067	Fall	0.0076	University	0.0058
			Work	0.0074	Schools	0.0079	Student	0.0060	People	0.0068	One	0.0057
		Experience	0.0067	Education	0.0078	Get	0.0049	Staff	0.0066	Dont	0.0055	
		Time	0.0066	Many	0.0076	One	0.0048	Back	0.0065	Money	0.0054	
		Think	0.0061	Universities	0.0076	School	0.0046	One	0.0065	Universities	0.0051	
		Dont	0.0059	Year	0.0058	Going	0.0044	Work	0.0065	Higher	0.0049	
		Education	0.0057	School	0.0056	Much	0.0042	Home	0.0063	Get	0.0046	
		Job	0.0110	Students	0.0183	Class	0.0198	Students	0.0238	Student	0.0232	
		Teaching	0.0095	Class	0.0101	Students	0.0182	Class	0.0096	Students	0.0141	
		Time	0.0075	Student	0.0101	Student	0.0128	Get	0.0085	One	0.0079	
		Position	0.0072	Grade	0.0098	Professor	0.0090	One	0.0073	Online	0.0070	
		University	0.0068	Final	0.0095	Semester	0.0083	Student	0.0057	Email	0.0069	
Get	0.0064	Course	0.0069	Course	0.0081	Ampx200b	0.0050	Class	0.0068			
School	0.0061	One	0.0064	Teaching	0.0075	Dont	0.0050	Time	0.0068			
Work	0.0060	Use	0.0057	Professors	0.0068	Time	0.0050	Work	0.0062			
Year	0.0059	Exam	0.0056	One	0.0061	Know	0.0046	Course	0.0059			
Faculty	0.0058	Time	0.0054	Time	0.0059	First	0.0045	Semester	0.0059			

Table 3 (continued)

Subreddit	Type	Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5				
		2020	Students Online	Video Use	0.0090 0.0088	Student Students	0.0187 0.0158	Students Fall	0.0184 0.0083	Job Know	0.0067 0.0065
			Class	Zoom	0.0077	Class	0.0084	Faculty	0.0079	Faculty	0.0062
			Course	Student	0.0065	One	0.0081	University	0.0076	Teaching	0.0060
			Classes	Using	0.0065	Grade	0.0069	Online	0.0072	Dont	0.0058
			Time	Students	0.0054	Work	0.0069	Campus	0.0070	University	0.0058
			Teaching	Ive	0.0053	Know	0.0067	Going	0.0061	Get	0.0058
			Semester	One	0.0051	Get	0.0066	Class	0.0061	New	0.0056
			Fall	Name	0.0050	Course	0.0065	Classes	0.0059	Research	0.0056
			One	Want	0.0048	Time	0.0064	One	0.0051	Work	0.0055
			One	Students	0.0262	Work	0.0140	Students	0.0178	Student	0.0108
			Students	Get	0.0128	Student	0.0113	Class	0.0126	Students	0.0107
			Dont	Think	0.0102	Time	0.0097	Time	0.0112	One	0.0093
			Time	Dont	0.0097	Class	0.0094	Teaching	0.0090	Think	0.0084
			People	Student	0.0088	Students	0.0088	Get	0.0081	School	0.0076
			Good	People	0.0067	Know	0.0084	Grade	0.0069	Get	0.0069
			Class	Going	0.0065	Dont	0.0065	Make	0.0067	Class	0.0069
			See	First	0.0061	Us	0.0057	Dont	0.0064	Well	0.0065
			Really	Semester	0.0059	Years	0.0053	Really	0.006	People	0.0054
			Think	Much	0.0059	Course	0.0052	Know	0.0058	Course	0.0054
			Student	Dont	0.0130	Think	0.0126	Students	0.0320	Students	0.0152
		2020	People	Time	0.0114	Class	0.0112	One	0.0158	Get	0.0103
			Class	Want	0.0081	Students	0.0111	Student	0.0093	Time	0.0097
			Work	Class	0.0073	Good	0.0097	Get	0.0083	Work	0.0087

Table 3 (continued)

Subreddit	Type	Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5					
			Students	0.0071	Course	0.0069	Get	0.0091	Right	0.0057	One	0.0075
			Take	0.0067	Much	0.0068	Classes	0.0069	Now	0.0051	Don't	0.0072
			Online	0.0051	Well	0.0066	Know	0.0062	Semester	0.0050	Know	0.0069
			Go	0.0050	Really	0.0062	One	0.0052	Really	0.0047	Online	0.0056
			Now	0.0048	Online	0.0060	Go	0.0048	Way	0.0044	Use	0.0056
			Much	0.0046	Think	0.0059	People	0.0047	Going	0.0044	Make	0.0056

In 2020, the broad range of topics covered in r/highereducation posts shifted and focused on issues related to the COVID-19 pandemic. All five r/highereducation topics in summer 2020 were pandemic-related and student-focused. Topic 1 was explicitly about COVID-19, with additional terms like “coronavirus,” “cases,” and “state.” Topic 4 was about issues related to education moving online, and Topic 5 was about implications for international students studying in the U.S. Two topics were related to concerns about returning to campus in the fall, with Topic 3 slightly broader and touching upon disability concerns, and Topic 2 more narrowly attuned to the pandemic response at Purdue University, whose president made controversial comments in Summer 2020 that were being discussed in the news and on social media.

r/highereducation comments in 2020 seemed similarly impacted by COVID-19. One topic was related to classes going online (Topic 3) and another to working from home versus going back to campus (Topic 4). The remaining three topics were related to finances, with Topic 5 specifically related to money, Topic 2 about tuition and the potential impact of many classes moving online, and Topic 1 about getting a job, including terms like “work,” “experience,” and “time.”

r/Professors

In 2019, posts in r/Professors were related to a variety of issues pertaining to an academic profession, starting with finding a professorial job (Topic 1), with included terms like “faculty,” “position,” “get,” “school,” and “year.” The remaining four topics were more teaching focused, including general teaching concerns such as those related to time (Topic 3), giving and grading exams (Topic 2) which also included the terms “final” and “use,” and getting to know students in the first class meeting (Topic 4). Finally, Topic 5 was related to online courses, with terms such as “work,” “email,” and “time.”

r/Professors comments in 2019 seemed to be connected to the post topics, especially around teaching. There was a topic on the general work of teaching (Topic 3) with terms such as “course,” “class,” “time,” and “years;” another topic on getting students going at the start of the semester (Topic 2), and a topic on grading (Topic 4) that included terms like “students,” “grade,” and “make.” Topic 5 was centered on schools, courses, and classes. The theme of Topic 1 was difficult to infer because it included fairly generic terms such as “one,” “good,” “see,” “time,” and “really.”

In 2020, topics in r/Professors posts shifted from the general work of an academic to focus on issues related to the COVID-19 pandemic. Two topics related to courses going online in the fall semester, with one seemingly more focused on teaching implications (Topic 1) and another on broad university concerns (Topic 4). Two other topics focused on specific teaching tasks, such as grading (Topic 3) and using Zoom for video meetings (Topic 2). The fifth and final topic was on faculty jobs, including terms like “new,” “research,” “teaching,” “work,” and “university.”

Topics of r/Professors comments in 2020 were all teaching-related. One topic focused on getting started with students (Topic 4), including terms like “right,” “way,” and “now.” Another topic was about students’ online work (Topic 5), with terms such as “use,” “make,” “know,” and “time.” A third topic seemed like a general concern for good classes (Topic 3), and the final two topics were both related to the online nature

of classes, with one more focused on the shift to online (Topic 1) and the other on time issues (Topic 2).

Discussion

Results from this study address a gap in the literature at the intersection of higher education professionals' ongoing knowledge-seeking and -sharing, responses to the COVID-19 pandemic, and the use of Reddit to accomplish these purposes. Our results indicate changes in individual contributions and content interactions between those occurring before and during the COVID-19 pandemic in both *r/highereducation* and *r/Professors*. Growth in these measures is more consistent in *r/Professors* than in *r/highereducation*. Our findings also display more changes in *r/highereducation* popular topics than in *r/Professors*. Here, we further discuss the major findings through the CoP lens.

Changes in community participation

Our findings indicate increases in individual contributions in both *r/highereducation* (i.e., the number of comments and commenters) and *r/Professors* (i.e., the number of posts, posters, comments, and commenters). Additionally, content interactions (i.e., the response rate and average thread length) increased in both *r/highereducation* and *r/Professors*. Observing a steep increase in the response rate of *r/highereducation* (from 33.07% to 76.88%), it seems there was a sudden surge in interest in summer 2020.

A CoP welcomes any participation, regardless of the contribution and interaction levels. This includes embracing members who prefer to observe initially. As Lave and Wenger (1991) suggest, newcomers entering a CoP group may contribute less and observe more, supporting the peripheral participation for initiating a learning process. Particularly, Reddit's anonymity may have helped provide a safe environment for higher education professionals to ask questions regarding relevant topics; the voting feature additionally allows the peripheral members to upvote or downvote posts and comments as they acquire information (Staudt Willet & Carpenter, 2020, 2021). In line with Eaton and Pasquini's (2020) study, our findings suggest that these subreddits can serve as a CoP in gathering like-minded higher education professionals who intend to seek knowledge from each other and improve their professional practice. Over time, members of *r/highereducation* and *r/Professors* may recognize the social presence of others (Lomicka & Lord, 2012; Rosell-Aguilar, 2018), potentially resulting in a shift of engagement (Eaton & Pasquini, 2020; Enger et al., 2002). As expected, we found increased participation levels in both subreddits.

Although there was increased participation detected in the individual contributions and content interactions in *r/highereducation*, the growth in these measures was more consistent in *r/Professors*. This can be expounded through two potential explanations. First, recalling Staudt Willet and Carpenter's (2020) study that compared individual contributions in four teaching-related subreddits, they discovered

that the percent contributing level increased more steadily in *r/Teachers* than in *r/teaching* and *r/education*, respectively. Like *r/Teachers*, *r/Professors* can serve as a teaching-related learning community with a clear target audience (i.e., professors). There was already much participation in *r/Professors* before the pandemic; when the pandemic occurred, it seemed like the members did not hesitate to revisit this subreddit to seek, share, and discuss instructional-strategy ideas. As found in this study, all numbers of posts, posters, comments, and commenters in *r/Professors* steadily increased during the pandemic. Faculty members participating in *r/Professors* may have possibly recognized the benefits of social media for attaining professional knowledge, sharing teaching ideas and resources, seeking advice, and networking with their peers, resonating with existing studies (Meishar-Tal & Pieterse, 2017; Veletsianos, 2012).

Second, it appears that subreddit members deemed shared commitment and competence among members (i.e., the common domain characteristic of CoP) crucial, aligned with prior literature (Wenger, 1998; Wesely, 2013). The main page of *r/Professors* displays the group's purpose, guidelines for who can join, and the discussion content expected from the members. This subreddit appears exclusive; only those who teach in a higher education setting are encouraged to engage in *r/Professors*. On the contrary, the members of *r/highereducation* are possibly various stakeholders of higher education beyond faculty members; they are more diverse in their professions and interests, such as administrators, staff members, and possibly students. In other words, CoP members seemed to participate and interact more consistently when they knew that other members shared more common interests, expertise, and professions, which might explain the steady increase of contributions and interactions in *r/Professors*.

Communities adjusting to crisis

In addition to the changes in individual contributions and content interactions, we found changes in the most popular topics in both subreddits. Our findings indicate that these topical changes may be associated with the COVID-19 pandemic crisis in 2020. The new topics, matched with increases in individual contributions and content interactions, suggest that these CoPs were adjusting to disruption and crisis. Our findings parallel other research showing that the Twitter #Edchat CoP responded to the pandemic as a flexible, just-in-time emergency response network (Greenhow et al., 2021; Staudt Willet et al., 2021).

Moreover, social media have been used to seek support during the pandemic (Bozkurt et al., 2020; Trust et al., 2020). This may have also been the case with both *r/highereducation* and *r/Professors*. For example, as employees in the higher education setting were mandated to work from home, there may have been a need to overcome unfamiliar challenges related to physical isolation and working from home. Faculty members in higher education may have encountered new challenges related to transforming courses to emergency remote teaching during the pandemic. There may have been unusual questions and discussions that had not been asked before, and hence, the people working in the higher education sector possibly turned

to social media to connect with others to help them overcome challenges because they felt they were *in this together* (Verma et al., 2020). It follows that individual contributions and content interactions increased in both r/highereducation and r/Professors, even if rates were somewhat different in the two subreddits.

We discovered broader topics in r/highereducation than in r/Professors. Before COVID-19, the members in r/highereducation frequently discussed issues related to education and college broadly and factors impacting such issues, such as admission and career opportunity for future graduates. Another frequent topic pertained to career-related issues. During the pandemic, discussion topics shifted to issues related to the pandemic, such as campus closure, cancellation of in-person classes, and how these might impact the quality of education. Additionally, there were conversations about what could and should have happened when students returned to campus (e.g., COVID-19 testing procedures, physical distancing). As all members were impacted by the pandemic and could relate to the issues, these relevant topics attracted a high volume of responses, thereby yielding a 76.88% response rate—much higher than the previous year. In contrast, the topics in r/Professors were more consistent across both periods. Additionally, the response rate in 2019 was already very high (93.35%) and increased marginally (97.48% in 2020). In 2019, r/Professors members discussed academic work, such as the professorial job and teaching-related matters. When we analyzed word-density in discussions during the pandemic, topics on teaching-related matters still existed. However, the focus shifted to online course delivery strategies, indicating that community members pursued topics relevant to the pandemic.

Such findings, as mentioned above, suggest that subreddit dialogue may take forms spanning from more conversational to deeper, which resonates with Staudt Willet and Carpenter's (2021) findings. In our study, the topics found in r/highereducation are generally broad. Depending on a topic's relevance, discussions may or may not attract responses. r/highereducation seemed to be interest-focused (e.g., trends and issues in higher education), whereas r/Professors appeared content-focused (e.g., teaching strategies). The scope of content in r/Professors discussions is more centered on teaching-related matters. These results highlight the imperative role of CoP characteristics, especially the domain characteristic (Wenger, 1998; Wesely, 2013). Members of r/Professors likely knew that fellow subreddit participants largely consisted of colleagues sharing similar teaching responsibilities and who tend to engage in teaching-related topics. This resonates with existing studies. For example, educators are likely to reach out to colleagues to find just-in-needs support (McGee et al. 2017) and mitigate feelings of isolation (Wright, 2020). Working professionals tend to seek ideas and strategies from peers who have been in similar experiences because such ideas and strategies can be more effective (Littlejohn, 2017). These past studies align with our findings, which may explain why the teaching-related discussions in r/Professors are focused, in-depth, lengthy, and therefore engaging overall.

Implications

Our findings suggest implications for higher education stakeholders applicable both during and after the COVID-19 pandemic. Because Reddit allows users to create usernames that are not linked to a real identity—creating a platform norm of anonymity that distinguishes Reddit from other social media such as Facebook and Twitter (Haythornthwaite et al., 2018)—members are able to participate comfortably in subreddits relevant to their interests. Depending on the content they would like to explore, learn, and discuss, they can select an appropriate subreddit to participate in and discuss topics that may be difficult to bring up in-person.

A subreddit hosting broad discussions (e.g., *r/highereducation*) may be appealing to discuss trends and issues impacting the higher education setting in general. For example, participants may bring up sensitive topics such as procedures, policy, and politics surrounding universities and colleges (Carpenter et al., 2018; Staudt Willet & Carpenter, 2020, 2021). Administrators may also seek ideas to overcome institutional challenges without revealing their institution's name and may be able to find previous, similar discussions without posting a question.

Teaching-related subreddits (e.g., *r/Professors*) may be appealing to faculty members and graduate teaching assistants to ask questions without hesitation in this anonymous context (Carpenter & Staudt Willet, 2021). The subreddit is set up for and moderated to ensure participants share their professions in common. This allows the discussions to be more specific on instructional strategies because there may exist a shared commitment, competence, and practice among them—reflecting qualities of a CoP (Wenger, 1998; Wesely, 2013). Faculty members have already perceived the importance of pursuing professional development to keep abreast with instructional strategies and technologies (Luo et al., 2020). Subreddits like *r/Professors* can potentially serve as a professional development environment where participants can learn from and with others about timely topics and participate in joint activities (e.g., seeking information, experience, and resources from others, and engaging in problem-solving opportunities), particularly when they are restricted by geographical and time boundaries (Wenger et al., 2002).

Following the results of this study, which reinforce findings from the literature while adding the contexts of COVID-19 and Reddit, higher education professionals may consider pursuing the benefits of just-in-time learning opportunities afforded by social media (Greenhalgh & Koehler, 2017) and are especially important during emergencies, crises, and times of disruption. These benefits will likely be found regardless of a participant's job position or title. Therefore, administrators and supervisors in higher education may consider providing support for allowing and encouraging the use of social media, like Reddit, as a learning tool (Anasi, 2018).

For those who lead or facilitate a CoP, we also offer a practical suggestion for increasing members' participation. Providing leadership opportunities to CoP members can be a strategy to sustain the group (Eaton & Pasquini, 2020). For example, those serving as core members of a CoP may offer non-hierarchical leadership roles that other members can volunteer flexibly by assisting the moderation of discussion. Involving members in CoP coordination may promote ownership of the community, thereby strengthening and sustaining social presence (Easton and Pasquini, 2020).

Limitations and future research

Using social media for professional purposes among higher education professionals is still an emerging practice (Luo & Hostetler, 2020). Our study addresses a gap in the literature at the intersection of higher education professionals' ongoing knowledge-seeking and -sharing, crisis response, and Reddit usage. We collected the Reddit data from two summer periods: before and during the COVID-19 pandemic. Our findings might have changed if we had collected data from a different period. The adjustments to contributions, interactions, and topics may continue beyond the pandemic and are worth exploring to understand further how collective learning and knowledge building shift from time to time. Future studies may also employ advanced statistical analysis. For example, because Reddit discussion forums are nested, scholars may consider performing hierarchical linear modeling to reveal differences from various periods.

Our methodological approach allowed us to describe trends in subreddit participation across time and at a large scale. However, this benefit came at the expense of depth, nuance, and insider perspectives—meaning that further investigation is warranted. Forthcoming research may consider acquiring Reddit users' insights. For instance, scholars may utilize self-report measurements to comprehend factors influencing higher education professionals' participation and interaction levels. A questionnaire may help obtain insights regarding what motivates some higher education professionals to actively contribute to discussions or merely read discussions. Notably, this additional investigation may reveal various reasons why people remain in a peripheral position (Romero-Hall et al., 2020) and which barriers (e.g., privacy issues, disreputable behaviors, and the spread of misinformation) hinder successful knowledge-seeking through social media platforms (Dabbagh et al., 2015; Krutka et al., 2019; Romero-Hall, 2021). Interviews can also reveal *how* (i.e., in what ways) and *why* (i.e., for what reasons) higher education professionals turn to Reddit for professional purposes. Self-reported findings from surveys or interviews may reveal how interactions and discussions may support faculty members' scholarship of teaching and learning (Greenhow et al., 2019, Luo et al., 2020) and provide emotional support that further strengthens higher education professionals' connection with colleagues (Trust et al., 2017).

Finally, the use of Reddit for professional purposes by other higher education professionals, such as instructional designers and instructional technologists, deserves further exploration, notably because such work is still rare (Luo & Hostetler, 2020). As modern technologies support the emergence of CoP groups, these future avenues of research are essential to offer valuable insights, expanding the relevant social-media literature on both scholarly and practical aspects.

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Declaration

Conflict of interest Authors declare that they have no conflict of interest.

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