# Sheffield Hallam University

# A decade of social media for learning: A systematic review

PURVIS, Alison <http://orcid.org/0000-0002-3581-4990> and BECKINGHAM, Suzanne <http://orcid.org/0000-0001-5660-125X>

# Introduction

The integration of social media in learning and teaching within higher education can be traced back to the early 2000s when educators started exploring various online platforms such as blogs to augment traditional teaching methods (Downes, 2004; John & Wheeler, 2008). Initially, platforms like blogs, wikis, forums, and discussion boards (Rheingold, 2012; Veletsianos, 2010) served as precursors to contemporary social media, allowing students and teachers to interact asynchronously, with the origins of this type of communication as early as the 1970s (Selwyn, 2011). Computer mediated communication (CMC) was a key term in the early 2000s where human communication was facilitated through use of computer technology (Thurlow et al., 2004), a term that was widely used before the term 'social media' was created in the early 2000s and which became commonly understood in the late 2000s (Kaplan & Haenlein, 2010).

The launch of the iOS and Android operating systems on smartphones introduced the concept of apps enabling users to access social media anywhere and anytime; a pivotal change which accelerated social media adoption and engagement. The rise of platforms like Facebook, Twitter, and YouTube provided new spaces for communication, content sharing, and collaboration between students and educators, along with opportunities to connect and engage in social networks. Boyd and Ellison (2007 p. 211) defined social network sites as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system". A broader definition of social media from Kaplan and Haenlein (2010, p. 61) is "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content". A timeline of social media platforms and brief definitions are presented in Table 1. The table includes the platforms and tools that are significant globally and features all platforms mentioned in the papers included in the systematic review (Table 6). The top 10 social media platforms each have at least 700 million active users and the number 1 platform, Facebook, has nearly 3 billion (Data Reportal, 2023h).

Educators started integrating these platforms for various academic purposes such as announcements, class discussions, resource sharing, and collaborative projects (John & Wheeler, 2008). The ability to receive real-time notifications and updates and filter by hashtags has made interactions on social media more instantaneous and engaging. Platforms like LinkedIn were leveraged for professional development and networking, while Instagram and Pinterest became useful for sharing visual user generated content related to coursework and creative projects. The use of social media in higher education has evolved even further with the proliferation of platforms such as Snapchat and TikTok alongside the use of stories to share ephemeral content that is typically only visible for 24 hours. Table 1 provides a basic taxonomy of social media tools

based on their primary function and examples of how these platforms have been used in higher education.

**Table 1**

*Taxonomy of Social Media Platforms*

| Description | Examples | Use in Higher Education |
|---|---|---|
| **General Networks** | | |
| Platforms designed for broad interpersonal connections and content sharing. | Facebook, LinkedIn, Mastodon, Threads | Networking, alumni groups, class discussions, job search |
| **Media Sharing Platforms** | | |
| Photo Sharing - Platforms emphasising visual content, primarily photos. | Instagram, Snapchat | Documenting campus life, sharing educational infographics |
| Video Sharing - Platforms focusing on video content and livestreams. | YouTube, TikTok, Vimeo, Twitch | Instructional videos, livestreaming lectures, student project showcases |
| **Blogging and Publishing Platforms** | | |
| Microblogging - Platforms focused on short, frequent updates and quick engagements. | X (Twitter), Tumblr | Sharing research, class updates, engaging in professional dialogues |
| Traditional Blogging - Platforms that allow for long-form content creation and sharing. | WordPress, Blogger | Course blogs, research journals, student portfolios |
| Social Blogging - Mix of blogging and social networking features. | Medium, Tumblr | Reflection essays, interdisciplinary discussions, creative writing projects |
| **Community and Discussion Platforms** | | |
| Forums - Websites or sections of websites dedicated to discussion and user-generated content. | Reddit, Quora | Subject-specific forums, Q&A for course topics, study groups |
| Q&A Platforms - Specifically focused on questions and answers. | Stack Exchange, Yahoo! Answers | Academic help, research inquiries, technology troubleshooting |
| **Messaging and Communication** | | |
| Instant Messaging - Tools primarily for direct and group messaging. | WhatsApp, Signal, Messenger, Telegram | Study groups, project coordination, quick peer communication |
| Video Call Platforms - Focused on video communication. | Zoom, Skype, FaceTime | Virtual classes, office hours, guest lectures |
| **Professional and Business Networks** | | |
| Networking - Platforms designed for professionals to connect and share. | LinkedIn, Xing | Professional development, networking, internships and job opportunities |
| Collaboration and Workspace - Combines networking with tools for teamwork. | Slack, Microsoft Teams, Discord | Group projects, faculty collaboration, course management |
| **Niche and Specialised Networks** | | |
| Dating and Relationships - Platforms focusing on romantic or social connections. | Tinder, Bumble | Socialising, networking (though less academically focused) |

| | Strava (cycling/running), Ravelry (knitting) | Clubs, extracurricular activities, shared interest groups |
|---|---|---|
| Hobby and Interest-Based - Tailored to specific interests or activities. | Strava (cycling/running), Ravelry (knitting) | Clubs, extracurricular activities, shared interest groups |
| **Social Commerce and Reviews** | | |
| Shopping Platforms - Platforms integrating social features with shopping. | Pinterest (with Shop the Look), Instagram Shop | Promoting university merchandise, art and design portfolios |
| Review Platforms - For reviewing businesses, products, or services. | Rate My Professors, Student Room, Yelp, TripAdvisor | Rating courses, reviewing local accommodations and eateries for students |
| **Content Discovery and Curation** | | |
| Bookmarking - Platforms for saving and discovering web content. | Pinterest, Pocket | Organising research materials, curating study resources |
| News Aggregators - Platforms curating news or articles based on interests. | Flipboard, Feedly | Staying updated with industry news, academic articles |
| **Augmented Reality (AR) and Virtual Reality (VR) Social Platforms** | | |
| VR Social Spaces - Virtual environments for social interaction. | VRChat, Facebook Horizon | Virtual campus tours, immersive learning experiences |
| AR Social Tools - Apps or features enhancing the real world with digital content. | Snapchat Filters, Instagram AR Effects | Augmented campus experiences, interactive learning modules |

This taxonomy provides a foundational structure, but some platforms may fit into multiple categories or evolve to serve multiple purposes over time. The social media landscape is always evolving; however this provides an opportunity for educators to further research the use of social media. Whilst Facebook remains at the top of the leader board (Table 2) as a social media platform and has been a popular focus for research both within JUTLP and other journals (Table 7), the breadth of categories should be considered for the range of opportunities offered to learning and teaching enhancement.

The availability of social media, social networking, and methods of engaging collaboratively in online spaces have afforded educators opportunities to engage students in learning in new ways. Learning and teaching journals like the Journal of University Teaching and Learning Practice (JUTLP) have an important role in sharing new research and emerging practice with academics in higher education. Providing practitioner guidance based on new findings from robust original research is important for furthering practice and for motivating change in practice across the sector internationally. Journals are a key method for dissemination and a high standard of editorial practice and peer review ensures the quality and relevance of the disseminated research (Gonzalez et al., 2022; Johnson et al., 2020).

Over the last two decades the use of social media has become entangled in the way we communicate through our digital devices socially and professionally. As of October 2023, there were 4.95 billion social media users around the world, equating to 61.4 percent of the total global population (Data Reportal, 2023b). This is a jump from the previous quarter when there were an

estimated 4.88 billion social media users. These figures demonstrate that the growth of social media continues, but this does not mean that the platforms of choice remain the same.

Whilst the appropriation of social media for learning and teaching has provided innovative ways for students to engage and interact with peers, it has also raised concerns due to the public nature of these types of communication and interactions. The role of social media in higher education has complex enablers and barriers that influence how and when it is used (Purvis et al., 2020). It is therefore vital that a critical review of their use is considered. It is incumbent upon journal editors to seek a critical approach from authors writing about social media in the context of learning and teaching.

The purpose of this paper is to review the changing nature of social media for learning since its inception, and how learning and teaching practice has been influenced over time. We have focused on the work published on social media for learning in the Journal of University Teaching and Learning Practice (JUTLP). We consider the role educational journals have played in the discourse about social media for learning over the life of the journal to date. The first paper published in JUTLP about social media was in 2013 and therefore we focus only on the last 10 years of social media publications in the journal. We summarise the current evidence on the use of social media for learning and document how the field has evolved and changed since its emergence as a pedagogical theme. We review how the topic of social media for learning has increased in sophistication over time, how trends have ebbed and flowed, and we take a systematic approach to the review of the material. Specifically, this systematic review seeks to answer the following research questions:

1. What are the main pedagogical themes for the use of social media for learning?
2. What are the key challenges that have been identified when using social media for learning?
3. Are there specific disciplines, countries, or other types of context that dominate the use of social media for learning?
4. How has the use of social media for learning changed over the life of the journal?
5. What learning can be gained for educational journals through a retrospective and systematic review of JUTLP?

**Table 2**

*Timeline, Definitions, and Estimated User Numbers of Key Social Media and Communication Platforms*

| Launch Year | Platform | Overview | Estimated Maximum | Estimated Current users | Data Source |
|---|---|---|---|---|---|
| 1997 | Six Degrees | One of the first recognised social media sites, allowing users to create profiles and connect with friends. | 3.5 million (1999) | Closed in 2000 | (Kalemi, 2022) |
| 1999 | Blogger | Allowed users to create and publish weblogs (blogs) with the option of enabling comments for interaction.  Purchased by Google in 2003 and still active. | 1.2 million live and historical sites | 539,748 live sites | (Built With, 2023) |
| 2000 | Friends Reunited | A social media network focused on connecting friends and family members. | 15 million (2005) | Closed in 2016 | (Jowitt, 2017) |
| 2002 | Friendster | Allowed users to contact other members and share online content and media with those contacts. Users began to decrease in 2009 and the platform was relaunched as a social gaming platform in 2011. Services ended in 2015 and closed fully in 2018. | 117 million (2009) | Closed in 2018 | (Seki & Nakamura, 2017) |
| 2002 | Moodle | A virtual learning environment which focuses on interaction and collaborative content construction. Still active and used by many educational institutions. | Current users | 397 million | (Moodle, 2023) |
| 2003 | LinkedIn | A professional networking site that allows registered users to create professional profiles and connect with other professionals. | Current users | 950 million | (LinkedIn Corporation, 2023) |
| 2003 | MySpace | Provided a personalised experience of music, videos, blogs, and photo sharing. Still active but a fault in 2019 removed all content created before 2015. | 90 million (2009) | 6 million | (Wise, 2023) |
| 2004 | Facebook | Initially created for college students, it is the largest social media platform, allowing users to connect with friends, share content, and join groups. The parent company of Facebook is Meta, renamed from Facebook Inc. in 2021.Currently the most widely used social media platform. | Current users | 2.99 billion | (Data Reportal, 2023a) |
| 2005 | YouTube | A video-sharing platform where users can upload, share, and view videos. Estimated to be the second largest platform after Facebook. Currently the second most used social media platform. | Current users | 2.53 billion | (Data Reportal, 2023i) |
| 2006 | Twitter (X) | Allows users to post and interact with messages known as "tweets", originally restricted to 140 characters, later expanded to 280. Renamed as 'X' in 2023. | Current users | 373 million | (Data Reportal, 2023g) |

| Year | Platform | Description | | Users | Reference |
|------|----------|-------------|---|-------|-----------|
| 2007 | Tumblr | A microblogging platform where users can share photos, videos, music, text, links, and other multimedia. All adult content was banned in 2018 and user numbers dropped significantly. | 521 million (2018) | 213 milion | (Ruby, 2023b) |
| 2009 | WhatsApp | A messaging app that uses the internet for video, audio, and text-based messaging. The third most popular social network. Currently the third most used social media platform. | Current users | 2 billion | (Ceci, 2023) |
| 2010 | Instagram | A photo and video sharing social networking service that is estimated to be the 4th most popular globally. Meta is the parent company. | Current users | 1.63 billion | (Data Reportal, 2023c) |
| 2010 | FaceTime | An Apple iOS app for video and voice calls over the internet. The app is installed on all iOS devices and active user numbers are not published. | Unknown | Unknown | N/A |
| 2010 | Pinterest | A platform where users curate collections of images, infographics, GIFs, and videos 'pins' from websites or uploading. | Current users | 463 million | (Data Reportal, 2023d) |
| 2011 | Google+ | A social network operated by Google which included Communities and Collections for shared interests and topics, as well as user-created networks called Circles. | 540 million | Closed in 2019 | (McGee, 2013) |
| 2011 | Snapchat | A multimedia messaging app used globally, known for its temporary messages called "snaps". | Current users | 750 million | (Data Reportal, 2023e) |
| 2011 | WeChat/ Weixin | A Chinese instant messaging, social media, and payment app. Operated separately as Weixin in mainland China and as WeChat overseas. | Current users | 1.32 billion | (Thomala, 2023) |
| 2011 | Zoom | A communication platform allowing users to connect with video, audio, and chat. | 985 milliion (2022) | 810 million | (Bianchi, 2023) |
| 2013 | Telegram | An end-to-end encrypted chat, video calling, and file sharing messaging service. | | 1.07 billion | (Turner, 2023b) |
| 2014 | Slack | A communication platform primarily used for work-based collaboration and messaging. | Current users | 20 million | (Ruby, 2023a) |
| 2016 | Discord | An online community platform where users can communicate by voice, video, chat, and forums. | Current users | 514 million | (Turner, 2023a) |
| 2016 | TikTok | A video-sharing social networking service, known for its short videos | Current users | 1.09 billion | (Data Reportal, 2023f) |
| 2017 | Microsoft Teams | Communication software, app and web-based app that combines text and video communication tools with collaborative working tools. | Current users | 270 million | (Vailshery, 2023) |
| 2023 | Threads | A Meta owned app which allows users to post and interact with text-based messages, images, and videos. Similar functionality to Twitter/X. Users must have an Instagram account. | Current users | 132 million | (Shewale, 2023b) |

# Method

We used a 3-step approach to undertaking this systematic review, based on established methods and previous quality peer-reviewed publications (Butler-Henderson & Crawford, 2020; Luo et al., 2020; Perez et al., 2023):

1. Scoping and understanding the review space for a retrospective analysis of the topic in a specific journal of focus (Gardner et al., 2020), including clarifying and framing the review research questions (Khan et al., 2003).
2. Undertaking methods using an established search strategy and selection procedure for a systematic and quality assessment of the literature (Hong et al., 2018; Moher et al., 2009).
3. Undertaking a thorough thematic analysis of the empirical evidence from the systematic review papers to provide meaningful outcomes and recommendations (Braun & Clarke, 2006).

## Scoping and Clarifying

The authors met and discussed the purpose and framing of the systematic review within the remit of a retrospective of articles published over the life of the Journal of University Teaching and Learning Practice (JUTLP). We discussed the overall methods, the terms and method of searching, how to manage the data effectively, appropriate research questions, and the roles that we would take in undertaking the review.

## Search Strategy

The search keywords used aligned to the U.S. National Library of Medicine (2019) MeSH (Medical Subject Headings) terms: [("social media") OR ("social network*")]. The JUTLP database was queried for these keywords.

**Table 3**

*MeSH Descriptor Data*

| MeSH Heading | RDF Unique Identifier | Scope Note |
|---|---|---|
| Social Media | http://id.nlm.nih.gov/mesh/D061108 | Platforms that provide the ability and tools to create and publish information accessed via the INTERNET. Generally, these platforms have three characteristics with content user generated, high degree of interaction between creator and viewer, and easily integrated with other sites. |
| Social Networking | http://id.nlm.nih.gov/mesh/D060756 | Individuals connected by family, work, or other interests. It also includes connectivity facilitated by computer-based communications. |
| Online Social Networking | http://id.nlm.nih.gov/mesh/D000077253 | Connectivity facilitated by computer-based communications among persons with family, work, or other common interests. |

The eligibility criteria included original and peer-reviewed research articles on social media or social networks/networking for learning which were published in JUTLP from its first issue in 2004 (Volume 1, Issue 1) and the latest issue currently available in August 2023 (Volume 20, Issue 5). JUTLP publishes all articles in English, therefore all articles were only available in English and no translations were required. We aimed to focus on the development of practice in social media for learning, and so we excluded types of articles that were not original research (i.e. editorials and commentaries) articles that did not include any relevant exploration of internet-based social networking, connection, or communication (i.e. in-person social networking), and articles where social media for learning was not a core focus of the research. All records returned from the search were extracted from a JUTLP advanced search and imported into Microsoft Excel by the first author. Abstracts and additional details were manually imported by the first author.

**Table 4**

*Inclusion and Exclusion Criteria*

| Inclusion | Exclusion |
|---|---|
| Original research that includes primary data | Editorials, systematic reviews, commentaries, position statements, reviews, reflections, viewpoints |
| Studies about social media or social networking for learning | Studies that mention social media or social networking as an incidental aspect and not a core element related to learning |
| Quantitative, qualitative, and mixed methods studies | |
| Peer reviewed | |
| Studies published in any issue of JUTLP | |

**Selection procedure**

Each of the 147 extracted titles and abstracts were double screened by the authors based on the eligibility criteria. Following the first stage of screening the authors agreed on the inclusion of 33 papers and the exclusion of 114 papers. The interrater reliability was calculated at 88 percent using Cohen's Kappa (McHugh, 2012). Where disagreement between the two raters existed, it was always due to author 1 rating a paper for inclusion in the initial screening that author 2 rated to be excluded. On full-text screening all the papers included by author 1 were then excluded demonstrating that author 1 had been more generous in their assessment of the returned records than author 2. The full text of selected papers was double-reviewed, and any discordance managed through a consensus discussion. The 11 papers selected following the double full-text review were accepted for this review.

Each of the 11 accepted papers was reviewed for quality using the Mixed Methods Appraisal Tool (MMAT) quality appraisal tool (Hong et al., 2018). Quality assessment was carried out by the first author, with 30 percent of assessments checked independently by the second author. Any disagreements were resolved through discussion. The MMAT appraisal tool was used to

determine a judgement of high, medium, or low quality based on the matrix of answers (Hong et al., 2018) a technique used in previous systematic reviews (Butler-Henderson & Crawford, 2020). A summary of this assessment is included in Table 4.

**Thematic Analysis**

Braun and Clarke's (2006) thematic analysis method is well known and frequently used iterative process which consists of six steps: (1) becoming familiar with the data, (2) generating codes, (3) generating themes, (4) reviewing themes, (5) defining and naming themes, and (6) locating exemplars. Familiarisation with the papers was achieved during the process of screening and quality review process. The first author then consolidated the themes that had been identified through the screening and quality assessment by both authors. The write-up of the paper was split between the authors with the final themes discussed though collaborative analysis and review.

# Results

There were 11 articles identified that met the eligibility criteria and were selected by using the PRISMA approach (Figure 1). The characteristics of the 11 included articles are detailed in Table 4. The papers were from a range of subject disciplines and mainly from Australian and USA lead authors (4 Australian, 4 USA) with 2 from the UK and 1 from Cyprus. Papers were published from 2013 onwards with most years only featuring 1 publication per year. In 2015 there were 3 papers published, and 2 were published in 2023. No papers were published on social media in 2016, 2017, or 2020. There is no pattern to the dates of publication other than the appearance of papers from 2013 onwards which matches the emergence of social media in mainstream use globally (Rauniar et al., 2014).

Surveys were the most frequent method of data collection and all papers carried out research with student participants and no papers included staff or other participants in the studies. Most of the papers ($n$=5) were judged as medium quality, 4 as low quality, and 2 as high quality. Where papers performed poorly in the MMAT scoring (Hong et al., 2018), it was typically because they did not state aims or research questions clearly and the methods and/or analysis was not clearly articulated. These types of papers commonly had longer discussions and/or literature reviews which were of value, but less confidence could be held in their conclusions because of limitations in the earlier parts of the paper. A further observation of some of the papers was that of small sample sizes for the chosen methods (Giannikas, 2020; Shcherbakova, 2023; VanDoorn & Eklund, 2013).
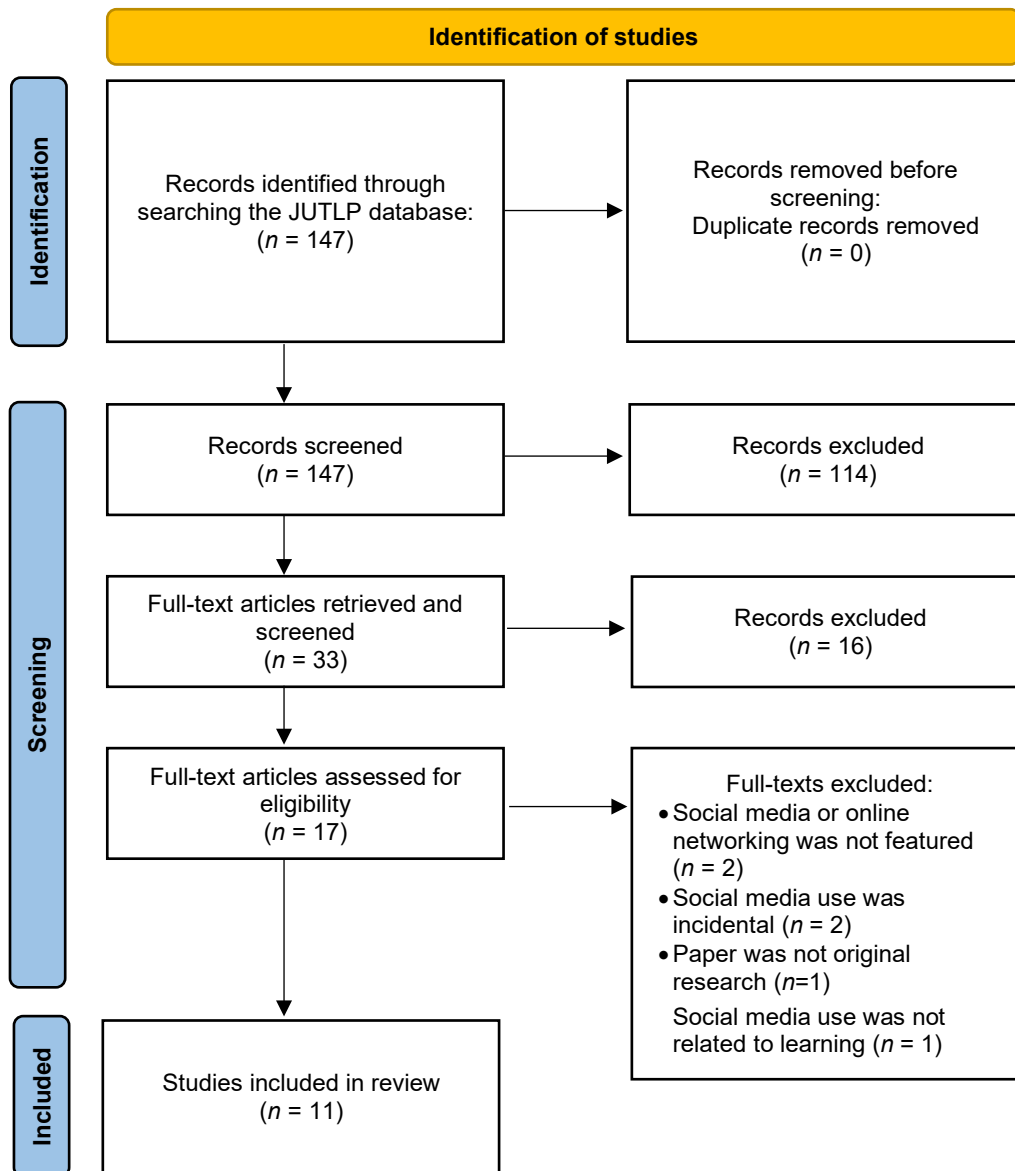
**Figure 1**

*PRISMA Results*



| Identification of studies | |
|---|---|
| **Identification** | |
| Records identified through searching the JUTLP database: (*n* = 147) | Records removed before screening: Duplicate records removed (*n* = 0) |
| **Screening** | |
| Records screened (*n* = 147) | Records excluded (*n* = 114) |
| Full-text articles retrieved and screened (*n* = 33) | Records excluded (*n* = 16) |
| Full-text articles assessed for eligibility (*n* = 17) | Full-texts excluded:<br>• Social media or online networking was not featured (*n* = 2)<br>• Social media use was incidental (*n* = 2)<br>• Paper was not original research (*n*=1)<br>Social media use was not related to learning (*n* = 1) |
| **Included** | |
| Studies included in review (*n* = 11) | |

**Table 5**

*Summary of Article Characteristics*

| First Author | Year | Country | Method | Participants | Themes (see Table 5 for definitions) | QAS | Citation |
|---|---|---|---|---|---|---|---|
| Vandoom | 2013 | Australia | Survey (qualitative & quantitative) | 20 students | computer-mediated communication; social media pedagogy; | Low | (VanDoorn & Eklund, 2013) |
| Rockinson-Szapkiw | 2014 | USA | Doctoral Student Connectedness Scale (DSCS) (Terrell et al., 2009) | 132 doctoral students | computer-mediated communication; learning community; | Low | (Rockinson-Szapkiw et al., 2014) |
| Johnson | 2015 | Australia | Survey (quantitative) | 185 students | computer-mediated communication; digital capabilities and confidence; learning community; | Medium | (Johnson, 2015) |
| Mirriahi | 2015 | Australia | Survey (quantitative) | 171 students | social media pedagogy; | Medium | (Mirriahi & Alonzo, 2015) |
| Thota | 2015 | USA | Course evaluation (qualitative) and reflective student journals | 29 students | Social media pedagogy; digital capabilities and confidence; | Low | (Thota & Negreiros, 2015) |
| Nagel | 2018 | USA | Survey (quantitative) | 88 students | social media pedagogy; | Low | (Nagel et al., 2018) |
| Giannikas | 2019 | Cyprus | Survey (qualitative) | 14 students | computer-mediated communication; learning community; | Medium | (Giannikas, 2020) |
| Eri | 2021 | Australia | Survey (qualitative and quantitative) | 485 students | Computer-mediated communication; digital capabilities and confidence; | High | (Eri et al., 2021) |
| Smith | 2022 | UK | Survey (qualitative) | 33 students | learning community; | High | (Smith & Watson, 2022) |
| Keshishi | 2023 | UK | Survey (qualitative and quantitative) | 28 students | learning community; | Medium | (Keshishi et al., 2023) |
| Shcherbakova | 2023 | USA | Survey (qualitative and quantitative) | 13 students | computer mediated communication; digital capabilities and confidence; | Medium | (Shcherbakova, 2023) |

**Thematic Analysis**

Four overarching themes were identified, and our definitions for these themes are provided in Table 5. The frequency count of papers that included that theme out of the total 11 papers is included.

**Table 6**

*Definitions of the systematic themes*

| Theme | Definition | Frequency and Citations |
| --- | --- | --- |
| Computer mediated communication | Computer mediated communication is a term that pre-dates social media and which describes the use of two or more electronic/digital devices to communicate between individuals or groups. | 6 papers (Giannikas, 2020; Johnson, 2015; Rockinson-Szapkiw et al., 2014; Shcherbakova, 2023; VanDoorn & Eklund, 2013) |
| Digital capabilities and confidence | Digital capabilities are the digital skills and techniques and how they are used and developed through learning. Digital confidence is the attitude to using digital technologies and being ready to try new tools and techniques to develop new capabilities. | 5 papers (Eri et al., 2021; Johnson, 2015; Shcherbakova, 2023; Thota & Negreiros, 2015) |
| Learning community | A learning community is made of a group of learners who meet online or in person to collaborate on their learning and/or provide peer support in their learning. | 5 papers (Giannikas, 2020; Keshishi et al., 2023; Nagel et al., 2018; Rockinson-Szapkiw et al., 2014; Smith & Watson, 2022) |
| Social media pedagogy | Social media pedagogy is the planned use of social media in the design and practice of learning and teaching to provide learning opportunities for learners by using and engaging with social media technologies. | 4 papers (Mirriahi & Alonzo, 2015; Nagel et al., 2018; Thota & Negreiros, 2015; VanDoorn & Eklund, 2013) |

***Computer Mediated Communication***

Social media as a tool for computer mediated communication (CMC) was the most prominent theme in the included papers with 6 of the 11 papers featuring some aspect of analysis about CMC. Computer-mediated communication is a concept that predates social media by many years and yet is a term that is broad enough to include the ways in which internet-based social media support and enables communication and connection. The term is also used in the formal MeSH descriptors (Table 2).

In the early 2010's new social media websites experienced rapidly expanding user numbers with Facebook being the most frequently used website in 2011 with over 600 million global users and more than half of the Australian population reported to be active Facebook users (VanDoorn & Eklund, 2013) The articles published in 2013 to 2015 discuss the emerging opportunities that Web 2.0 and social networking presented for the university community (Giannikas, 2020; Johnson, 2015; Rockinson-Szapkiw et al., 2014; VanDoorn & Eklund, 2013). How to take the opportunities to communicate and connect with students (Rockinson-Szapkiw et al., 2014), but using tools that are not primarily designed for educational purposes was a concern, including concerns over privacy and ethics of commercial tools funded by advertising revenue (VanDoorn & Eklund, 2013).

Assumptions about student preferences with digital technology use were challenged by Johnson (2015). While some assumptions held true, it was found that the students who studied on campus were more likely to use computer-mediated communication/social media through online chat or tweeting than the students who were studying fully online. The more prominent factor determining the use of CMC was that of student confidence overall, not just that relating to technology (Johnson, 2015).

The use of social and computer-based communication has been growing over many years and the influence of the COVID-19 pandemic on online learning and digital communications was instrumental in increasing the emphasis on student skill development as an essential part of the university learning experience (Shcherbakova, 2023). The ability of a student to be able to communicate and collaborate in an online learning space, including social media spaces and apps for communication, is more critical post-2020 (Eri et al., 2021). The ubiquitous use of tools like Facebook was seen as an enabler as over 90 percent of students were already familiar with communications on the platform (Giannikas, 2020; Nagel et al., 2018). Familiarity with a tool and careful integration into a course can result in positive pedagogical outcomes and a coherent learning community (Giannikas, 2020).

The ability of students and academics to use technologies effectively to build a learning community is based on digital capabilities and confidence, and the CMC theme connects strongly with all other themes to give a combined approach to student skills, learning effectiveness and student outcomes. Many collaborative platforms and tools are now incorporating social aspects and facilitate easy sharing of media into both classic social media platforms (such as Facebook, Instagram, Pinterest, and Twitter/X) as well as being incorporated within the tools themselves, such as Canva (Shcherbakova, 2023).

Most of the papers took a general view on approaches to social media and online communication and did not concentrate on specific tools. Two papers examined Facebook directly and included the word in their titles (Giannikas, 2020; VanDoorn & Eklund, 2013). A variety of other social media and digital communication tools were mentioned as either examples or as part of the methods and findings in the articles (Table 6). Facebook was the platform mentioned in the most papers, with student usage being reported as over 90 percent (Giannikas, 2020; Nagel et al., 2018), in line with the popularity of Facebook globally (Table 1). Canva was included in one paper (Shcherbakova, 2023) although it is not actually a social media or communication tool. It is a graphic design tool which can be used to create infographics, a more visual way to share information, and does include some features of communication and sharing between users. It is a good example of where the features of social media have become incorporated into other software and tools.

**Table 7**

*The social media and online communication tools and platforms discussed in the included papers*

| Platform/Tool | Citations |
|---|---|
| Canva | (Shcherbakova, 2023) |
| Facebook | (Eri et al., 2021; Giannikas, 2020; Rockinson-Szapkiw et al., 2014; Shcherbakova, 2023; Smith & Watson, 2022; VanDoorn & Eklund, 2013) |
| FaceTime | (Rockinson-Szapkiw et al., 2014) |
| Google+ | (Nagel et al., 2018) |
| Instagram | (Nagel et al., 2018; Shcherbakova, 2023) |
| LinkedIn | (Nagel et al., 2018) |
| Moodle | (Giannikas, 2020) |
| Microsoft Teams | (Eri et al., 2021) |
| Pinterest | (Shcherbakova, 2023) |
| Skype | (Rockinson-Szapkiw et al., 2014) |
| Snapchat | (Nagel et al., 2018) |
| Tumblr | (Nagel et al., 2018) |
| Twitter/X | (Rockinson-Szapkiw et al., 2014; Shcherbakova, 2023) |
| WhatsApp | (Eri et al., 2021; Smith & Watson, 2022) |
| WeChat | (Eri et al., 2021; Smith & Watson, 2022) |
| YouTube | (Nagel et al., 2018) |
| Zoom | (Eri et al., 2021) |

### *Digital Capabilities and Digital Confidence*

Social media and online networking tools provide the method for connection, but students and academics need the capabilities and confidence to be able to use these tools both practically and effectively. A well-considered connectivist learning environment can bring together these elements and provide structure for an effective online learning experience and learning community that includes social media for learning (Johnson, 2015; Thota & Negreiros, 2015). There were some assumptions about how the type of student (i.e., age, online vs on campus) determines their digital capabilities in online environments, but some of those assumptions were challenged with evidence to support a more complex view of digital confidence (Johnson, 2015; Thota & Negreiros, 2015). While academics clearly appreciate the value of communication skills and online communication, students also recognise and value the opportunity to develop these skills and techniques (Shcherbakova, 2023).

The opportunities created by the increased emphasis on online learning and online skills since the COVID-19 pandemic have allowed students to engage in authentic learning and assessment activities that incorporate the development of digital capabilities, learner confidence, self-efficacy, emotional intelligence, and resilience (Eri et al., 2021; Shcherbakova, 2023). The COVID-19 pandemic was a key driver for increased use of online learning and CMC. The pandemic period has had a significant impact on the use of digital tools and therefore the digital skills required to use these tools (Eri et al., 2021). In the paper by Eri et al. (2021), the students were asked about

their digital competencies pre- and post-COVID-19 and confidence in competencies was universally increased, including skills specific to social networking, communication tools, and digital sharing of information.

### Learning Community

The way in which a learning community develops is dependent upon the engagement of students in the tool and method of the communication (Giannikas, 2020; Rockinson-Szapkiw et al., 2014) as well as the choice of that tool to prevent exclusion of certain students (Keshishi et al., 2023; Smith & Watson, 2022). The place for international students to engage in a learning community can be enabled or barriers created through the choices and approaches to online communication and development of a learning community (Eri et al., 2021; Keshishi et al., 2023; Smith & Watson, 2022). The importance of the choice of online communication to support the building of a learning community also exists with students who are enrolled in on-campus programmes of study (Johnson, 2015).

Most students found that online forums (i.e., Moodle) were more formal and less engaging. They were more comfortable with sharing ideas and feedback with each other on Facebook (Giannikas, 2020). Facebook was preferred for reasons of familiarity, convenience, notifications of new posts, and a perception of easier interactions (Giannikas, 2020; Nagel et al., 2018). The number of interactions is less important than the type of medium that those interactions occur in, the conversational structure the medium provides, and its potential to create digital belonging (Keshishi et al., 2023; Rockinson-Szapkiw et al., 2014; Smith & Watson, 2022). Web-based social networking systems can be more effective than email or other traditional formats of communication (Rockinson-Szapkiw et al., 2014).

### Social Media Pedagogy

Despite the widescale use of social media in the late 2000s and early 2010s, social media for learning was reported as not reaching its potential and being perceived negatively in 2018 (Nagel et al., 2018). Social media was often seen by students as a positive in the personal context through engagement and experiences with friends, but a negative in the context of learning with a strong preference for face-to-face interactions in the classroom (Nagel et al., 2018). The use of tools and platforms common in the personal context and bringing them into a classroom context was identified as an opportunity to increase engagement in learning (Nagel et al., 2018), although few solutions or ideas for practice were given with papers reporting more on the context, student preferences, and opportunities for changing learning practice (Mirriahi & Alonzo, 2015; Nagel et al., 2018; VanDoorn & Eklund, 2013).

Learning theories were not typically discussed within the papers and the theoretical frameworks of connectivism and constructivism were only mentioned in one paper (Thota & Negreiros, 2015). Taking a theory-based approach to learning design was unusual both in the included papers and, as also noted within the paper by Thota and Negreiros (2015), about approaches to learning design more generally. However, the Thota and Negreiros (2015) paper did not include a methods section to describe how the theoretical approach was evaluated. Most papers took a pragmatic and practical approach to how social media tools were implemented and used.

The papers that purported to be about learning and teaching tended to focus more on the use of social media for communication (VanDoorn & Eklund, 2013) and the potential for future

incorporation into a broader approach to technology enhanced learning (Mirriahi & Alonzo, 2015; Nagel et al., 2018; VanDoorn & Eklund, 2013) than reporting on the active use of social media for learning. Where social media was used for learning activities and approaches, the details of the practice and approach or how it could be used for enhancing learning were usually limited or vague.

# Discussion

## Social media for learning in JUTLP

This systematic review aimed to analyse the publications about social media for learning over the 20 years that the Journal of University Teaching and Learning Practice (JUTLP) has been active. The initial search in the JUTLP database returned 147 papers which we filtered down to 11 papers included for full analysis. The selected papers focused on the deliberate use of social media for the enhancement of learning and few papers over the life of the journal explored this theme. Over the last 10 years there was usually one paper published each year with three published in 2015 and none in 2016 or 2017.

We expected to see articles about social media for learning to be more prevalent in the last 10 years and indeed the first article selected for the review was published in 2013. It was surprising that there were no papers before this time as we could have reasonably expected to see exploratory papers looking at new and emerging social media tools and technologies well before 2013. For example, Facebook started in 2004 and it was 2012 where user numbers reached over 1 billion indicating the ubiquitous nature of social media in the UK, USA, Australia, and other internet-connected nations at that time (Shewale, 2023a). Similarly, the wide range of social media and digital communication tools available (Table 2) were not fully reflected in the reviewed articles (Table 7).  It may be the broad educational scope of JUTLP that prevented early exploratory papers and papers covering the broad spectrum of tools from either being submitted or accepted for publication, and these types of articles may be more prevalent in educational technology journals. The ephemerality and affordances of platforms where content automatically disappears once read (such as Snapchat and Telegram) and lack of visibility of content in closed groups (such as Teams, Discord, and Slack) also make some types of applications more challenging to research (Van Raemdonck & Pierson, 2021).

Four of the 11 papers were from Australian authors. The prevalence of Australian contributions was anticipated, particularly in earlier papers, due to the Australian origin of JUTLP and its growth internationally from its Australian roots since the first issue published in 2004. The 4 papers from USA researchers may be due to the origins of social media largely in the USA (Sajithra & Rajindra, 2013) which is likely to have generated more interest than from other countries. With an English language journal, it is expected to see more contributions from English speaking countries. However, with the open access and quality status of JUTLP we would have anticipated a wider variety of international contributions throughout the life of the journal, and more so in recent years. JUTLP, as a true open access journal that does not charge fees to authors or readers, will appeal to emerging research cultures or those with limited funding to publish in journals which charge fees.

COVID-19 was a key factor in papers published from 2020 onwards. Four of the 11 papers were published after the COVID-19 pandemic (Eri et al., 2021; Keshishi et al., 2023; Shcherbakova, 2023; Smith & Watson, 2022) and illustrate the increasing emphasis of the role of online learning and social media to communicate and collaborate between learners. The value of social media for learning communities, building digital confidence, and for providing a method of communication between students were key themes in the papers published after 2020.

JUTLP has a scope for any topics that relate to university teaching and learning practice and does cover a wide range of topics. The limited number of articles that were included for this systematic review demonstrates the wide range of article topics that are included in JUTLP: A technology enhanced learning specific journal would be likely to have a much greater number of articles published over the same period of publication. Similarly, if we had selected a more general topic such as 'technology enhanced learning' as our search term it is likely that we would have retrieved more articles. Focusing on a narrower and more specific topic has allowed us a detailed review which has drawn out key recommendations for JUTLP, teaching and learning journals, researchers, authors, and higher education practitioners.

**Key challenges for social media for learning**

Assumptions about student capabilities and confidence in the digital context were commonplace in the 2010s, following from the work of Prensky (Prensky, 2001a; Prensky, 2001b) about digital natives and digital immigrants. Assumptions about the digital skills, confidence, and digital aptitude for online and digital learning were explored but only moderately challenged in papers in the mid and late 2010s (Johnson, 2015; Nagel et al., 2018). In later papers these assumptions were absent, in line with the debunking of the digital native theory (Reid et al., 2023; Selwyn, 2009). However, assumptions about 'digital natives' having the greatest competencies in digital skills continues to be perpetuated with papers published in other journals (Hakimi et al., 2023). Assumptions about the skill level of students will continue to act as a barrier to providing needed support for students in their development of digital capabilities and digital confidence, including the use of social media for learning (Purvis et al., 2020). Involving students in the process as partners to develop supportive guidance for peers and academics, presented both in person and as digital resources has seen positive results (Beckingham et al., 2019) and partnership approaches are an effective way to ensure assumptions are avoided (Healy et al., 2014).

Investigations into learning design that includes social media for learning is lacking within the published literature, at least within JUTLP. The focus is instead on reporting the prevalence of technology used (Giannikas, 2020; Johnson, 2015; Nagel et al., 2018), the preferences and perceptions of students and staff (Eri et al., 2021; Mirriahi & Alonzo, 2015; Shcherbakova, 2023; Thota & Negreiros, 2015; VanDoorn & Eklund, 2013), and the use of social media as a communication and community tool (Keshishi et al., 2023; Rockinson-Szapkiw et al., 2014; Smith & Watson, 2022; VanDoorn & Eklund, 2013).

**Recommendations for Learning and Teaching Journal Editors**

The quality of papers has grown over the life of the journal. The MMAT scores were low-medium for papers published from 2013-2018 and medium-high from 2019-2023 demonstrating the increase in quality. This increase could be due to changes in JUTLP, changes in the quality of the

research produced on social media for learning, or a combination of the two factors. The aims and objectives, methods and research approaches are clearer in more recent papers compared to those published earlier in the life of the journal.

Few articles included any theoretical frameworks as an underpinning approach to their work, or as a basis for analysis. Encouraging a more critical approach to research design and article writing would add further emphasis on the overall quality of both the individual paper and the impact of the journal as a whole. Similarly, our use of the MMAT quality review (Hong et al., 2018) indicates that a simple but effective way of improving article quality and clarity would be to have an expectation of including research questions in all articles. The MMAT tool connects the use of research questions to the quality of the paper. In the process of undertaking this systematic review, we noticed that where research questions were stated the paper, authors were more likely to use them as a guide or thread that was followed through each section. If editors value the quality markers that characterise the MMAT review, we recommend they should consider adoption of research questions as part of author guidelines and expectations.

The included papers all originated from the English-speaking nations of Australia, UK, and USA, except one paper from Cyprus (Giannikas, 2020). Journal editors may wish to consider reviewing the international reach of the journal and how to promote and encourage contributions from countries that are not English speaking. Where authors are required to translate their writing there are likely to be additional challenges in the clarity and communication within a manuscript. Taking an inclusive and supportive approach with these authors can be more time consuming, particularly for a volunteer and academic-led journal that does not charge fees to authors or readers.

There are notable positive changes in the approach to publications in JUTLP over the 10 years that we have reviewed. A template is now in place which ensures that articles take a consistent style and include consistent headings including the important practitioner notes section. However, we note a paper published in 2023 has a practitioner notes section with 'N/A' instead of the notes (Keshishi et al., 2023). Practitioner notes are likely to be more useful than the abstract for teaching and learning practitioners looking for papers that give ideas, solutions, and suggestions for changing their practice, and therefore practitioner notes should be prioritised as a distinct feature of all JUTLP papers.

## Limitations

This study adopted the meticulous PRISMA method for preliminary identification of papers for inclusion and the thorough MMAT protocol was used for judging the quality of the included papers (Hong et al., 2018). An inductive approach to thematic analysis was taken to determining the themes and collective analysis of the included papers (Braun & Clarke, 2006). All the approaches we took are standard approaches to a systematic review, but all the processes have limitations of subjectivity in decision making. However, by taking a systematic review method we have removed as much bias as possible by taking an agreed and collaborate approach to the inclusion and exclusion of papers. Regardless of our thorough and careful approach, we may have missed suitable papers that would have been identified through a different identification process. We may have also judged the quality of papers differently if we had used a different methodology.

The search terms that we used were broad and should have captured all the relevant papers within the Journal. However, only 11 papers matched our criteria from 20 years of publications. The sample gives us a snapshot of the historical journey of the Journal, which is also dependent upon factors which will not be within the control of JUTLP, such as authors submitting technology-related papers to technology focused journals rather than JUTLP.

The systematic review deliberately looks only at the papers published within the Journal of University Teaching and Learning Practice and so deliberately excludes other papers of value that undoubtedly exist in other quality journals.

**Future Research**

The authors of this paper will be progressing with a systematic review that takes the principles of this review and applies them to social media for learning in the broader literature. It is likely that journals that focus on educational technology and technology enhanced learning will include more papers that enable our research questions to have further analysis.

Surveys providing qualitative and quantitative outcomes were the predominant method of data collection with 9 of the 11 papers using surveys. Future research into the use of social media for learning should include other methods of data collection to ensure a more rounded approach to the research and analysis of learning and teaching practices. Our own research used focus groups as an in-depth approach to understanding the barriers and enablers for social media for learning in higher education (Purvis et al., 2020). Focus groups can be more time consuming to carry out and analyse, but they can provide a richer analysis compared to surveys.

Further research that focuses on learning design with social media for learning as a key feature would be a welcome addition to the articles that we have analysed within this systematic review. There is clearly a gap with JUTLP papers that focus on curriculum design and assessment in connection with social media for learning. The focus on social media for communication and supporting learning community was a much stronger theme.

# Conclusion

This systematic review considered the literature on social media for learning over the 20-year lifespan of the Journal for University Teaching and Learning Practice (JUTLP). The first paper on social media for learning was published in 2013 therefore leading us to review the last 10 years of JUTLP. The dominant focus of the literature was how social media can support communication and community building with students and academics. There were limited discussions of specific uses of social media for learning or assessment activities.

Our review has highlighted areas of good practice for learning and teaching journals, and areas of improvement. JUTLP has an important place for quality original research into teaching and learning practice, and translating that into changing practice for the sector, internationally. To continue that sector-leading practice, we have made recommendations to support both a continued focus on quality for the journal and to continue the use of practitioner notes to impact on practice.

We have noted the continued assumptions of digital competency and encourage practitioners to challenge their own suppositions when engaging students in learning and teaching in digital

spaces. There is further work for researchers and learning and teaching practitioners to do for us to move the discourse on from debunked theories that are now more than 20 years old.

In the process of carrying out this systematic review we have been able to understand the role of social media for learning and how it has changed over the last 10 years. We have noticed the increasing value of social media for learning communities, communication in those communities, and for building digital confidence. We have also had new insights into the quality markers of journal articles and how we would improve our own original research into the future. Our experience has led us to recommend that all practitioners should undertake a systematic review so that they benefit from the development of knowledge, understanding, and research skills that take place through the robust nature of the process.

## Conflict of Interest

The author(s) disclose that they have no actual or perceived conflicts of interest. The authors disclose that they have not received any funding for this manuscript beyond resourcing for academic time at their respective university. The authors have produced this manuscript without artificial intelligence support.

## References

References marked with an asterisk indicate articles included in the systematic review.

Beckingham, S., Wood, C., Paddon, J., Butler, A., Trueman, M., & Rooney, C. (2019). A SMASHing approach for developing staff and student digital capabilities within a community of practice. *The Journal of Educational Innovation, Partnership and Change, 5*(1) https://doi.org/10.21100/jeipc.v5i1.923

Bianchi, T. (2023). *Worldwide visits to Zoom.us from November 2022 to April 2023.* Statista. Retrieved 7 October 2023, from https://www.statista.com/statistics/1259905/zoom-website-traffic/

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication, 13*(1), 210-230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Built With. (2023, *Blogger usage statistics.* Built With. Retrieved 3 October 2023, from https://trends.builtwith.com/cms/Blogger

Butler-Henderson, K., & Crawford, J. (2020). A systematic review of online examinations: A pedagogical innovation for scalable authentication and integrity. *Computers and Education, 159*, 104024. https://doi.org/10.1016/j.compedu.2020.104024

Ceci, L. (2023). *WhatsApp - statistics & facts.* Statista. Retrieved 7 October 2023, from https://www.statista.com/topics/2018/whatsapp/

Data Reportal. (2023a) *Facebook users, stats, data and trends.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/essential-facebook-stats

Data Reportal. (2023b) *Global social media statistics.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/social-media-users

Data Reportal. (2023c) *Instagram users, stats, data and trends.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/essential-instagram-stats

Data Reportal. (2023d) *Pinterest users, stats, data and trends.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/essential-pinterest-stats

Data Reportal. (2023e) *Snapchat users, stats, data and trends.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/essential-snapchat-stats

Data Reportal. (2023f) *TikTok users, stats, data and trends.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/essential-tiktok-stats

Data Reportal. (2023g) *Twitter users, stats, data and trends.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/essential-twitter-stats

Data Reportal. (2023h) *The world's biggest social media platforms.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/social-media-users

Data Reportal. (2023i, *YouTube users, stats, data and trends.* Data Reportal. Retrieved 7 October 2023, from https://datareportal.com/essential-youtube-stats

Downes, S. (2004). Educational blogging. *EDUCAUSE Review, 39*(5), 14-26. https://er.educause.edu/articles/2004/9/educational-blogging

* Eri, R., Gudimetla, P., Star, S., Rowlands, J., Girgla, A., To, L., Li, F., Sochea, N., & Bindal, U. (2021). Digital resilience in higher education in response to COVID-19 pandemic: Student perceptions from Asia and Australia. *Journal of University Teaching & Learning Practice, 18*(5), 108-134. https://doi.org/10.53761/1.18.5.7

Gardner, W. L., Lowe, K. B., Meuser, J. D., Noghani, F., Gullifor, D. P., & Cogliser, C. C. (2020). The leadership trilogy: A review of the third decade of the leadership quarterly. *The Leadership Quarterly, 31*(1)https://doi.org/10.1016/j.leaqua.2019.101379

* Giannikas, C. (2020). Facebook in tertiary education: The impact of social media in e-learning. *Journal of University Teaching & Learning Practice, 17*(1), 23-36. https://doi.org/10.53761/1.17.1.3

Gonzalez, P., Wilson, G. S., & Purvis, A. J. (2022). Peer review in academic publishing. *Journal of University Teaching & Learning Practice, 19*(5). https://ro.uow.edu.au/jutlp/vol19/iss5/01

Hakimi, T. I., Jaafar, J. A., & Aziz, N. A. A. (2023). What factors influence the usage of mobile banking among digital natives? *Journal of Financial Services Marketing,* 28, 763-778. https://doi.org/10.1057/s41264-023-00212-0

Healy, M., Flint, A., & Harrington, K. (2014). *Engagement through partnership: students as partners in learning and teaching in higher education*. Advance HE. https://www.advance-he.ac.uk/knowledge-hub/engagement-through-partnership-students-partners-learning-and-teaching-higher

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F. K., Cargo, M., Dagenais, P., Gagnon, M., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M., Vedel, I., & Pluye, P. (2018). The mixed methods appraisal tool (MMAT) version 2018 for information professionals and researchers. *Education for Information, 34*(4), 285-291. https://doi.org/10.3233/EFI-180221

John, P., & Wheeler, S. (2008). *The digital classroom: Harnessing technology for the future*. Routledge.

* Johnson, G. M. (2015). On-campus and fully-online university students: Comparing demographics, digital technology use and learning characteristics. *Journal of University Teaching & Learning Practice, 12*(1), 45-58. https://doi.org/10.53761/1.12.1.4

Johnson, J. L., Adkins, D., & Chauvin, S. (2020). A review of the quality indicators of rigor in qualitative research. *American Journal of Pharmaceutical Education, 84*(1), 7120-146. https://doi.org/10.5688/ajpe7120

Jowitt, T. (2017, *Tales in tech history: Friends reunited.* Silicon. Retrieved 3 October 2023, from https://www.silicon.co.uk/e-marketing/socialmedia/tales-tech-history-friends-reunited-223969

Kalemi, E. (2022, *The first social media platform: The history of social media.* Publer. Retrieved 3/10/2023, from https://publer.io/blog/the-first-social-media-platform/#:~:text=Six%20Degrees%20allowed%20users%20to,platforms%20that%20came%20after%20it.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons, 53*(1), 59-68. https://doi.org/10.1016/j.bushor.2009.09.003

* Keshishi, N., Seal, A., Jicha, K., Shantz, B., & Slovic, A. (2023). Attempts to replicate the skills, attributes and capabilities associated with international mobility in an online world: A case study. *Journal of University Teaching & Learning Practice, 20*(4)https://doi.org/10.53761/1.20.4.11

Khan, K. S., Kunz, R., Kleijnen, J., & Antes, G. (2003). Five steps to conducting a systematic review. *Journal of the Royal Society of Medicine, 96*(3), 118-121. https://doi.org/10.1177/014107680309600304

LinkedIn Corporation. (2023, *About LinkedIn.* LinkedIn. Retrieved 4 October 2023, from https://about.linkedin.com/

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

McGee, M. (2013, 29 October). *Google+ hits 300 million active monthly "In-stream" users, 540 million across Google.* Retrieved 7 October 2023, from https://martech.org/google-hits-300-million-active-monthly-in-stream-users-540-million-across-google/

McHugh, M. L. (2012). Interrater reliability: The kappa statistic. *Biochemia Medica, 22*(3), 276-282. https://doi.org/10.11613/bm.2012.031

* Mirriahi, N., & Alonzo, D. (2015). Shedding light on students' technology preferences: Implications for academic development. *Journal of University Teaching & Learning Practice, 12*(1), 73-87. https://doi.org/10.53761/1.12.1.6

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). *Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement*. BMJ. https://doi.org/10.1136/bmj.b2535

Moodle. (2023, *Moodle stats.* Retrieved 4 October 2023, from https://stats.moodle.org/

* Nagel, T. W. S., Remillard, C., Aucoin, R., & Takenishi, A. (2018). Finding on student use of social media at the collegiate, undergraduate, and graduate levels: Implications for post-secondary educators. *Journal of University Teaching & Learning Practice, 15*(1), 98-114. https://doi.org/10.53761/1.15.1.8

Perez, E., Manca, S., Fernández-Pascual, R., & Mc Guckin, C. (2023). A systematic review of social media as a teaching and learning tool in higher education: A theoretical grounding perspective. *Education and Information Technologies, 28*(9), 11921-11950. https://doi.org/10.1007/s10639-023-11647-2

Prensky, M. (2001a). Digital natives, digital immigrants part 1. *On the Horizon, 9*(5), 1-6. https://doi.org/https://doi.org/10.1108/10748120110424816

Prensky, M. (2001b). Digital natives, digital immigrants part 2. *On the Horizon, 9*(6), 1-6. https://doi.org/https://doi.org/10.1108/10748120110424843

Purvis, A. J., Rodger, H. M., & Beckingham, S. (2020). Experiences and perspectives of social media in learning and teaching in higher education. *International Journal of Educational Research Open, 1*, 100018. https://doi.org/10.1016/j.ijedro.2020.100018

Rauniar, R., Rawski, G., Yang, J., & Johnson, B. (2014). Technology acceptance model (TAM) and social media usage: An empirical study on Facebook. *Journal of Enterprise Information Management, 27*(1), 6-30. https://doi.org/10.1108/JEIM-04-2012-0011

Reid, L., Button, D., & Brommeyer, M. (2023). *Challenging the myth of the digital native: A narrative review*. MDPI AG. https://doi.org/10.3390/nursrep13020052

Rheingold, H. (2012). *Net smart* (1st ed.). MIT Press.

* Rockinson-Szapkiw, A. J., Heuvelman-Hutchinson, L., & Spaulding, L. (2014). Connecting online: Can social networking and other technology support doctoral connectedness? *Journal of University Teaching & Learning Practice, 11*(3), 29-42. https://doi.org/10.53761/1.11.3.4

Ruby, D. (2023a, 26 April). *59 slack statistics for 2023 (users, data, trends).* Demand Sage. Retrieved 7 October 2023, from https://www.demandsage.com/slack-statistics/

Ruby, D. (2023b, 10 May). *59+ tumblr statistics for 2023 (demographics & trends).* Demand Sage. Retrieved 7 October 2023, from https://www.demandsage.com/tumblr-statistics/

Sajithra, K., & Rajindra, P. (2013). Social media history and components. *IOSR Journal of Business and Management, 7*(1), 69-74. https://www.academia.edu/download/32137849/I0716974.pdf

Seki, K., & Nakamura, M. (2017). The mechanism of collapse of the Friendster network: What can we learn from the core structure of Friendster? *Social Network Analysis and Mining, 7*(1), 1-21. https://doi.org/10.1007/s13278-017-0429-2

Selwyn, N. (2009). The digital native - myth and reality. *Aslib Proceedings, 61*(4), 364-379. https://doi.org/10.1108/00012530910973776

Selwyn, N. (2011). *Social media in higher education*. Routledge.

* Shcherbakova, M. (2023). Potential for digital writing transfer with infographics: Students' perspectives. *Journal of University Teaching & Learning Practice, 20*(2). https://doi.org/10.53761/1.20.02.12

Shewale, R. (2023a, 11 August). *68 Facebook statistics – users, revenue & AI usage.* https://www.demandsage.com/facebook-statistics/. Retrieved 23 September 2023, from

Shewale, R. (2023b, 21 September). *Threads statistics — user demographics & availability (2023).* Demand Sage. Retrieved 7 October 2023, from https://www.demandsage.com/threads-statistics/

* Smith, S., & Watson, S. (2022). Experiences of belonging: A comparative case study between China-domiciled and UK-domiciled students. *Journal of University Teaching & Learning Practice, 19*(4). https://ro.uow.edu.au/jutlp/vol19/iss4/12

Terrell, S. R., Snyder, M. M., & Dringus, L. P. (2009). The development, validation, and application of the doctoral student connectedness scale. *The Internet and Higher Education, 12*(2), 112-116. https://doi.org/10.1016/j.iheduc.2009.06.004

Thomala, L. L. (2023). *Number of monthly active WeChat users from 2nd quarter 2013 to 2nd quarter 2023 (in millions).* Statista. Retrieved 7 October 2023, from https://www.statista.com/statistics/255778/number-of-active-wechat-messenger-accounts/

* Thota, N., & Negreiros, J. G. M. (2015). Introducing educational technologies to teachers: Experience report. *Journal of University Teaching & Learning Practice, 12*(1), 59-72. https://doi.org/10.53761/1.12.1.5

Thurlow, C., Lengel, L., & Tomic, A. (2004). *Computer mediated communication: Social interaction and the internet*. Sage.

Turner, A. (2023a). *Discord users: How many people use Discord? (Oct 2023) (source: Https://Www.bankmycell.com/blog/number-of-discord-users/).* Bank My Cell. Retrieved 7 October 2023, from https://www.bankmycell.com/blog/number-of-discord-users/

Turner, A. (2023b). *How many users does Telegram have (Oct 2023).* Bank My Cell. Retrieved 7 October 2023, from https://www.bankmycell.com/blog/number-of-telegram-users/

Vailshery, L. S. (2023). *Number of daily active users (DAU) of Microsoft Teams worldwide as of 2022.* Statista. Retrieved 7 October 2023, from https://www.statista.com/statistics/1033742/worldwide-microsoft-teams-daily-and-monthly-users/

* VanDoorn, G., & Eklund, A. A. (2013). Face to Facebook: Social media and the learning and teaching potential of symmetrical, synchronous communication. *Journal of University Teaching & Learning Practice, 10*(1), 68-82. https://doi.org/10.53761/1.10.1.6

Van Raemdonck, N. & Pierson, J. (2021) Taxonomy of Social Network Platform Affordances for Group Interactions. 2021 14th CMI International Conference - Critical ICT Infrastructures and Platforms (CMI), Copenhagen, Denmark, 2021, pp. 1-8, https://doi.org/10.1109/CMI53512.2021.9663773.

Veletsianos, G. (2010). *Emerging technologies in distance education* (1st ed.). AU Press.

Wise, J. (2023, *How many people still use MySpace in 2023?* EarthWeb. Retrieved 4 October 2023, from https://earthweb.com/myspace-users/