

The Values, Types, and Strategies of University Library Participation in Fake News Governance: Postprint

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Abstract

[Purpose/Significance] To summarize the general landscape of university libraries' participation in fake news governance and provide references for the extension of university library services.

[Method/Process] First, through literature review, the social value, practice types, and governance strategies of libraries in fake news governance are systematically examined. Then, through an online survey of fake news Libguides from 13 university libraries domestically and internationally, the practical models of university libraries' participation in fake news governance are summarized from three dimensions: fake news resource development, information literacy education, and fake news identification methods.

[Results/Conclusion] The breadth and depth of participation in fake news governance manifests the social value of libraries. A three-dimensional integrated governance system for fake news can be established through resources, services, and ecology, with capacity building enhanced across four aspects: organizational structure, resource and service capabilities, professional associations, and librarian competencies.

Full Text

The Value, Models, and Strategies of Academic Libraries' Participation in Fake News Governance

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Abstract: *[Purpose/Significance]* This paper summarizes the landscape of academic libraries' involvement in fake news governance, providing reference for

the extension of library services. *[Method/Process]* First, through literature review, we examine the social value, practical models, and governance strategies of libraries in fake news governance. Then, through web-based investigation of fake news LibGuides from 13 university libraries both domestically and internationally, we synthesize practical models of university library participation in fake news governance across three dimensions: fake news resource construction, information literacy education, and fake news identification methods. *[Result/Conclusion]* The breadth and depth of participation in fake news governance manifests the social value of libraries. A three-dimensional integrated governance system for fake news can be established through resources, services, and ecology, with capacity building strengthened across four aspects: organizational structure, resource service capabilities, professional associations, and librarian competencies.

Keywords: fake news; academic libraries; library value; information literacy; governance system

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On November 22, 2016, Oxford Dictionaries selected “post-truth” as its Word of the Year, defining it as circumstances where “objective facts are less influential in shaping public opinion than appeals to emotion and personal belief” [1]. Fake news refers to fabricated information that mimics the content of news media without adhering to its organizational processes or intentions. In other words, fake news cannot guarantee accuracy and credibility due to its lack of editorial standards and organizational procedures. Similar problematic information includes misinformation (false or misleading information) and disinformation (deliberately disseminated false information intended to deceive) [2]. The rapid development of social media has transformed how people access information, particularly news. Research shows that fake news spreads faster than real news, making social media a primary channel for fake news proliferation [3]. Following the COVID-19 outbreak in late 2019, the International Federation of Library Associations and Institutions (IFLA) recommended that the public use its “How to Spot Fake News” infographic [4]. On April 24, 2020, UNESCO released a policy brief titled “Assessing the COVID-19 ‘Disinfodemic’,” which highlighted how lies, rumors, and misinformation about the pandemic posed significant risks to lives and government decision-making. The brief proposed goals including effectively curbing and stopping rumors caused by false information, empowering citizens through media and information literacy skills, and supporting quality independent journalism to provide verifiable and reliable information [5]. Clearly, enhancing public capacity to identify fake news and improving national information literacy are urgent societal challenges.

Libraries and information professionals serve as leaders in information creation, dissemination, acquisition, and evaluation, and have a responsibility to treat the prevalence of fake news as a major concern [6]. To address the risks posed by fake news, IFLA’s fake news identification infographic has been translated into

37 languages and applied in news reporting, curriculum development, and CNN International [7], “encouraging readers to view libraries as ideal institutions for combating fake news” [8]. The *Reference and User Services Quarterly* published a special issue in 2018 titled “Trusted Information in an Age of Uncertainty” [9]. Evidently, participation in fake news governance and information literacy education has become a major trend in academic library development [10].

2. Literature Review and Research Framework

Through a literature review of library involvement in fake news governance, we identified three primary research areas: the social value of libraries in fake news governance, practical models of engagement, and governance strategies.

2.1 The Value of Libraries in Fake News Governance

The harms of fake news primarily include “creating panic and undermining social stability, narrowing public perspectives and affecting independent and critical thinking, and manipulating politics to impact world peace” [11]. Following the 2016 U.S. election, research on fake news in library and information science grew rapidly abroad, further highlighting libraries’ catalytic role in promoting social equity [12]. In fake news governance, libraries and librarians possess four inherent advantages: libraries are trusted institutions; librarians are leaders in information literacy education; libraries are inclusive spaces; and libraries build curated, credible collections [13]. During COVID-19 prevention and control, libraries served as reliable information sources, with librarians playing the role of information verifiers [14]. Providing trustworthy information resources and helping users improve information literacy constitute the core strengths of academic libraries in fake news governance [15]. However, experiments show that libraries’ status as trusted institutions alone cannot effectively combat online fake news [16]; libraries’ true value lies in cultivating users’ critical thinking and enhancing their ability to evaluate information sources. Additionally, fields such as science communication [17] and healthcare [18] also urgently require fake news governance.

2.2 Practical Models of Library Participation in Fake News Governance

In practice, both academic and public libraries in the United States actively participate in fake news governance [19]. Academic libraries’ engagement primarily includes three models: establishing fake news governance resources, conducting media and information literacy education, and providing fake news identification technologies [15]. Among these, information literacy education and fake news identification methods are the most prominent approaches.

(1) Establishing Fake News Governance Resources. Understanding user behavior characteristics and needs is key to effective information literacy education targeting fake news governance. A survey of 63 undergraduates revealed

correlations between accurate fake news identification and specific critical evaluation behaviors and strategies, yet students could not accurately assess their own skills. Their willingness to share fake news on social media was unrelated to their ability to accurately identify or evaluate credibility [20]. Students also demonstrated gaps in understanding fake news, such as believing that reputable media would never broadcast fake news [21], which is not necessarily true. Therefore, libraries need to establish fake news governance resources to change information-seeking habits and reduce fake news circulation.

(2) Combating Fake News Through Information Literacy Education.

Developing fake news identification guidelines constitutes the primary method for libraries' information literacy education. Content analysis of guides from 21 U.S. academic libraries revealed that most provide definitions of fake news and recommend checklist methods for detecting fake news or evaluating news sources [22]. Some libraries also conduct information literacy workshops [23], gamified information literacy instruction [24], and critical thinking training integrated with visual presentations [25].

(3) Fake News Identification Method Research. Technically, V. K. Singh, I. Ghosh, and D. Sonagara proposed a multimodal approach combining textual and visual analysis of online news stories for automatic fake news detection [26]. X. Zhang and A. A. Ghorbani reviewed the negative impacts of online fake news and state-of-the-art detection methods, many of which rely on user characteristics, content, and context to identify misinformation, and examined existing datasets for fake news classification [27]. Reducing misinformation spread on social media presents significant technical challenges. G. Pennycook and D. G. Rand proposed social media platform algorithms that prioritize content from news sources users deem trustworthy [28]. A. Kim studied the effectiveness of three different fake news source rating mechanisms [29].

2.3 Strategies for Library Participation in Fake News Governance

The Association of College & Research Libraries (ACRL) *Framework for Information Literacy for Higher Education* serves as an important guide for students' critical understanding and use of information sources. For instance, "Authority is Constructed and Contextual," while not ideal for evaluating all non-academic content, contains many effective elements for assessing information sources [30]. U.S. library experience in fake news governance involves "fully leveraging the guidance and coordination functions of library associations, establishing progressive information identification and analysis education systems, and collaborating with multiple stakeholders to improve public media and information literacy"[31]. Advocating for library participation in fake news governance, reevaluating their value in this domain, cooperating with stakeholders, and reconstructing information literacy education frameworks are crucial strategies [32]. Content analysis of fake news guides from 21 U.S. university libraries revealed that bias and psychological factors are rarely addressed [22], representing an area for future improvement.

Different contexts require different strategies. During the “all-out war on the pandemic,” library strategies for fake news governance included “building collaborative misinformation governance systems, implementing media literacy education, constructing emergency information service mechanisms, integrating misinformation governance with reading promotion, and establishing one-stop misinformation retrieval systems” [33]. In public crisis events, libraries can “fully exert industry organizational roles, enhance library informatization capabilities, timely expand library functional positioning, and continuously optimize the fake news prevention ecosystem” [34].

In summary, foreign library research on fake news governance began earlier. As early as 2005, the American Library Association (ALA) released the *Resolution on Disinformation, Media Manipulation, and the Destruction of Public Information* [35]. Research perspectives are comprehensive and specific, covering services, technology, and user behavior. Domestic research primarily introduces foreign practices, with macro-level perspectives and a lack of local case studies. Overall, academia has conducted in-depth research on libraries’ value, practical models, and strategies in fake news governance. Based on this foundation, we propose a three-dimensional research framework for library fake news governance, with specific relationships and representative literature shown in Figure 1 [Figure 1: see original paper].

Figure 1. Research Framework for Library Participation in Fake News Governance

Clarifying and comprehensively understanding the value of academic libraries, public libraries, and medical libraries in fake news governance forms the prerequisite and foundation for practical action and strategy selection, representing libraries’ value proposition for cultivating users’ critical thinking and providing credible information resources. Practical models of fake news governance demonstrate library value and are further refined across domains such as user information behavior, information literacy education, and resource construction, representing direct extensions of library services. Strategy selection represents the value judgment and practical return of library participation in fake news governance, summarizing experiential lessons. Value propositions and practical models determine the strategies adopted for fake news governance. Therefore, based on literature review, this paper clarifies libraries’ value in fake news governance, describes practices through empirical investigation of world-class academic libraries, and proposes strategic choices for academic library engagement.

3. Actions of Academic Libraries in Fake News Governance

To understand how world-class university libraries participate in fake news governance, this study investigated libraries from universities ranked in the top 100 of the 2020 Times Higher Education World University Ranking. Data collection criteria and procedures were: first, visiting each university library website to search for fake news governance activities; second, identifying libraries as

engaged in fake news governance if they provided any of the following: fake news LibGuides navigation, fake news-related information literacy training, or fake news identification tools. After multiple comparisons and analyses, 13 university libraries with rich content, diverse formats, and accessible websites were selected for investigation. The survey was conducted from April to May 2020, with data updated through revisits in 2021. The overview is presented in Table 1. These 13 libraries participate in fake news governance through three aspects: resources, services, and methods/tools. Notably, among Chinese universities in the top 100, only the Chinese University of Hong Kong Library had established fake news governance LibGuides.

Table 1. Overview of Academic Library Participation in Fake News Governance

Library Name	Country	LibGuides
Harvard University Library	USA	✓
University of California, San Diego Library	USA	✓
Cornell University Library	USA	✓
National University of Singapore Library	Singapore	✓
University of Texas at Austin Library	USA	✓
McGill University Library	Canada	✓
Washington University in St. Louis Library	USA	✓
University of Southern California Library	USA	✓
Ohio State University Library	USA	✓
University of Groningen Library	Netherlands	✓
Pennsylvania State University Library	USA	✓
University of Washington Library	USA	✓
Chinese University of Hong Kong Library	China	✓

Note: “✓” indicates the presence of this service

3.1 Establishing Fake News Governance Resource Navigation

The most widespread approach among foreign university libraries is providing information resource navigation services for fake news governance, leveraging libraries’ strengths in information collection and organization. The fake news LibGuides from the 13 university libraries fall into four categories, as shown in Table 2.

Table 2. Resource Services Based on LibGuides

Library Name	LibGuides Title	Main Content
Harvard University Library	“Fake News,” Disinformation, and Propaganda [36]	Background reading on fake news situation; Finding reliable sources; Fake news research organizations; Fact-checking websites and plugins; Visual verification and other tools
UC San Diego Library	Linguistics: Evaluating Information [37]	Stop calling it fake news; Fake news checklist; Critical thinking cheat sheet, CRAAP test; Evaluation criteria; Journal impact factor; Methods for identifying scholarly sources

Library Name	LibGuides Title	Main Content
Cornell University Library	Fake News, Propaganda, and Bad Information: Learning to Critically Evaluate Media Sources [38]	What is fake news, recognizing fake news; Being active news consumers, improving media and data literacy, identifying bad statistics; Types of unreliable news content; Pause before sharing, using infographics to spot fake news; Evaluating news sources; Recognizing our biases, search engine and social media biases; Identifying source bias, distinguishing factual reporting from news analysis; Respectful challenges, politely disagreeing; Getting past paywalls, using open access resources and library databases; Consulting librarians

Library Name	LibGuides Title	Main Content
National University of Singapore Library	NM2303 Fake News, Lies and Spin: How to Sift Fact from Fiction [39]	Latest news reports on fake news; What is fake news: domestic and international papers; Special committees (campus-only); Fact-checking and IMVAIN method; Evaluating images, videos, academic information; Evaluating social media Twitter, Facebook, WhatsApp; Creating message boards for sharing and evaluating news; Sharing mini-games for learning identification
University of Texas at Austin Library	Fake News: A Workshop for Graduate Students Who Teach Undergrads [40]	Guiding graduate students to teach fake news identification courses; Case analysis for course evaluation; Sharing reliable resource lists
McGill University Library	Fake News? Real News? [41]	Fake news concepts and classification; Reasons for identifying fake news; Avoiding fake news methods CRAAP

Library Name	LibGuides Title	Main Content
Washington University in St. Louis Library	Fake News, Propaganda, and Misinformation: Learning to Critically Evaluate Media Sources [42]	Fake news concepts; Types of unreliable content; Spotting fake news and fact-checking; COVID-19 fact-checking; Identifying source bias; Practicing source identification through mini-games; Evaluating news resources and online access; Recognizing personal biases and search/social media biases; Pause before sharing; Consulting librarians
University of Southern California Library	Evaluating Information Sources [43]	Distinguishing scholarly, popular, and trade publications; Understanding information lifecycle; SCAAN evaluation method with practice exercises; Fake news types and biases; Promoting scholarly article reading; Impact factor and citation counts; Warning about fake journals, conferences, institutions
Ohio State University Library	Fake News and Misinformation - Faculty Guide [44]	Workshops on fake news: possibilities for integrating media literacy into curriculum; 5C identification methods and videos; Related papers and resources

Library Name	LibGuides Title	Main Content
University of Groningen Library	Fake News [45]	Concepts, examples, and classification; What non-fake news looks like; Fact-checking; Using library resources to find news; News literacy
Pennsylvania State University Library	“Fake” News [46]	Concepts, examples, and classification; How fake news spreads; Identification and case practice; Fact-checking; SMART, CTRL-F, The SIFT method
University of Washington Library	Fake News [47]	Identification tools; Reference resources; Useful videos
Chinese University of Hong Kong Library	Fake News [48]	Identification tools; Reference resources; Useful videos

As Table 2 shows, the 13 libraries’ LibGuides-based fake news governance resources fall into four categories:

(1) Fake News Definitions and Types. Some libraries share concepts, classifications, and characteristics of fake news, presenting research significance and harms through relevant papers, such as UC San Diego and Cornell University Libraries.

(2) Reliable Information Sources. Some libraries first encourage accessing information through professionally purchased news databases, such as Harvard and Penn State Libraries, while others share legitimate traditional media websites, such as the University of Texas at Austin Library.

(3) Fake News Websites. To help faculty and students understand and avoid fake news, some libraries list fake news sites, satirical sites, and biased sites, such as McGill and Washington University in St. Louis Libraries. They also use mini-games or case analyses for direct exposure to specific fake news examples, enabling practical identification using LibGuides methods, such as University of Groningen and University of Washington Libraries.

(4) Fake News Evaluation. Some libraries share evaluation tools for news

websites, with particular attention to evaluating fake images and videos, such as National University of Singapore and University of Southern California Libraries.

3.2 Conducting Fake News Governance Services

To enhance faculty and students' fake news identification capabilities, universities worldwide have implemented diverse governance services, including deploying professional librarians and offering varied information literacy education.

(1) Deploying Professional Librarians for Reference Services. Some foreign university libraries assign dedicated service librarians, with some providing one-on-one services for different disciplines. The University of Texas at Austin Library established a fake news workshop with three librarians covering rhetoric, communication, library and information science, comparative literature, and English literature.

(2) Developing Diversified Information Literacy Education Integrated with Media Literacy. Libraries offer fake news-related courses for different user groups. Some collaborate with academic departments to conduct workshops, such as Ohio State University Library's fake news workshop integrating media literacy into library instruction. Students work in groups to collect evidence supporting or refuting news claims over two weeks, then debate in class, with professors evaluating their assessment abilities [49].

(3) Implementing Gamified Information Literacy Education. To test identification effectiveness, some libraries incorporate exercises and games into LibGuides, enhancing both learning outcomes and engagement. The National University of Singapore Library shares four mini-games: *Bad News*, *Post Facto*, *Fake it to Make it*, and *iReporter*. *Bad News*, developed by the multidisciplinary DROG team in The Hague comprising scholars, journalists, and media experts, allows players to experience fake news operations to enhance identification skills [50].

3.3 Providing Fake News Identification Methods and Tools

Among the 13 libraries investigated, 12 provided fake news identification methods and tools.

3.3.1 Fake News Identification Methods Survey results show all 12 libraries offer one or more identification methods, examining news from sources, authority, purpose, timeliness, and relevance to help users avoid fake news. These methods provide critical thinking frameworks for education and technology development. Multiple methods emphasize verifying source multiplicity, authority, and purpose, highlighting that source verification and traceability are primary tasks. Key methods include:

Table 3. Comparison of Fake News Identification Methods

Method	Basic Content	Applicable to Web Info
CRAAP	Currency, Relevance, Authority, Accuracy, Purpose, Process	Yes
SMART	Source, Motive, Authority, Review, Two-source test	Yes
IMVAIN	Independence, Multiple sources, Verify, Authority, Informed, Named source	Yes

The CRAAP method emphasizes currency and process. Currency concerns whether information creation, publication, and update times are current, guiding attention to temporal logic. Process examines “how information is organized—whether edited, peer-reviewed, or self-published, and how it is shared” [51], focusing on whether rigorous review occurred during production.

The SMART method’s two-source test dimension involves “searching through other channels—talking to others, listening to other broadcasts, reading journals or newspapers—to verify if the news is also reported elsewhere” [52], encouraging multi-path information seeking since single-source news is more likely to be fake.

The IMVAIN method’s verifiability means “messages supported by factual evidence are more credible; check if sources have evidential support” [53], guiding users to focus on information evidence chains.

3.3.2 Fake News Identification Tools With increasing fake news research, numerous evaluation tools have emerged and been introduced by university libraries. Based on the First Draft Basic Toolkit website [54], we compiled identification tools in Table 4.

Table 4. Fake News Identification Tools

Tool Type	Representative Tool	Function	Description
Browser Plugin	FakerFact	Identifies and evaluates fake news while browsing	AI tool that learns from various documents, scores them, and lets readers decide; supports Chrome and Firefox

Tool Type	Representative Tool	Function	Description
Browser Plugin	NewsGuard	Displays news ratings as icons	Covers 95% of online news engagement with ratings for 4,500+ sites; supports IE, Firefox, iOS, and Android
Image Verification	Bing Visual Search	Reverse image search	Searches uploaded images or URLs, identifies landmarks to verify authenticity; multi-platform app available
Image Verification	Jeffrey Friedl's Image Metadata Viewer	Examines photo metadata	Free online Exif viewer showing shutter speed, lens data; supports Firefox and Safari plugins
Video Verification	InVID Verification Plugin	Decodes videos for verification	Splits social media videos into keyframes, reads metadata for fact-checking
Social Media Analysis	CrowdTangle Search	Tracks social media posts	Facebook tool for tracking, analyzing, and reporting social media activity with detailed visualizations

In summary, the 13 libraries' fake news governance practices feature: (1) **Resource-service integration**, leveraging collection strengths to build navigation services, though with considerable homogeneity; (2) **Professional librarian deployment** offering reference consultations, integrating information, media, and data literacy education through workshops, games, and short videos; (3) **Technology-enabled governance**, popularizing classic

identification methods and providing practical tools with strong operability.

4. Strategies for Academic Library Participation in Fake News Governance

Literature review and empirical findings show deepening academic library engagement in fake news governance, particularly post-COVID-19. However, investigations of China's 42 "Double First-Class" university libraries reveal that top Chinese libraries have not established dedicated fake news governance services, only including fragmented content in information literacy education and digital resource construction [55]. Reasons include: (1) insufficient attention to fake news governance, as fake news traditionally falls under publicity departments; (2) unclear governance goals with unintegrated resources; (3) lack of necessary librarian training, as governance requires multidisciplinary knowledge in media, technology, law, and ethics. As national governance modernization advances and new situations like major emergencies and integrated media development emerge, libraries' deep participation in fake news governance becomes increasingly important.

4.1 Academic Libraries Should Prioritize Fake News Governance

Providing credible information resources and enhancing public critical thinking constitute libraries' value proposition. Participation in fake news governance demonstrates academic libraries' contemporary value. Our investigation found foreign libraries already engaged at resource, education, and tool levels. In 2017, ALA released the *Resolution on Access to Accurate Information*, encouraging members to help the public identify fake information and media manipulation, and calling for partnerships with news media [56]. During major emergencies, this capacity becomes more critical. For instance, during public health crises, university students demand data-driven, process-clear, authoritative, and multi-media information [57]. Ten of the 13 investigated libraries established COVID-19 service columns, updating prevention knowledge and adjusting services to function as credible information sources. The IFLA Fake News Statement also calls for library participation and digital literacy improvement [58]. As essential institutions ensuring equitable information access, libraries' involvement in fake news governance directly embodies values of digital inclusion and literacy education, representing crucial forces for cultivating critical thinking.

Simultaneously, participation extends academic libraries' social service functions. Positioned to promote information equity and bridge digital divides, libraries serve society by extending digital, media, and data literacy services to improve public information evaluation capabilities. Through diverse organizational actions integrating credible resources, user education, and identification tools, libraries maximize service reach while maintaining essential humanistic social care.

4.2 Establishing a Three-Dimensional Integrated Governance System

Empirical findings show academic libraries engage through resources, services, and technology. The misinformation intervention model comprises technology, education, and regulation dimensions [59]. Following systematic, holistic, and collaborative principles, academic libraries can build a governance system across three dimensions:

Resource Dimension: Focus on credible information construction, identification tools, and methodological resources. Leveraging cataloging and library science expertise, libraries should establish professional misinformation navigation services providing reliable source identification theories, methods, and tools.

Service Dimension: Focus on public information, data, and media literacy education, emergency information services, and user behavior during crises. Libraries should incorporate fake news governance into strategic planning, adapting to evolving environments like COVID-19 and fake news proliferation while integrating with digital and media literacy education and campus safety culture to cultivate multi-literacy competencies.

Ecology Dimension: Focus on collaboration among individuals, libraries, government agencies, and news organizations, plus institutional development and cooperation mechanisms. Fake news governance requires synergy across departments, schools, news media, government, and libraries to clarify responsibilities, improve laws and regulations, and strengthen ethical frameworks. Effective governance depends on multi-stakeholder collaboration, clear objectives, and enhanced legal and digital governance capabilities.

4.3 Enhancing Academic Library Governance Capabilities

Governance capability represents the comprehensive quality of professional knowledge and service spirit demonstrated by libraries, characterized by scientific, knowledge-based, professional, and standardized features. As key governance actors, academic libraries should strengthen:

1. **Professional librarian positions** for fake news governance and emergency information literacy education. As our investigation shows, foreign libraries employ dedicated librarians, some offering discipline-specific one-on-one services.
2. **Resource service system construction.** In digital environments, particularly during public emergencies, providing timely, accurate, and rich information while improving identification capabilities is crucial. Cornell Library's LibGuides advise using news sources with "clear editorial policies and ethical standards" and "seeking qualified authors" [38].
3. **Professional association guidance.** Given high similarity in resources, services, and tools across libraries, associations should coordinate unified planning and resource sharing to facilitate exchange and improvement.

4. **Librarian capacity building.** Facing complex information environments, especially integrated media, librarians need not only library expertise but also internet thinking, big data analytics, multimedia technology skills, and knowledge of relevant laws and ethics.

Conclusion

This paper reviews literature and surveys practices to examine research progress and practical models of academic library participation in fake news governance. Contributions include: (1) comprehensively investigating current practices among world-class university libraries, revealing low participation rates focused primarily on resource navigation, information literacy education, and identification methods/tools—demonstrating depth through integrated resource-service-technology models and breadth through diverse application scenarios like COVID-19, science communication, and health communication; (2) proposing a three-dimensional governance system (resources, services, ecology) and capacity-building strategies as guiding frameworks. Limitations include not examining public or specialized libraries, and lacking in-depth domestic case studies. Future research should expand scope, explore domestic case studies, conduct user surveys, and provide more empirical depth to perfect fake news governance frameworks.

References

- [1] OXFORD UNIVERSITY PRESS. Word of the Year 2016[EB/OL]. [2020-07-08]. <https://languages.oup.com/word-of-the-year/2016/>.
- [2] LAZER D M J, BAUM M A, BENKLER Y, et al. The science of fake news[J]. *Science*, 2018, 359(6380): 1094-1096.
- [3] VOSOUGHI S, ROY D, ARAL S. The spread of true and false news online[J]. *Science*, 2018, 359(6380): 1146-1151.
- [4] IFLA. How to spot fake news at a time of COVID-19[EB/OL]. [2020-07-08]. <https://www.ifla.org/node/93016?og=7407>.
- [5] UNESCO. New UNESCO policy briefs launched assessing the COVID-19 ‘disinfodemic’ [EB/OL]. [2020-06-12]. <https://en.unesco.org/news/new-unesco-policy-briefs-launched-assessing-covid-19-disinfodemic-0>.
- [6] ROCHLIN N. Fake news: belief in post-truth[J]. *Library hi tech*, 2017, 35(3): 386-392.
- [7] IFLA. The real solution to fake news: how libraries can help[EB/OL]. [2020-07-08]. <https://www.ifla.org/node/11633>.
- [8] AGOSTO D E. Information literacy and libraries in the age of fake news[M]. Santa Barbara, California: Libraries Unlimited, 2018.

- [9] TROTT B. Trusted information in an age of uncertainty[J]. *Reference & user services quarterly*, 2018, 57(3): 156-157.
- [10] ACRL Research Planning and Review Committee. 2018 top trends in academic libraries—A review of the trends and issues affecting academic libraries in higher education[J]. Translated by Huang Yu. *Library tribune*, 2018, 38(10): 135-143.
- [11] Ru Xuhua. Foreign fake news research: origin, progress, and evaluation[J]. *Journalism & communication review*, 2019, 72(5): 58-70.
- [12] BUSCHMAN J. Good news, bad news, and fake news: going beyond political literacy to democracy and libraries[J]. *Journal of documentation*, 2019, 75(1): 213-228.
- [13] SOSULSKI N W, TYCKOSON D A. Reference in the age of disinformation[J]. *Reference & user services quarterly*, 2018, 57(3): 168-178.
- [14] NAEEM S B, BHATTI R. The Covid-19 ‘infodemic’ : a new frontier for information professionals[J]. *Health information & libraries journal*, 2020, 37(3): 233-239.
- [15] Wang Yan, Tian Li. Research on fake news governance in U.S. academic libraries and its implications[J]. *Library development*, 2020(1): 61-67.
- [16] SULLIVAN M C. Leveraging library trust to combat misinformation on social media[J]. *Library & information science research*, 2019, 41(1): 67-77.
- [17] SCHEUFELE D A, KRAUSE N M. Science audiences, misinformation, and fake news[J]. *PNAS*, 2019, 116(16): 7662-7669.
- [18] BIANCHINI C, TRUCCOLO I, BIDOLI E, et al. Avoiding misinformation for cancer patients online[J]. *Library & information science research*, 2019, 41(1): 2-10.
- [19] EVAN S, SHEA E. Marketing libraries in an era of “fake news” [J]. *Reference & user services quarterly*, 2018, 57(3): 168-182.
- [20] LEEDER C. How college students evaluate and share “fake news” stories[J]. *Library & information science research*, 2019, 41(3): 100967.
- [21] ZAKHAROV W, LI H Y, FOSMIRE M. Undergraduates’ news consumption and perceptions of fake news in science[J]. *Portal-libraries and the academy*, 2019, 19(4): 653-665.
- [22] LIM S. Academic library guides for tackling fake news: a content analysis[J]. *Journal of academic librarianship*, 2020, 46(5): 102195.
- [23] HAN Z K, KINGSLAND E. Fake or for real? A fake news workshop[J]. *Reference services review*, 2020, 48(1): 91-112.
- [24] PUN R. Hacking the research library: Wikipedia, Trump, and information literacy in the escape room at Fresno State[J]. *Library management*, 2019, 40(3):

178-182.

- [25] GLISSON L. Breaking the spin cycle: teaching complexity in the age of fake news[J]. *Portal-libraries and the academy*, 2019, 19(3): 461-484.
- [26] SINGH V K, GHOSH I, SONAGARA D. Detecting fake news stories via multimodal analysis[J]. *Journal of the association for information science and technology*, 2021, 72(1): 3-17.
- [27] ZHANG X, GHORBANI A A. An overview of online fake news: characterization, detection, and discussion[J]. *Information processing & management*, 2020, 57(2): 102025.
- [28] PENNYCOOK G, RAND D G. Fighting misinformation on social media using crowdsourced judgments of news source quality[J]. *Proceedings of the National Academy of Sciences of the United States of America*, 2019, 116(7): 2521-2526.
- [29] KIM A, MORAVEC P L, DENNIS A R. Combating fake news on social media with source ratings: the effects of user and expert reputation ratings[J]. *Journal of management information systems*, 2019, 36(3): 931-968.
- [30] FAIX A, FYN A. Framing fake news: misinformation and the ACRL framework[J]. *Portal-libraries and the academy*, 2020, 20(3): 495-508.
- [31] Jiang Jinyan. Research on U.S. libraries combating online misinformation[J]. *Library development*, 2018(12): 52-56, 62.
- [32] de PAOR S, HERAVI B. Information literacy and fake news: how the field of librarianship can help combat the epidemic of fake news[J]. *Journal of academic librarianship*, 2020, 46(5): 102218.
- [33] Zhou Yaqi, Jing Qing, Niu Yu. Research on library participation in misinformation governance under “all-out war on the pandemic” [J]. *Library and information service*, 2020, 64(15): 177-183.
- [34] Li Shumin, Li Qi. Research on libraries’ role in fake news prevention during public crisis events[J]. *Library & information*, 2020(4): 110-117.
- [35] ALA. Resolution on disinformation, media manipulation & the destruction of public information[EB/OL]. [2020-05-12]. <http://www.ala.org/rt/srrt-resolutions-2005-resolution-disinformation-media-manipulation-destruction-public-information>.
- [36] HARVARD UNIVERSITY LIBRARY. “Fake news,” disinformation, and propaganda[EB/OL]. [2020-05-12]. <https://guides.library.harvard.edu/fake>.
- [37] UNIVERSITY OF CALIFORNIA, SAN DIEGO LIBRARY. Linguistics: evaluating information[EB/OL]. [2021-05-22]. <https://ucsd.libguides.com/c.php?g=91028&p=6260616>.
- [38] CORNELL UNIVERSITY LIBRARY. Fake news, propaganda, and bad information: learning to critically evaluate media sources[EB/OL]. [2020-05-12]. https://guides.library.cornell.edu/evaluate_{news}.

- [39] NATIONAL UNIVERSITY OF SINGAPORE LIBRARY. NM2303 fake news, lies and spin: how to sift fact from fiction[EB/OL]. [2020-05-12]. <http://libguides.nus.edu.sg/nm2303>.
- [40] UNIVERSITY OF TEXAS LIBRARY. Fake news: a workshop for graduate students who teach undergrads[EB/OL]. [2020-05-12]. <https://guides.lib.utexas.edu/fakenewsworkshop>.
- [41] MCGILL UNIVERSITY LIBRARY. Fake news? Real news?[EB/OL]. [2020-05-12]. <https://libraryguides.mcgill.ca/internationaldevelopment/fakenews>.
- [42] WASHINGTON UNIVERSITY IN ST. LOUIS LIBRARY. Fake news, propaganda, and misinformation: learning to critically evaluate media sources[EB/OL]. [2020-05-12]. https://libguides.wustl.edu/evaluate_{news}.
- [43] UNIVERSITY OF SOUTHERN CALIFORNIA LIBRARY. Evaluating information sources[EB/OL]. [2020-05-12]. <https://libguides.usc.edu/evaluate>.
- [44] OHIO STATE UNIVERSITY LIBRARY. Fake news and misinformation - faculty guide[EB/OL]. [2020-05-12]. <https://osu.libguides.com/c.php?g=753560>.
- [45] UNIVERSITY OF GRONINGEN LIBRARY. Fake news[EB/OL]. [2020-05-12]. <https://libguides.rug.nl/fakenews>.
- [46] PENNSYLVANIA STATE UNIVERSITY LIBRARY. "Fake" news[EB/OL]. [2020-05-12]. <https://guides.libraries.psu.edu/fakenews>.
- [47] UNIVERSITY OF WASHINGTON LIBRARY. Fake news[EB/OL]. [2020-03-20]. <https://libguides.lib.uw.edu/research/fakenews>.
- [48] THE CHINESE UNIVERSITY OF HONG KONG LIBRARY. Fake news[EB/OL]. [2020-05-12]. <https://libguides.lib.cuhk.edu.hk/fakenews>.
- [49] OHIO STATE UNIVERSITY LIBRARY. Some possibilities for incorporating media literacy into assignments[EB/OL]. [2020-07-11]. <https://osu.libguides.com/c.php?g=753560>.
- [50] DROG. A good way to fight bad news[EB/OL]. [2020-07-11]. <https://www.aboutbadnews.com/>.
- [51] UNIVERSITY OF CALIFORNIA CHICO LIBRARY. Evaluating information - applying the CRAAP test[EB/OL]. [2020-07-11]. <https://library.csuchico.edu/sites/default/files/craap-test.pdf>.
- [52] UNIVERSITY OF SOUTH CAROLINA UPSTATE LIBRARY. SMART test your news[EB/OL]. [2020-07-11]. https://uscupstate.libguides.com/ld.php?content_{id}=35723662.
- [53] NATIONAL UNIVERSITY OF SINGAPORE LIBRARY. NM2303 fake news, lies and spin: how to sift fact from fiction: IMVAIN[EB/OL]. [2020-07-11]. <https://libguides.nus.edu.sg/nm2303/imvain>.
- [54] HARVARD UNIVERSITY LIBRARY. First draft - basic toolkit[EB/OL]. [2021-05-22]. <https://start.me/p/vjv80b/first-draft-basic-toolkit>.
- [55] Zhao Xue. A comparative study of Chinese and American academic libraries in combating misinformation[D]. Zhengzhou University, 2020: 32.

[56] ALA. Resolution on access to accurate information[EB/OL]. [2020-06-11]. <http://www.ala.org/advocacy/intfreedom/statementspols/ifresolutions/accurateinformation>.

[57] Li Yuelin, Zhang Jianwei, Bao Honghong. University students' information needs and satisfaction during public health emergencies[J]. Library and information service, 2020, 64(22): 85-95.

[58] IFLA. IFLA statement on fake news[EB/OL]. [2020-07-11]. <https://www.ifla.org/publications/node/67341>.

[59] RUBIN V L. Disinformation and misinformation triangle: a conceptual model for “fake news” epidemic, causal factors and interventions[J]. Journal of documentation, 2019, 75(5): 1013-1034.

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Note: Figure translations are in progress. See original paper for figures.

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