

Look who's talking: Professional conversations of learning designers on Twitter during COVID-19

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The COVID-19 pandemic disrupted every aspect of life, forcing educational institutions to pivot rapidly to emergency remote learning. Within higher education, learning designers stepped forward and shouldered much of the responsibility of supporting institutional change on an unprecedented scale to ensure continuity of student learning. Although there is a large corpus of literature about the experiences of teachers and students during the pandemic, little is known about the experience of learning designers during this time and how their professional learning was supported. This mixed-methods study provides insights into how Twitter was used by learning designers as part of their professional learning network (PLN) during the pandemic. Using social network analysis and thematic analysis, Twitter provided a level playing field for learning designers within the @TELedvisors community who were highly engaged in global professional and social conversations, with access to continuous learning and social support. We argue that Twitter has underutilised potential for amplifying the voices of underrepresented third space workers within higher education contexts and is an important component to a learning designer's PLN in the post-pandemic era. This paper will be of interest to learning designers, the @TELedvisors community, professional organisations that support learning designers and other third space professionals.

Implications for policy or practice:

- Twitter can be an effective tool for learning designers and other third space workers as a way to access continuous professional development and to build global, non-hierarchical connections with like-minded professionals outside their institution.
- Learning designers and other third space workers should include Twitter as an effective and important component of their PLN.
- Twitter can be used as a tool for amplifying the voices of learning designers and raise the profile of their contributions to higher education by showcasing their skills and expertise to broader audiences.

Keywords: learning designers, Twitter, TELedvisors, COVID-19, professional learning network, professional development, mixed-methods research

Introduction

In late March 2020, the entire world was impacted by the COVID-19 pandemic, which saw every aspect of life disrupted and the world rapidly go into hibernation. In response to this crisis, universities had only a few weeks or days to pivot their learning and teaching to online to ensure learning continuity for their students (Adedoyin & Soykan, 2020; Hodges et al., 2020). The term *emergency remote teaching* entered our lexicon – this can be defined as a temporary learning and teaching solution to ensure continuity of learning in a time of volatility and uncertainty (Bozkurt & Sharma, 2020; Hodges et al., 2020). This was uncharted territory for many university administrators, teachers, students and learning designers (Abramenka-Lachheb et al., 2021).

Learning designers were at the forefront, leading institutions in this time of crisis (Watson & Braul, 2021). The popular media hailed learning designers as the educational heroes of universities during the pandemic. There were reports of learning designers being the hottest job in higher education as “sherpas of online learning” (Decherney & Levander, 2020). Although significant attention has been paid to the impact of COVID-19 on students and teachers, little attention has focused on the significant impact of COVID-19 on learning designers and how their continued learning has been supported during the pandemic. This research sought to investigate how Twitter, known as X from July 2023, was used by learning designers during the pandemic and the potential value of the platform for learning designers as part of a professional learning network (PLN) and an informal professional development space.

Setting the context for study

This study, undertaken during the peak of the COVID-19 pandemic between January 2020 and January 2021, sought to analyse the conversations held by those connected to the @TELedvisors community on Twitter. TELedvisors is a special interest group of the Australasian Society for Computers in Learning in Tertiary Education, which is the peak professional association for professional and academic staff involved in technology-enhanced learning and teaching. The special interest group comprises a membership of over 370 members who work as learning designers, academics, academic developers, learning technologists or people in similar roles across seven countries (Simpson, 2022). The community uses several information-sharing channels such as Twitter, Microsoft Teams, Zotero and a monthly webinar series. For the purpose of this research, we will focus on Twitter as it is an open community that allows for non-TELedvisor members to participate. In the next section, we will examine existing literature around learning designers and Twitter to understand how the platform can be used as a PLN.

Literature review

Learning designers during COVID-19

During the pandemic, design expertise became increasingly sought after as institutions adjusted to the shift to emergency remote learning and looked to improve the quality of online learning (Hodges et al., 2020). Alongside this, there was a growing awareness of learning designers having the skillset required to support such an abrupt shift to remote learning and recognition of the value of the role for building capability in online learning (Bellaby et al., 2020; Bellaby & Sankey, 2020; Mosley, 2021; Rekhari, 2020). The trend towards the professionalisation of the role is not new, appearing in literature prior to the pandemic (Kilgore et al., 2019), with the 2020 Horizon Report noting the rise in the growth of the role through the professional recognition of learning designer pathways and titles (Brown et al., 2020). There is also increasing evidence of learning designers becoming recognised as third space, or blended, professionals who occupy the “emergent territory between academic and professional domains”, though the blurred boundary between domains makes the construction and continuity of professional identity difficult (Obexer, 2022, p. 469). The pandemic, however, boosted the visibility of learning designers within institutions, raising further the need to professionalise the role (Xie & Rice, 2021).

Major themes in the literature during COVID-19 point to learning designers being change makers, building capacity and demonstrating both empathy and understanding of the needs of academics, which extended to supporting academics’ wellbeing (Abramenka-Lachheb et al., 2021; Bellaby & Sankey, 2020). The relationship building and collaborative nature of the work of learning designers was noted, with learning designers receiving more credibility amongst academics during the crisis (Abramenka-Lachheb et al., 2021; Bellaby & Sankey, 2020; Pollard & Kumar, 2022; Xie & Rice, 2021).

During COVID-19, learning designers employed different strategies to support teaching staff as they transitioned to remote teaching. From developing resources and toolkits to sharing pedagogical strategies, designing workshops and training programmes, redesigning learning management system sites and assessments and providing technology support, learning designers assisted teaching staff over a range of activities to ensure the continuity of learning (Xie & Rice, 2021). New support models emerged as

resource limitations and the necessity to scale support in response to the pandemic meant that learning designers had to rethink the ways they deliver instructional support (Hodges et al., 2020). Questions arise as to whether some of the above-mentioned activities were indeed part of a learning designer's job remit. Heggart and Dickson-Deane (2021) have argued that the role of learning designers is unclear to employers and there is now an opportunity to "define what it means to be a learning designer" with the role's increased visibility as a result of the pandemic (p. 281).

In understanding the role of the learning designer, it is important to explore how learning designers define and support themselves. According to Pollard and Kumar (2022), although learning designers "struggle for identity, credibility and agency, as a professional culture, they seem to know exactly who they are" (p. 9). This is supported by Schwier and Wilson (2010), who argued learning designers often assume responsibility for advocating for themselves and their work, "a necessary task, not just to maintain a professional profile, but often to preserve the practice of ID (instructional design) in the institution" (p. 141). However, they too questioned how we can adequately define the role or provide relevant professional learning for learning designers when they "face a wide range of demands, and these demands are often outside the boundaries of what we think of as "instructional design"." (p. 145). Therefore, to investigate the professionalisation of the role, it is important to look at the professional networks in which learning designers are engaged to support themselves in adapting to the changing needs of the institution and the demands of the role. Hence, this research explored a specific PLN observed on Twitter, the @TELedvisors community, to understand how learning designers advocate for and develop themselves professionally.

Twitter as part of a PLN

Twitter is a micro-blogging social media platform launched in 2006. Recent reports suggest that Twitter has approximately 556 million active users (Kemp, 2023). Twitter enables users to build connections, communicate and interact with other users through sharing short, real-time messages called tweets, which include text, images, memes, gifs, videos and links, which can be consumed synchronously or asynchronously (Adjapong et al., 2018). The platform encourages network building through following other users and being followed in return – an established social norm of reciprocity between users – and facilitates interactions using hashtags, likes, replies, direct messaging and @mentions (Ross et al., 2015; Schaefer, 2014).

Twitter is acknowledged as being the most widely used social media platform by those in education for professional learning (Luo et al., 2020). Rather than the traditional "one-size fits all, sit and get professional development" (Killion, 2011, p. 4), it enables users to personalise their professional development through the creation of a personalised "just-for-me" and "just-in-time" learning (Ross et al., 2015). Unsurprisingly, Twitter has become an important space for those involved in education, who use it as part of their PLN, forming professional communities of practice around areas of interest (Adjapong et al., 2018).

A PLN, originally called a personal learning network, is a "system of people, resources and digital tools that supports ongoing learning and professional growth" (Trust et al. (2016, p. 22). A PLN can be viewed as an overarching umbrella term that enables professionals to mix and match a wide variety of informal and often serendipitous learning opportunities to meet their ongoing professional learning needs (Pataraiia et al., 2015; Trust et al., 2016; Tucker, 2018). As such, each person's PLN will be unique to them and could include engaging in multiple in-person or virtual communities of practice, using different social media tools, reading blogs and journal articles, mentoring and reflecting on practice and professional dialogues with peers and others in their network (Pataraiia et al., 2015; Prestridge, 2019). Commonly, PLNs support informal, self-directed learning that is organic, flexible, free and frequently undertaken outside working hours and has the capacity to complement traditional institutional and non-institutional forms of professional development (Carpenter et al., 2022; Greenhow & Lewin, 2016; Krutka et al., 2016; Prestridge, 2019). A cross-disciplinary study of higher education academics and professionals ($N = 151$) and their use of PLNs reported that 75% of staff listed social media spaces as a core component of their PLN (Trust et al., 2017). This same study also revealed that of those using social media as part of their PLN,

Twitter was the most frequently used (64%), compared to Facebook (30%), LinkedIn (24%) and Google+ (14%) (Trust et al., 2017). This is unsurprising as Twitter offers opportunities for higher education academics and professionals to share updates and resources, facilitate social and professional conversations, seek feedback, attend online events, network and build their online brand (Trust et al., 2017; Veletsianos, 2012).

The literature reveals that there are several benefits for establishing a PLN on Twitter. Firstly, it enables academics and third space professionals to break free from the confines of their own institution and access a global network of like-minded professionals to build online communities (Adjapong et al., 2018; Ross et al., 2015). A Twitter PLN provides opportunities for informal learning, which is particularly important for time-poor and isolated educators who may not have the time, funding or access to more traditional forms of professional development (O'Keeffe, 2019). Furthermore, Twitter is time agnostic and available 24/7, which enables professional development to fit around busy work and family and life commitments (Prestridge, 2019; Ross et al., 2015).

Twitter to a large extent is a level playing field, with no explicit hierarchy (Stewart, 2016). It is “a relational, networked cultural environment... well-suited to research into situated knowledges” and is a platform that allows for “decentralised, non-gatekept professional cultures” (Stewart, 2016, p. 254). This means that the platform can facilitate the organic building of professional cultures that are based in specialised topics and interests through the gathering of like-minded people without the constraints of workplace hierarchy. Essentially, authority on the Twitter platform is based on the quality of content and insights shared by an individual for the benefit of all, not the position or status of the user (McPherson et al., 2015).

Research undertaken on educators' use of Twitter reports that within online Twitter communities, there is uneven participation (Luo et al., 2020; O'Keeffe, 2019; Xing & Gao, 2018). A study by Greenhalgh and Koehler (2016) found that only 11.09% of posts in the #educattentats community were original contributions, with only 1% of the community contributing 51.97% of these original tweets. Furthermore, the study found that 70.54% of the community retweeted original tweets, while nearly 25% of participants only “liked” posts and never made any tweets of their own. Similarly, O'Keeffe (2019), who undertook a qualitative study of the use of Twitter by academic and professional staff in academic development and learning technology roles, reported that some users actively participated and engaged, as part of the centre of the Twitter community, whereas others remained on the periphery of the community by preferring to vicariously experience the professional exchanges within the Twitter community. Reasons for this vicarious participation were reported by participants as a lack of confidence, knowledge gaps between themselves and others in the community, the public nature of Twitter with comments being shared with unknown audiences and the permanent, long-lasting nature of tweets (O'Keeffe, 2019). An earlier study by Donelan (2016) reported that barriers to participation in social media included a negative attitude and distrust of social media, a lack of knowledge and social media skills, as well as concerns about privacy. Privacy concerns and the tension of trying to balance personal and professional use of social media were also raised by Veletsianos and Kimmons (2013) and LaPoe et al. (2017) as barriers to the use of social media as part of a PLN.

Although there has been considerable research relating to the use of Twitter for professional learning of schoolteachers and university academics over the past decade, there is a paucity of research conducted into the use of Twitter as part of the PLN of learning designers and other third space professionals. Given the popularity of Twitter as part of a PLN within the higher education sector, it is worth investigating further how the platform can be used to support ongoing professional learning for higher education third space workers such as learning designers. Therefore, this research sought to address this gap by providing an in-depth case study into how learning designers effectively used Twitter as a PLN during the height of the COVID-19 pandemic.

Research questions

This research was informed by the following central research question and two sub-questions:

Central question

How did learning designers use Twitter as part of their PLN during the pandemic?

Sub-questions

- (1) What are learning designers talking about on Twitter and how does it contribute to their ongoing professional learning?
- (2) Who are learning designers talking to and how does it contribute to an effective PLN?

Methodology

This research employed a series of digital mixed-method approaches including social network analysis (SNA) and thematic analysis of a Twitter network. This research collected and analysed Twitter data and conversations connected to the @TELedvisors community over a 1-year period between 1 January 2020 and 12 January 2021. Similar to other Twitter research such as Bruns et al. (2017), we sampled using a snowball approach starting with a verified account (i.e., @TELedvisors) that had strong connections to the Australasian higher education learning and teaching community and then examined the followers and followees connected to it. From there, we identified a total of 1006 accounts as of 24 July 2020 that were part of the @TELedvisors network. Of the 1006 accounts, 963 were public accounts. It should be noted that while we identified the number of accounts on 24 July 2020, we accessed historical data to include tweets produced by these accounts between January 2020 and January 2021. We discussed the ethics of including private Twitter accounts and decided to exclude tweets from the 43 private accounts identified from the data set. In total, we analysed 552,692 tweets. Tweets from these public accounts included original posts, mentions, retweets and replies.

Based on their profiles, we labelled and categorised the 963 accounts into five role titles: learning designers, academics, senior managers, organisations and miscellaneous. These were self-nominated (e.g., if someone identified as a learning designer we labelled them as such regardless of their actual work or role). Where a Twitter user did not identify their job title, we looked at the links on their Twitter profile and searched LinkedIn and institutional websites to as accurately as possible classify their job role. The five role titles were used to construct conversation maps. For the purpose of this research, all teaching and learning third space workers (i.e., learning/educational/instructional designers, learning/educational technologists, e-learning/educational developers) were identified as learning designers as they are part of a similar cohort of teaching and learning professionals within educational contexts (see Altena et al., 2019).

We engaged the Queensland University of Technology Digital Observatory, who operate and maintain the Australian Twittersphere databank of Australian public tweets, to help with the collection and visualisation of this data set using SNA. We further analysed the tweets using thematic analysis. All results presented in this paper have been de-identified. This research and its use of secondary data received Human Research Ethics approval from Queensland University of Technology (ID Number: 2021000051).

SNA using LDAvis

A social network is “a set of socially relevant nodes connected by one or more relations” (Marin & Wellman, 2014, p. 11). In our research, we defined network members as Twitter followers and followees of the @TELedvisor community and nodes as Twitter posts – referred to as tweets – of members, which include the use of hashtags, mentions and retweets. Within SNA, we wanted to understand through the

analysis of nodes the connectedness and patterns of relations between and within network members (Scott & Carrington, 2014).

There are four broad areas of relations that can be drawn from SNA: similarities, social relations, interactions and flows (Borgatti et al., 2009). Within this research, we looked at each of these relations by analysing and cross-tabulating multiple and individual variables including user roles, tweets, hashtags, mentions and retweets.

The Digital Observatory ran a series of queries identified by the research team and collected the Twitter data using the native Twitter API in conjunction with Twarc, a command line tool and Python library for archiving Twitter JSON data, to retrieve the list of followers and followees and their individual account timelines of tweets. Then, using LDAvis, a “web-based interactive visualisation of topics” (Sievert & Shirley, 2014, p. 1), the Digital Observatory created a series of visualisations which will be discussed later in the paper. These included:

- top 50 hashtags used by learning designers
- top 10 images by community and by role
- topic models
- conversation maps between roles
- top influencers by retweets and mentions within the community and by role.

Thematic analysis

Further to SNA, we also conducted thematic analysis of the raw tweets of learning designers, as they were the specific group of interest for this study. Thematic analysis is a systematic way of identifying themes, “a form of pattern recognition within the data, where emerging themes become the categories for analysis” (Fereday & Muir-Cochrane, 2006, p. 82).

The entire data set consisted of N = 111,810 learning designer tweets posted between 1 January 2020 and 12 January 2021 as shown in Figure 1. Retweets N = 43,510 were removed to ensure the data set did not contain duplicates, as we were interested in the breadth of discussion topics and interactions within the community. We coded and analysed 1000 random tweets by users labelled “learning designers”. This accounted for approximately 1.5% of the number of tweets (excluding retweets) from learning designers.

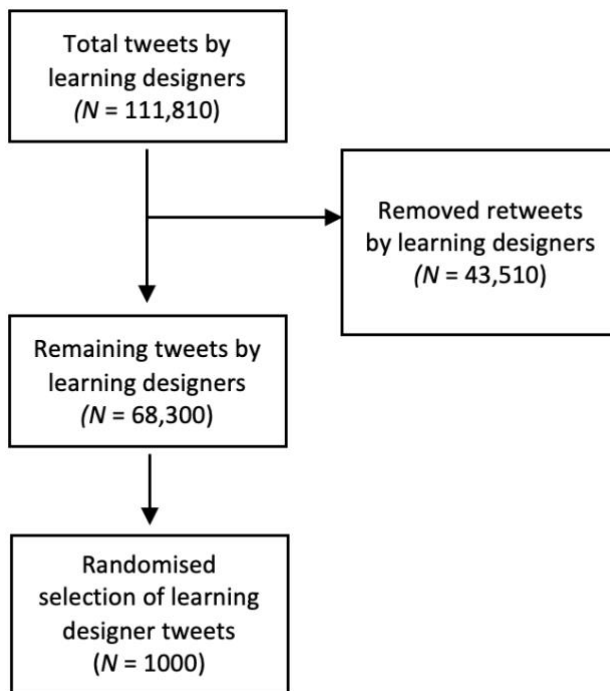


Figure 1. Selection of tweets for thematic analysis

Coding reached saturation point at approximately 1000 tweets, and we were confident that no new themes would emerge beyond that point even though the sample was small. This sample size was similarly found in Earl et al.'s (2013) paper, where only a small sample of tweets (N = 1,270) was analysed. It should also be noted that thematic analysis is used here to provide context for the SNA rather than as the dominant method of analysis. Taking an inductive approach to identifying themes, the thematic analysis resulted in 108 unique users being analysed from a possible 245. A total of 14 themes – four main and 10 sub-themes – were identified:

- (1) social and emotional support
- (2) political
- (3) non-teaching and learning (professionally relevant)
- (4) teaching and learning related
 - (a) online and remote learning
 - (b) general pedagogy and teaching practice
 - (c) assessment and feedback
 - (d) accessibility
 - (e) educational technology
 - (f) Student engagement
 - (g) open education
 - (h) professional development
 - (i) promotion of research or event
 - (j) learning design.

Findings and discussion

Overview

We identified a total of 963 public accounts (1,006 including private accounts) as part of the @TELedvisors network as of 24 July 2020. As shown in Figure 2, of the 963 accounts, 245 (25.4%) were learning

designers, 212 (22.0%) were academics, 108 (11.2%) were senior managers and 98 (10.2%) were organisations. The remainder 300 (31.2%) accounts were labelled “miscellaneous” as we were unable to identify them based on their Twitter profiles.

The data from 552,692 tweets was collected and analysed for the purposes of this research between 1 January 2020 and 12 January 2021. Of the tweets, 111,810 (20.2%) belonged to learning designers, 161,751 (29.3%) by academics, 39,098 (7.1%) by senior managers, 24,331 (4.4%) by organisations and the rest, 215,702 (39.0%), were either by unidentifiable sources or accounts that did not match the four role categories above. Figure 3 shows the percentage of tweets generated by each user group in the @TELedvisors community on Twitter.

These numbers are significant in that the membership on Twitter is over twice the number of official TELedvisors members reported (N = 373) and represents a greater diversity of job roles when compared to those listed as official members. For third space professionals such as learning designers who work across the academic and professional domains with multiple stakeholders (Obexer, 2022), Twitter can thus be a viable communication channel and professional network that allows for knowledge-sharing and the exchange of ideas. While we did not investigate the individual Twitter networks of learning designers, the @TELedvisors network provides an example of how a diverse professional network can be developed on the platform through connecting with like-minded professionals that extend beyond professional boundaries. However, the percentage of tweets as compared to prevalence of roles implies that learning designers and other professional roles including senior managers are not as active in the conversations as compared to academics. This is consistent with the literature in that academics already have an established culture of using Twitter (Donelan, 2016). Thus, there are opportunities for learning designers and other third space workers to further occupy the knowledge areas and blended spaces in which they operate.

The large number of miscellaneous users associated with the @TELedvisors account may be representative of the broader Twitter user community, as Twitter, unlike other social media platforms, does not require users to use their real names or titles (Panjaitana et al., 2020). The public and permanent nature of Twitter (O’Keeffe, 2019) may also result in people using a pseudonym rather than their real name as a mechanism for distancing themselves and their views from their professional role and organisation (LaPoe et al., 2017).

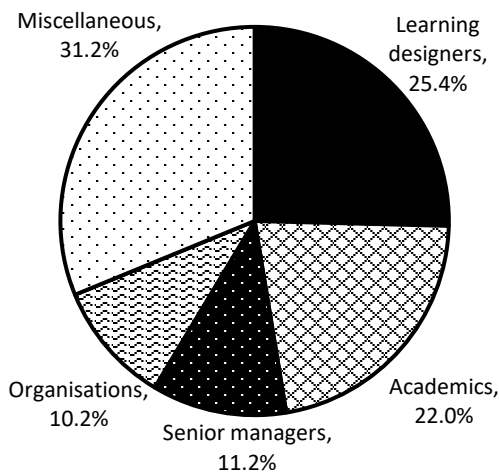


Figure 1. Prevalence of roles in the @TELedvisors community

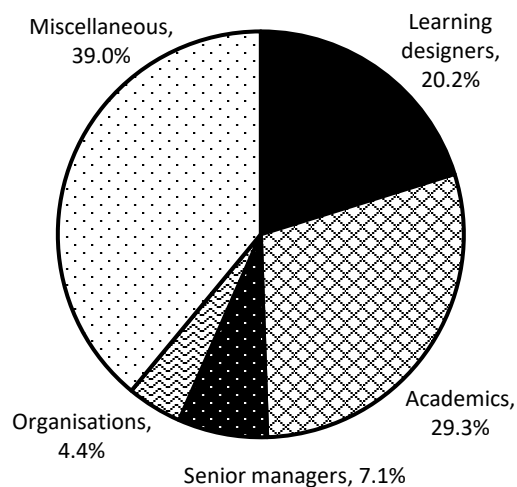


Figure 2. Percentage of tweets generated by each user group in the @TELedvisors Twitter community

What are learning designers talking about?

Through LDAvis modelling, three major themes of learning designers' conversations can be identified: prevalence of a topic (as represented by the size of the circles – see Figures 4 and 5), terms used to interpret the topic (as shown by the list of words on the right-hand side) and the relationship/proximity between the topics (based on the distance between each circle). A topic in the modelling can be identified based on the interpretation of the terms as they are ranked.

As seen in Figures 4 and 5, the top 30 topics learning designers were tweeting about can largely be divided into two main groups: learning online (bottom left quadrant) and social/emotional support tweets (bottom right quadrant). The topmost prevalent topic discussed by learning designers is highlighted in Figure 4. The key terms shown relate to learning and teaching online (including remote learning), design, experience and support. The second most prevalent topic (i.e., the circle labelled "2" in Figure 4 but not highlighted) similarly emphasised online learning, support, community and digital technology. The term *students* featured strongly, showing a sustained interest in students as the ultimate beneficiaries of their work. Further investigation of the topics in the bottom left quadrant revealed an interest in topics around synchronous and asynchronous learning, assessment, research, pedagogy, learning outcomes, use of video for learning, learning needs and student engagement. This shows that a large number of conversations learning designers were taking part in were related to teaching and learning online, which aligns with the literature around the delivery of remote learning during the pandemic.

Figure 5 highlights the third most discussed topic, which appears in the bottom right quadrant and focused on social/personal conversations. Unlike Figure 4, this topic contained more emotive words such as "love", "thank", "hope" and "glad" and an array of emojis. The bottom right quadrant showcased more social and emotional support aspects to Twitter use featuring terms such as *congratulations*, *share*, *care*, *beautiful* and *friends*.

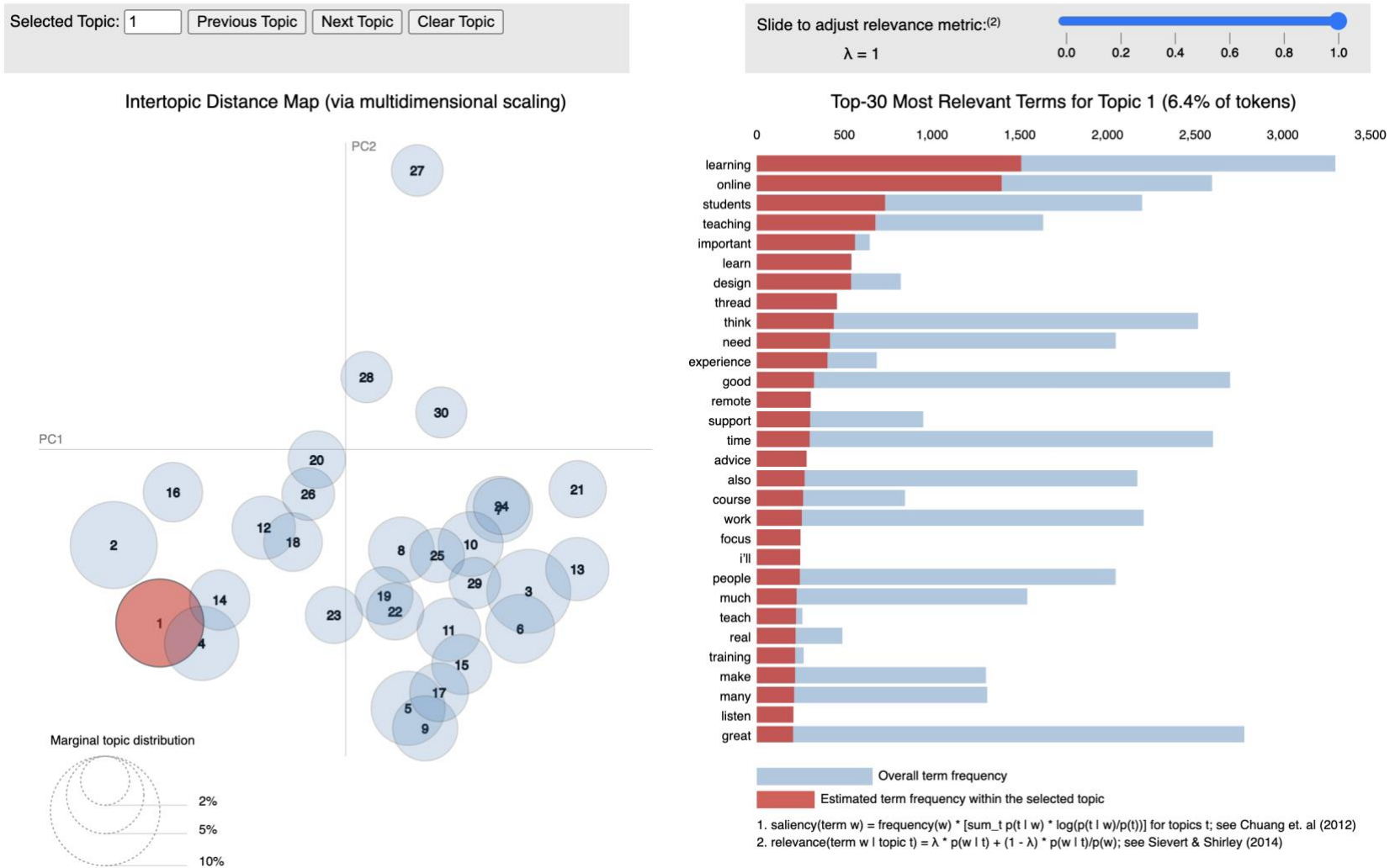


Figure 3. Most prevalent learning designer topic around teaching and learning online between January 2020 and January 2021

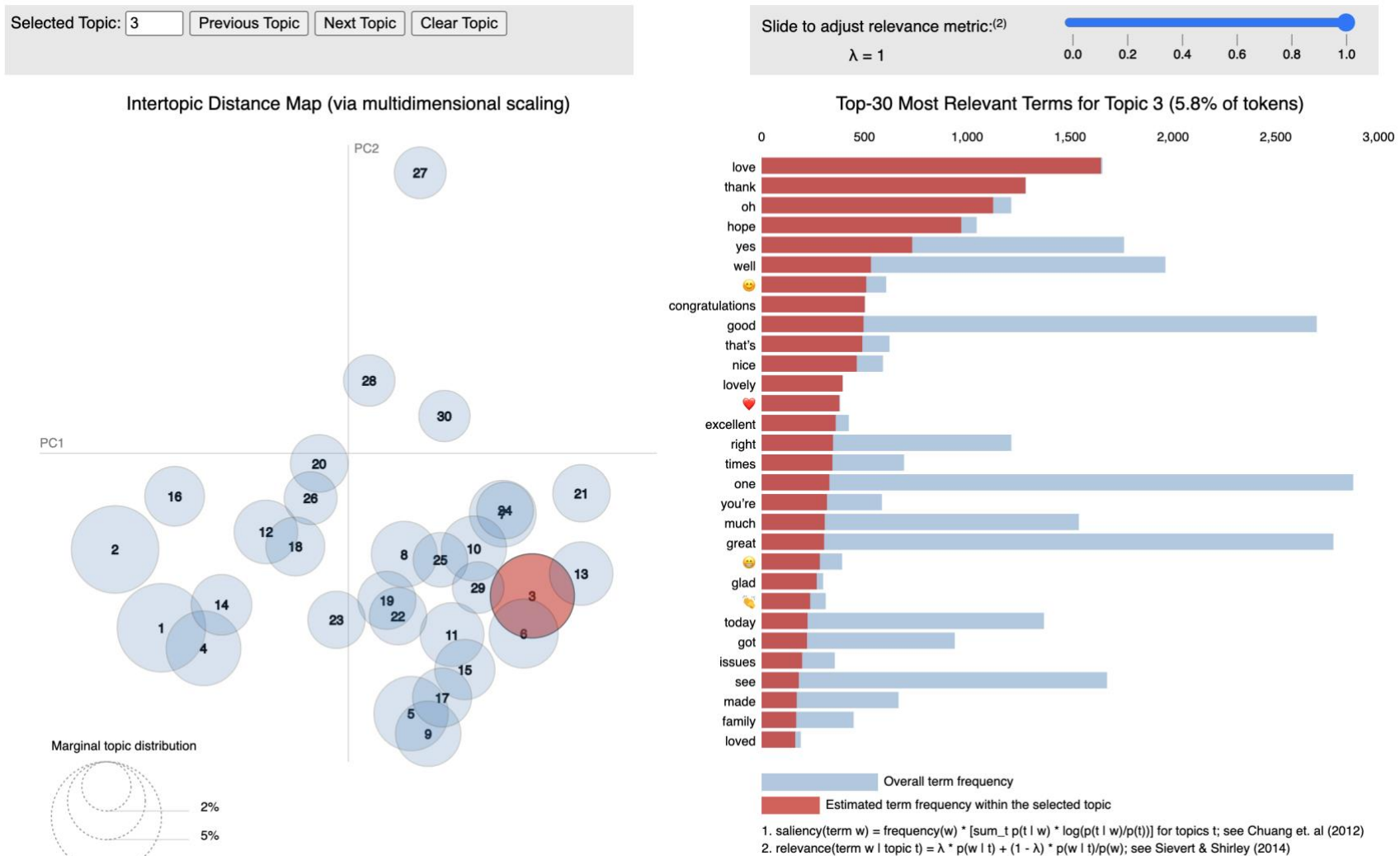


Figure 4. Third most prevalent topic featuring more social/personal conversations on Twitter between January 2020 and January 2021

The topic models largely inform us that learning designers were indeed talking about online learning, learning design, assessments and teaching strategies (e.g., use of videos) with students at the centre of their discussions. They were also using Twitter as a social network that connected with others on a more personal level, even with professional peers as we will see in the thematic analysis.

The thematic analysis of the sample tweets provided a more detailed view of the types of content learning designers were discussing on Twitter. As shown in Figure 6, approximately 28.1% of the sample tweets contained topics related to teaching and learning (not higher education specific) while 54.1% were labelled as “social and emotional support” tweets, 6.7% as “political” tweets and the remainder 11.1% as non-teaching and learning tweets that were professionally related.

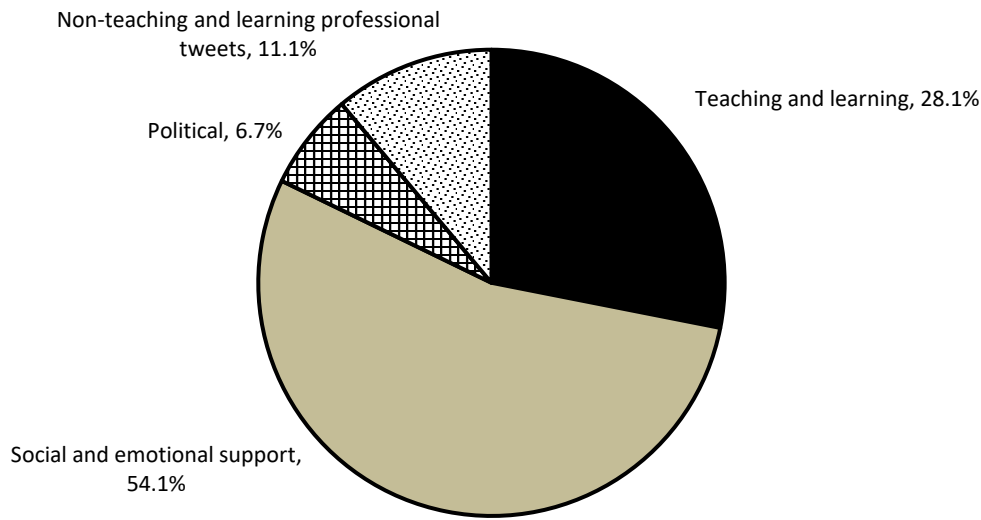


Figure 6. Topics discussed by learning designers on Twitter

Of the teaching and learning tweets, educational technology (28.2%) and online and remote learning (24.7%) featured most strongly, followed by pedagogy and teaching practice (13.2%), promotion of research or event (9.7%) and assessment and feedback (7.9%). Other topics that were prominent included professional development (4.8%), learning design (3.5%), open education (2.6%), accessibility (2.6%) and student engagement (2.6%). This appears to be a slight shift from the LDAvis models where digital technologies featured less strongly. This is not surprising as the distinction between the use of technology and teaching and learning practice is ambiguous and the former is often pedagogically motivated. From the researchers’ perspectives, these were coded based on emphasis and in this case, we observed a focus on educational technologies on Twitter by learning designers in 2020 during the first year of the pandemic.

Aside from teaching and learning topics, it is also important to highlight the social and political dimensions of Twitter. Of the sample tweets coded, approximately 54.1% were tweets labelled “social and emotional support”, which included tweets that congratulated, agreed or disagreed with other tweeters, or day-to-day activities (e.g., which television show should I watch). Political tweets which commented on political leaders, activities and policies accounted for 6.7% of tweets, while the remainder of tweets were professionally related but not specific to teaching and learning. This shows the versatility of the platform and how it traverses across personal, public and professional spaces. Table 1 below shows some representative example tweets from each category.

Table 1
Examples of representative tweets and their coded categories

Category	Representative tweet
Social and emotional support	Haha this will be you soon @[Person] [Meme] (Tweet by LD, 25 March 2020) @[Person] We're so happy to have you, [Name]! It's been wonderful to interact with you this morning! (Tweet by LD, 9 December 2020)
Political	@[Person] Perfect way to upcycle those bargain bin political biographies in a totally appropriate and tasteless fashion. (Tweet by LD, 10 July 2020)
Non-teaching and learning (professionally relevant)	The pandemic 2020 has hugely impacted how we use technology in our work practices and how we think about the future. I've just enrolled in, Designing the Future of Work. #UNSWfutureofwork [Link] (Tweet by LD, 6 November 2020)
Education technology	The latest Ed tech for teaching and learning! [Link] Thanks to @[People] #edtech #education (Tweet by LD, 13 January 2020)
Online and remote learning	Worth a read, especially if you think there is no way you can replace the nonverbal cues you get in the classroom. Might be more work, but it can be done. Let's try to think more about our presence and behaviour as instructors online. [Link] (Tweet by LD, 2 July 2020)
Assessment and feedback	@[People] Something about authentic assessments most likely (with a connection on community of inquiry) (Tweet by LD, 4 May 2020)

Additionally, we examined the types of content that were posted (i.e., original, sharing of tweets/resources, replying to others and other such as sharing of contacts). Of the tweets, 54.5% were replies, 10.6% were sharing of tweets/resources, 33.5% were original tweets and the remainder were other tweets that included asking for help and sharing of contact details. It should be noted that there were overlaps between sharing and original tweets. This was eventually decided by coders based on the content of the tweet – an original tweet had original content (i.e., not a regurgitation of something else) or shared an original article/artefact by the author of the tweet. These numbers are interesting as unlike Greenhalgh and Koehler's (2016) observation where only one% of the community wrote tweets, the analysis indicate that the @TELedvisors community was made up of active learning designers. It suggests that Twitter is certainly a plausible PLN for learning designers, though not without its challenges as discussed below.

The analysis of the sample tweets highlighted some key strengths of Twitter. Firstly, it is a hybrid personal and professional place – a third place where there is a casual sharing of teaching and learning ideas. Secondly, it is a robust social media platform where connecting with others through responding is a large part of what happens on Twitter. Thirdly, it is a supportive space where personal or professional work connections not only respond but also actively support each other in their endeavours such as congratulatory or "hope you feel better" tweets. This is aligned to the results of the LDAvis topic modelling.

Aside from topic models and thematic analysis, we also gathered the top 50 hashtags from learning designers and the top five images shared within the community by each user group as shown in Figure 7 and Figure 8 respectively. The hashtags can be broadly grouped into the following categories: events, COVID-related information, specific audiences (e.g., #highered) and topics of interest. Some of the top hashtags by learning designers included #edtech, #onlinelearning, #OER, #education, #learning, #elearning, #remotlearning, #designjustice and #inclusion.

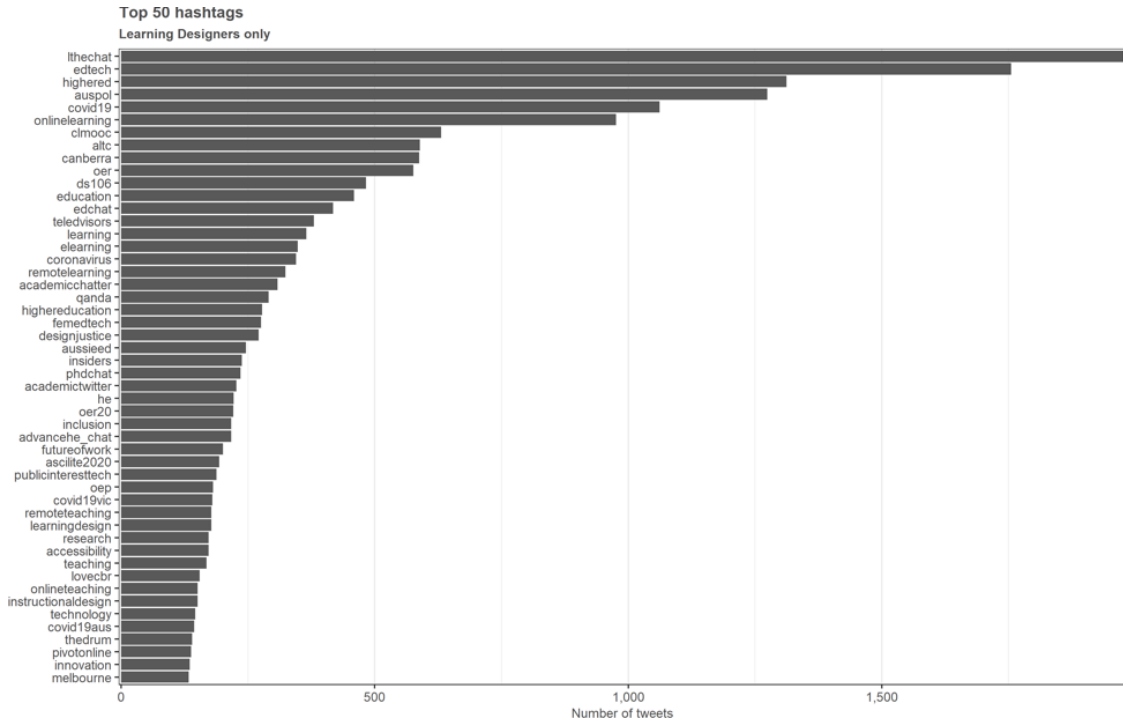


Figure 5. Top 50 learning designer hashtags

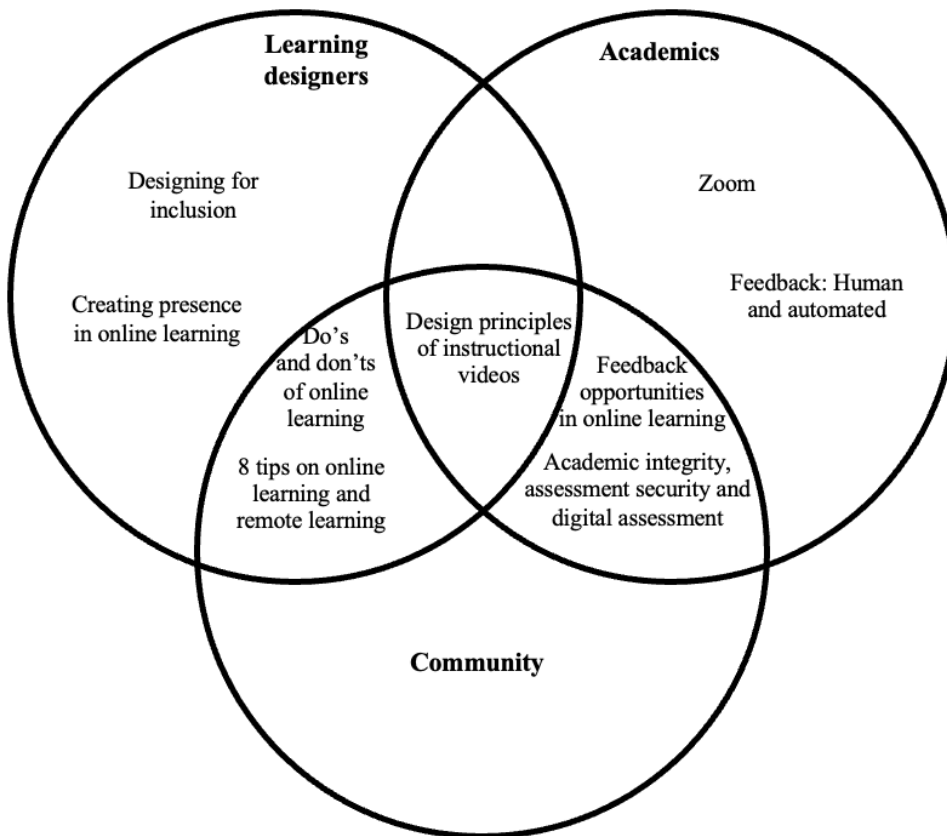


Figure 8. Top images shared in the @TEledvisors community based on role

What is interesting is that the learning designers and academics both have crossovers with the overall community but do not intersect as much between each other. Learning designers tended to be advocating for the best pedagogical practices and improving the quality of online facilitation through the sharing of images. In contrast, academic staff appeared to focus more on technology, assessment security and feedback strategies, which is most likely reflective of their priorities in surviving emergency remote learning. Both learning designers and academics shared images on instructional videos.

The results above suggest that Twitter was indeed an effective professional learning platform for learning designers. The topics identified were not only relevant to the profession, complimenting and aligning with Xie and Rice's (2021) observations around what learning designers were doing during the pandemic, they were also diverse and productive in that they related strongly to skills and professional interests of learning designers (Altena et al., 2019). While learning designers were, for example, preparing resources for remote teaching, there is evidence of professional conversations and the sharing of resources within Twitter that strongly related to teaching and learning online. Learning designers were able to use Twitter as a platform to discuss teaching and learning ideas, particularly tools and techniques relevant to online or remote delivery, which were topical during the pandemic.

Additionally, the high numbers of shares, retweets and replies suggest quality professional interactions between users around the topics that provide professional support and opinions (e.g., "More useful tips for teaching with Teams here [Link]" (Tweet by LD, 3 January 2021); "@[Original Poster] If it's scaffolded, I agree. I gradually introduced these types of feedback activities when I was teaching, but it can be tricky [not] as an ED when some educators see it as a "tacked on" element to their course design rather than a fully integrated element." (Tweet by LD, 11 August 2020)).

They also supported each other's professional work (e.g., "Great short resource from @[Another LD], encouraging us to "think beyond webcam" ..." (Tweet by LD, 12 August 2020)) and showed social support on both work-related and personal matters (e.g., "@[People and Institution] Congratulations @[TELedvisors Participant]! @[Institution] is very lucky to have you in these roles." (Tweet by LD, 9 February 2020)). This aligned with the literature on why Twitter is an effective PLN within educational settings as it can provide personalised, just-in-time learning and professional development (Killion, 2011; Luo et al., 2020). The evidence suggests that learning designers within the @TELedvisors community used Twitter to both provide and receive informal professional development. It strengthens the argument that Twitter can be a useful extension to the professional conversations needed within a workplace for third space workers such as learning designers. However, the lack of overlap between resources shared by academics and learning designers indicates a gap and a need for the latter to strengthen their relationship with key stakeholders — academics and senior managers — on Twitter. It presents an opportunity for learning designers to occupy the space more effectively by showing their expertise in areas of interest to these stakeholders.

Furthermore, while academics and teachers often used Twitter to promote and profile themselves and their work (Donelan, 2016; Prestridge, 2019), the analysis of sample tweets showed an absence of self-promotion by learning designers. Rather, there was more evidence of promoting each other's work instead of their own, begging the question as to whether learning designers are making effective use of the affordances of Twitter as a non-hierarchical platform to develop their professional profiles and showcase their work.

Who are we talking to?

The @TELedvisors community was quite diverse with participants from over 44 identifiable countries as shown in Table 2. As expected, since the TELedvisors group originated in Melbourne, Australia, 58.5% of the community claimed to reside in Australia. The other countries with high representation were the United Kingdom (10.8%), the United States of America (4.7%), New Zealand (2.7%) and Canada (1.7%). It should be noted that approximately 13.3% of participants did not identify their country of residence.

Table 2
Countries and regions associated with the @TELedvisors community

Country	Country	Country	Country
Argentina	Fiji	Mexico	Slovenia
Austria	Finland	Mongolia	South Africa
Australia	Germany	Netherlands	South Korea
Bahrain	India	Nigeria	Spain
Bangladesh	Indonesia	Norway	Switzerland
Belgium	Ireland	New Zealand	Sri Lanka
Canada	Israel	Philippines	Thailand
Chile	Japan	Portugal	Turkey
China	Kuwait	Qatar	United Arab Emirates
Denmark	Lebanon	Saudi Arabia	United Kingdom*
Egypt	Malaysia	Singapore	United States
Regions			
Antarctica	Asia Pacific	Australasia	Europe

*United Kingdom includes England, Northern Ireland, Scotland and Wales.

The diversity of countries showed that Twitter allows for cross-institutional, regional and global exchange of ideas. It also indicates a diversity in backgrounds and experiences as witnessed by the variety of information shared (e.g., events in multiple countries people tweet about) and aligns with (O'Keeffe, 2019) discussion around Twitter as an informal learning space where participants learn new ideas or improve their knowledge of existing ideas through their engagement with Twitter, a central theme of PLNs.

The interaction graphs in Figures 9 and 10 show interactions between the role categories by mentions and retweets respectively. The graphs show (a) academics had a very high interaction with other academics, (b) academics interacted more with organisations than learning designers or senior managers, (c) learning designers interacted mainly with each other and academics, (d) senior managers retweeted learning designers and organisations more than other senior managers and academics and (e) learning designers interacted with senior managers the least (excluding miscellaneous users). This pattern was also consistent with interactions such as replies or quoted tweets.

While current patterns indicate that the roles may be preferencing interactions that mimic traditional institutional boundaries (e.g., learning designers interacting more with each other and academics and least with senior managers), the graphs below show that the platform can provide for greater non-hierarchical interactions where there is a considerable distribution of interactions between the roles. It suggests that Twitter and similar platforms may be pathways to having conversations with others which may not necessarily be available within our own institutions.

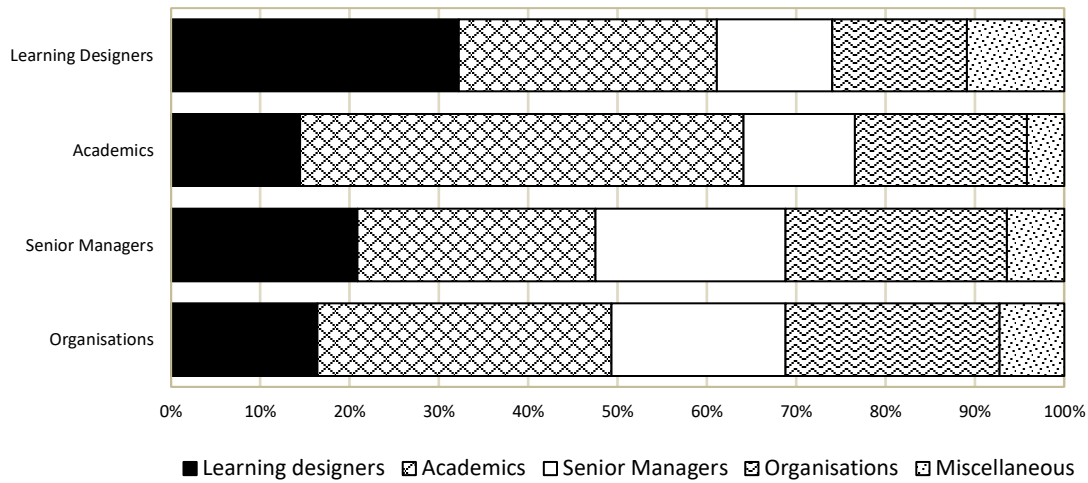


Figure 9. Interactions between groups showing mentions

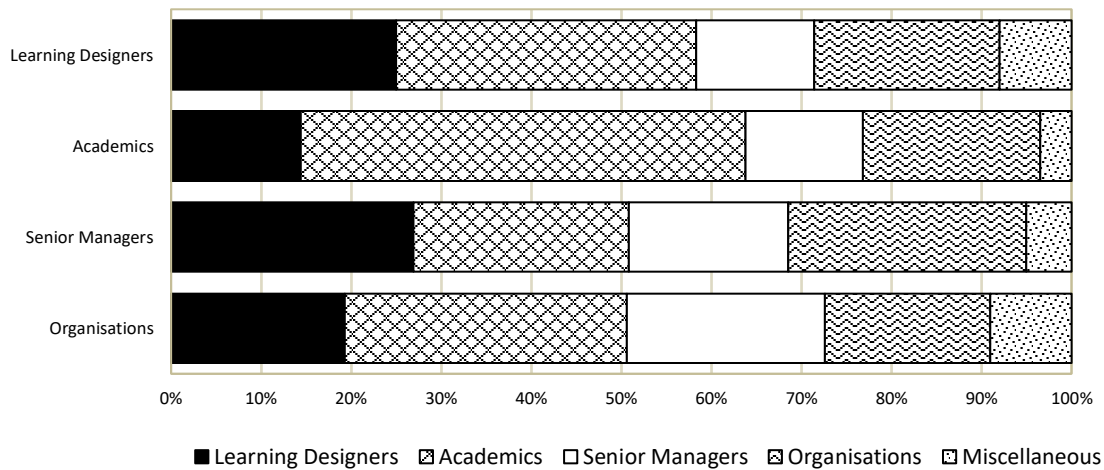


Figure 10. Interactions between groups showing retweets

Figures 11 and 12 show the top influencers, or most engaged accounts, based on mentions and replies. *In* refers to mentions or replies received by the account holder while *out* refers to mentions or replies made by the account holder.

Of the top 10 accounts by mentions, the top three accounts were learning designers, six were academics and one was identified as a senior manager. Of the reply network, five were learning designers, four were academics and one was a senior manager. It should be noted that many of the academics found below researched on learning design and aspects of teaching and learning but were not necessarily learning designers themselves.

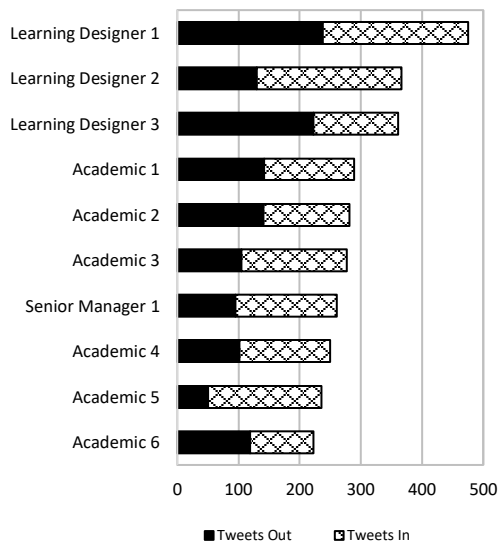


Figure 11. Top 10 accounts mentioned in @TELedvisors network

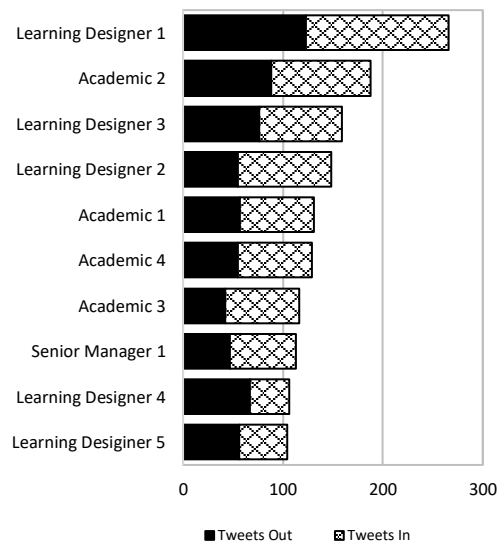


Figure 12. Top 10 accounts replied to in @TELedvisors network

Overall, the interactions between users hinted at the possibility for Twitter to be a level playing field for users as it allowed those of various role categories to interact and share ideas with each other, even though there was a tendency to interact more with familiar roles that were part of the traditional hierarchy. The large number of retweets by senior managers of learning designers' tweets demonstrate that the platform can be of value to learning designers in raising their visibility and profile to those they are unlikely to interact with within the traditional structures of educational institutions. This affirms Stewart's (2016) assertion that while hierarchies and the privilege to speak and be heard do exist on Twitter, the platform itself is not entrenched in social or workplace hierarchies. Twitter allows for normally difficult connections within institutional settings to be formed, although it is unclear as to the effectiveness of the medium to translate such connections offline.

The analysis also revealed that Twitter can be a medium where professional relationships and credibility can be built, as seen through prominently cited members within a semi-professional setting. This is similar to Schwier and Wilson's (2010) observation within an institutional context where they suggest that the reputation of learning designers needs to be built over time. It suggests that Twitter may be well-placed as another professional network to help raise the profiles of learning designers although the question as to whether these relationships and credibility on Twitter amount to actual relationships and credibility within the workplace remains. Nonetheless, it showed that there can be fewer hierarchical interactions focussed on teaching and learning within Twitter. The @TELedvisors community may serve as a tenable structure for building PLNs within more localised organisations.

Implications: PLN and third space workers

The results of the study suggest that while Twitter can be an effective PLN for learning designers, the full potential of the platform has not yet been entirely realised. Based on the analysis, for effective PLNs to develop on Twitter for third space professionals, there needs to be further considerations.

As discussed in the literature, a PLN is a system that supports professional growth made up of three components: people, resources and digital tools (Trust et al., 2016, p. 22). If we consider Twitter as the digital tool within a PLN, the network of followers and interactions, its content and types of interactivities (e.g., sharing and replying), thus become the people and resources that support learning and growth of third space workers. It is therefore necessary to consider not just the quantity but the quality of these followers or interactions.

As learning designers travel between the academic and professional spheres, the followers and interactions within a third space workers’ Twitter network need to represent both professional diversity as well as like-minded professionals. In the research, the @TELedvisors community is diverse, which allows for quality interactions between learning designers and their stakeholders – academics and senior managers. However, the conversations and topics of interests vary within subgroups, with academics – the early adopters of the platform for professional use (Donelan, 2016) – being more active in the network than learning designers. The affordances of Twitter as a participatory medium necessitates active participation to maximise the benefits of the platform and its algorithms that favour active and interactive users and networks (Bandy & Diakopoulos, 2021). Thus, for learning designers and other third space workers to use Twitter as an effective PLN, we propose a boundary spanner approach to networking and participation.

Boundary spanners are individuals or groups who “straddle the divide between information producers and users, produce boundary products or tools that enable communication between these two groups and are accountable in some fashion to both groups” (Safford et al., 2017, p. 560). As third space workers, the professional learning that we consume and produce needs to be communicable and relevant to our profession as well as those of our stakeholders. Hence, a boundary spanner approach to developing an effective PLN for third space workers may look as follows:

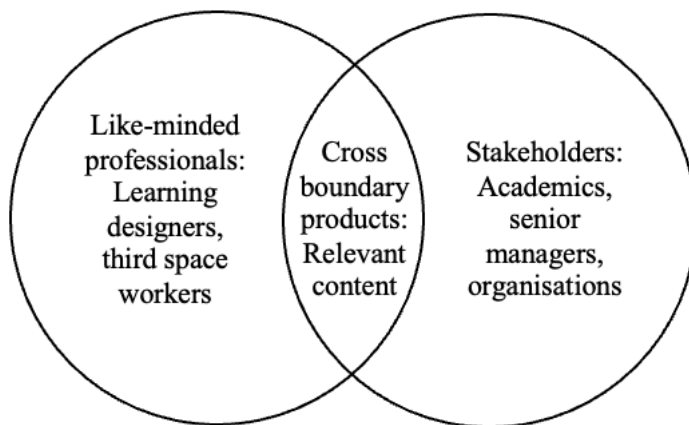


Figure 13. Boundary spanner approach to effective PLN for third space workers

Being an open and non-hierarchical digital public space, Twitter allows for multiple professional networks and converge where profession specific and cross boundary professional learning can be produced, shared and used all in one space. As demonstrated by the @TELedvisors network, Twitter provided learning designers with the opportunity to learn and share from like-minded professionals but also listen in on and contribute to cross boundary conversations (i.e., what academics and other stakeholders are talking about) that are key to the work of learning designers. There are, however, further opportunities for learning designers to occupy their PLNs more effectively through increased active cross boundary participation (e.g., sharing and interacting with other stakeholders on relevant content).

Hence, unlike other higher education professionals or academics who have defined cultures, languages, and priorities where boundaries are clearly drawn, making their Twitter PLN structured and closed professional groups (Luo et al., 2020; Obexer, 2022; O'Keefe, 2019; Xing & Gao, 2018), third space workers such as learning designers need to curate their networks and interactions to account for professional diversity and quality interactions with cross boundary products and topics that involve stakeholders to effectively use Twitter as a component of their PLN. The findings from this research thus have significant implications on how third space workers such as learning designers should design their PLN, with Twitter being a key component of their PLN.

Conclusion

This research has provided a snapshot of the use of Twitter by learning designers in an unprecedented time. It has provided insights into the way learning designers have engaged and interacted within the @TELedvisors community on Twitter as part of a PLN during the pandemic. The paper highlighted how the non-hierarchical nature of Twitter can be an effective tool to support the professional learning and identity development of learning designers through PLNs, allowing them to share and receive expertise from like-minded professionals, academics and senior managers. Twitter also helped give a voice to, and amplify the voices of, learning designers within and outside their own institutions. However, as discussed above, there are several opportunities that are still yet to be realised by learning designers in higher education on Twitter, such as boundary spanning or connecting more effectively with relevant groups and communicating through cross boundary products and in topics. The research acknowledges that this may have been a result of the timeframe for which this paper drew its analysis, that is, COVID-19. Additionally, a recent survey we conducted showed that only 32% of all respondents (N = 140) who self-identify as learning designers in Australasia use Twitter for professional development. Hence, there is still more scope for learning designers as third space workers to engage on Twitter as a PLN and future research should be undertaken to provide a comparative study of the post-COVID era to determine any differences in interactions, engagement and discourse.

Author contributions

Author 1: Conceptualisation, Investigation, Formal analysis, Writing – original draft, Writing – review and editing; **Author 2:** Conceptualisation, Data curation, Investigation, Writing – original draft, Writing – review and editing, visualisation; **Author 3:** Writing – review and editing.

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References

- Abramenka-Lachheb, V., Lachheb, A., Cesar de Siqueira, A., & Huber, L. (2021). Instructional designers as “first responders” helping faculty teach in the coronavirus crisis. *Journal of Teaching and Learning with Technology*, 10(1). <https://doi.org/10.14434/jotlt.v10i1.31368>
- Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: The challenges and opportunities. *Interactive Learning Environments*, 1–13. <https://doi.org/10.1080/10494820.2020.1813180>
- Adjapong, E. S., Emdin, C., & Levy, I. (2018). Virtual professional learning network: Exploring an educational Twitter chat as professional development. *Current Issues in Comparative Education*, 20(2), 24–39. https://www.tc.columbia.edu/cice/pdf/03_E.-Adjapong-Special-Issue.pdf
- Altena, S., Ng, R., Hinze, M., Poulsen, S., & Parrish, D. (2019, 2-5 December). “Many hats one heart”: A scoping review on the professional identity of learning designers. In Y. W. Chew, K. M. Chan, and A. Alphonso (Eds.), *Personalised learning. Diverse goals. One heart—Proceedings of the 36th International Conference on Innovation, Practice and Research in the Use of Educational Technologies in Tertiary Education* (pp. 359–364). <https://doi.org/10.14742/apubs.2019.284>
- Bandy, J., & Diakopoulos, N. (2021). More accounts, fewer links: How algorithmic curation impacts media exposure in Twitter timelines. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW1), 1–28. <https://doi.org/10.1145/3449152>
- Bellaby, A., & Sankey, M. (2020, February 12). Educational designers: A sure hope and anchor amid a global pandemic. *ASCILITE TELall Blog*. <https://blog.ascilite.org/educational-designers-a-sure-hope-and-anchor-amid-a-global-pandemic/>

- Bellaby, A., Sankey, M., & Albert, L. (2020). Rising to the occasion: Exploring the changing emphasis on educational design during COVID-19. In S. Gregory, S. Warburton, & M. Parkes (Eds.), *ASCILITE's First Virtual Conference—Proceedings of the 37th International Conference on Innovation, Practice and Research in the Use of Educational Technologies in Tertiary Education* (pp. 145–155). <https://doi.org/10.14742/ascilite2020.0137>
- Borgatti, S. P., Mehra, A., Brass, D. J., & Labianca, G. (2009). Network analysis in the social sciences. *Science*, 323(5916), 892–895. <https://doi.org/10.1126/science.1165821>
- Bozkurt, A., & Sharma, R. C. (2020). Emergency remote teaching in a time of global crisis due to coronavirus pandemic. *Asian Journal of Distance Education*, 15(1), i–vi. <https://www.asianjde.com/ojs/index.php/AsianJDE/article/download/447/297>
- Brown, M., McCormack, M., Reeves, J., Brook, D. C., Grajek, S., Alexander, B., Bali, M., Bulger, S., Dark, S., & Engelbert, N. (2020). *2020 EDUCAUSE Horizon Report - Teaching and learning edition*. EDUCAUSE. https://library.educause.edu/-/media/files/library/2020/3/2020_horizon_report_pdf
- Bruns, A., Moon, B., Münch, F., & Sadkowsky, T. (2017). The Australian Twittersphere in 2016: Mapping the follower/followee network. *Social Media+ Society*, 3(4), 1–15. <https://doi.org/10.1177/2056305117748162>
- Carpenter, J. P., Krutka, D. G., & Trust, T. (2022). Continuity and change in educators' professional learning networks. *Journal of Educational Change*, 23(1), 85–113. <https://doi.org/10.1007/s10833-020-09411-1>
- Decherney, P., & Levander, C. (2020, April 23). The hottest job in higher education: Instructional designer. *Inside Higher Ed*. <https://www.insidehighered.com/digital-learning/blogs/education-time-corona/hottest-job-higher-education-instructional-designer>
- Donelan, H. (2016). Social media for professional development and networking opportunities in academia. *Journal of Further and Higher Education*, 40(5), 706–729. <https://doi.org/10.1080/0309877X.2015.1014321>
- Earl, J., McKee Hurwitz, H., Mejia Mesinas, A., Tolan, M., & Arlotti, A. (2013). This protest will be tweeted: Twitter and protest policing during the Pittsburgh G20. *Information, Communication & Society*, 16(4), 459–478. <https://doi.org/10.1080/1369118X.2013.777756>
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1), 80–92. <https://doi.org/10.1177/160940690600500107>
- Greenhalgh, S. P., & Koehler, M. J. (2016). 28 days later: Twitter hashtags as “just in time” teacher professional development. *TechTrends*, 61(3), 273–281. <https://doi.org/10.1007/s11528-016-0142-4>
- Greenhow, C., & Lewin, C. (2016). Social media and education: Reconceptualizing the boundaries of formal and informal learning. *Learning, Media and Technology*, 41(1), 6–30. <https://doi.org/10.1080/17439884.2015.1064954>
- Heggart, K., & Dickson-Deane, C. (2021). What should learning designers learn? *Journal of Computing in Higher Education*, 1–16. <https://doi.org/10.1007/s12528-021-09286-y>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. *Educause Review*, 27, 1–12. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Kemp, S. (2023, January 28). Digital 2023 deep-dive: Twitter use jumps after Elon Musk's acquisition. *DataReportal*. Retrieved August 29, 2023, from <https://datareportal.com/reports/digital-2023-deep-dive-the-potential-outlook-for-twitter>
- Kilgore, W., Prusko, P., & Gogia, L. (2019, August 8). A snapshot of instructional design: Talking points for a field in transition. *Educause Review*. <https://er.educause.edu/blogs/2019/8/a-snapshot-of-instructional-design-talking-points-for-a-field-in-transition>
- Killion, J. (2011). The changing face of professional development. *EDge: The Latest Information for the Education Practitioner*, 6(5), 3–19.
- Krutka, D. G., Carpenter, J. P., & Trust, T. (2016). Enriching professional learning networks: A framework for identification, reflection, and intention. *TechTrends*, 61(3), 246–252. <https://doi.org/10.1007/s11528-016-0141-5>

- LaPoe, V. L., Carter Olson, C., & Eckert, S. (2017). LinkedIn is my office; Facebook my living room, Twitter the neighborhood bar: Media scholars' liminal use of social media for peer and public communication. *The Journal of Communication Inquiry*, 41(3), 185–206.
<https://doi.org/10.1177/0196859917707741>
- Luo, T., Freeman, C., & Stefaniak, J. (2020). "Like, comment, and share" - Professional development through social media in higher education: A systematic review. *Educational Technology Research and Development*, 68(4), 1659–1683. <https://doi.org/10.1007/s11423-020-09790-5>
- Marin, A., & Wellman, B. (2014). Social network analysis: An introduction. In L. Sloan & A. Quan-Haase (Eds.), *The SAGE handbook of social network analysis* (pp. 11–25). SAGE Publications Ltd.
- McPherson, M., Budge, K., & Lemon, N. (2015). New practices in doing academic development: Twitter as an informal learning space. *International Journal for Academic Development*, 20(2), 126–136.
<https://doi.org/10.1080/1360144X.2015.1029485>
- Mosley, N. (2021, September 16). Learning designers - New fad or new future? Neil Mosley.
<https://www.neilmosley.com/blog/learning-designers-new-fad-or-new-future>
- Obexer, R. (2022). Lost in third space: Identity work of a "blended professional" in higher education. *Studies in Technology Enhanced Learning*, 2(3), 467–483.
<https://doi.org/10.21428/8c225f6e.14771617>
- O'Keefe, M. (2019). Academic Twitter and professional learning: Myths and realities. *The International Journal for Academic Development*, 24(1), 35–46. <https://doi.org/10.1080/1360144X.2018.1520109>
- Panjaitana, T. K. S., Tayob, Y., & Lubisc, F. M. (2020). Fenomena Penggunaan Akun Pseudonym dalam Memenuhi Motif Identitas Pribadi pada Pengikut Autbase @karawangfess di Twitter [The phenomenon of using pseudonym accounts to fulfill personal identity motives on autbase @karawangfess Followers on Twitter]. *Channel Jurnal Komunikasi*, 9(2), 2339–2681.
<https://doi.org/10.12928/channel.v8i2.17433>
- Patarai, N., Margaryan, A., Falconer, I., & Littlejohn, A. (2015). How and what do academics learn through their personal networks. *Journal of Further & Higher Education*, 39(3), 336–357.
<https://doi.org/10.1080/0309877X.2013.831041>
- Pollard, R., & Kumar, S. (2022). Instructional designers in higher education: Roles, challenges, and supports. *The Journal of Applied Instructional Design*, 11(1), 1–16. <https://doi.org/10.51869/111/rp>
- Prestridge, S. (2019). Categorising teachers' use of social media for their professional learning: A self-generating professional learning paradigm. *Computers & Education*, 129, 143–158.
<https://doi.org/10.1016/j.compedu.2018.11.003>
- Rekhari, S. (2020, May 2). Building capability in a time of crisis. *The Edvisor*.
<https://teledvisors.net/blog/2020/05/02/building-capability-in-a-time-of-crisis/>
- Ross, C., Maninger, R., LaPrairie, K., & Sullivan, S. (2015). The use of Twitter in the creation of educational professional learning opportunities. *Administrative Issues Journal: Connecting Education, Practice, and Research*, 5(1), 55–76.
- Safford, H. D., Sawyer, S. C., Kocher, S. D., Hiers, J. K., & Cross, M. (2017). Linking knowledge to action: The role of boundary spanners in translating ecology. *Frontiers in Ecology and the Environment*, 15(10), 560–568. <https://doi.org/10.1002/fee.1731>
- Schaefer, M. (2014). *The Tao of Twitter: Changing your life and business 140 characters at a time* (2nd ed.). McGraw Hill Education.
- Schwier, R. A., & Wilson, J. R. (2010). Unconventional roles and activities identified by instructional designers. *Contemporary Educational Technology*, 1(2), 134–147.
<https://doi.org/10.30935/cedtech/5970>
- Scott, J., & Carrington, P. J. (Eds.). (2014). *The SAGE handbook of social network analysis*. SAGE Publications Ltd. <https://doi.org/10.4135/9781446294413>
- Sievert, C., & Shirley, K. (2014). LDAvis: A method for visualizing and interpreting topics. In *Proceedings of the Workshop on Interactive Language Learning, Visualization, and Interfaces* (pp. 63–70). Association for Computational Linguistics. <https://doi.org/10.3115/v1/W14-3110>
- Simpson, C. (2022, April 1). Membership of the TEledvisors network (as of 30/3/23). *The Edvisor*.
<https://teledvisors.net/blog/2022/04/01/membership-of-the-teledvisors-network-as-of-30-03-22/>

- Stewart, B. (2016). Twitter as method: Using Twitter as a tool to conduct research. In L. Sloan & A. Quan-Haase (Eds.), *The SAGE handbook of social media research methods* (pp. 251–265). SAGE Publications Ltd.
- Trust, T., Carpenter, J. P., & Krutka, D. G. (2017). Moving beyond silos: Professional learning networks in higher education. *The Internet and Higher Education*, 35, 1–11. <https://doi.org/10.1016/j.iheduc.2017.06.001>
- Trust, T., Krutka, D. G., & Carpenter, J. P. (2016). “Together we are better”: Professional learning networks for teachers. *Computers & Education*, 102, 15–34. <https://doi.org/10.1016/j.compedu.2016.06.007>
- Tucker, L. (2018). Educational professionals’ decision making for professional growth using a case of Twitter adoption. *TechTrends*, 63(2), 133–148. <https://doi.org/10.1007/s11528-018-0346-x>
- Veletsianos, G. (2012). Higher education scholars’ participation and practices on Twitter. *Journal of Computer Assisted Learning*, 28(4), 336–349. <https://doi.org/10.1111/j.1365-2729.2011.00449.x>
- Veletsianos, G., & Kimmons, R. (2013). Scholars and faculty members’ lived experiences in online social networks. *The Internet and Higher Education*, 16, 43–50. <https://doi.org/10.1016/j.iheduc.2012.01.004>
- Watson, E., & Braul, B. (2021). Supporting instructors during a crisis: Expanding the wants of instructors to address their needs. In J. S. Davis & C. Irish (Eds.), *Lessons from the pivot: Higher education’s response to the pandemic* (pp. 22–27). University of Mary Washington. <https://scholar.umw.edu/cgi/viewcontent.cgi?article=1010&context=education>
- Xie, J., & Rice, M. F. (2021). Instructional designers’ roles in emergency remote teaching during COVID-19. *Distance Education*, 42(1), 70–87. <https://doi.org/10.1080/01587919.2020.1869526>
- Xing, W., & Gao, F. (2018). Exploring the relationship between online discourse and commitment in Twitter professional learning communities. *Computers & Education*, 126, 388–398. <https://doi.org/10.1016/j.compedu.2018.08.010>
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