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Winter 10-1-2020

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Shah, Naimat Ullah Mr.; Naeem, Salman Bin Dr.; and Bhatti, Rubina Prof., "Library and Information Services Move Quickly Online in the COVID-19 Pandemics: A Mixed-Method Approach" (2020). *Library Philosophy and Practice (e-journal)*. 4302.

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Library and Information Services Move Quickly Online in the COVID-19 Pandemics: A Mixed-Method Approach

By

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Abstract

Information professionals such as librarians are rapidly moving to streamline the resources and services related to Covid-19 for healthcare professionals and the general public through online and virtual services. The study attempts to assess library and information services delivery status and the role of librarians in service delivery during the COVID-19 pandemic. We adopted an embedded approach of mixed-method design to conduct the study. We assessed the academic libraries' websites of the top five affected countries by a coronavirus to determine the ways of service delivery and evaluate the role of LIS professionals towards library & information service delivery in the COVID-19 scenario. Libraries may assume a significant job responsibility in giving trustworthy services in the Covid-19 pandemics. The results concluded that due to lock-down, librarians are following work from home policy and providing their services through online and virtual ways.

Keywords: Web content analysis, Online services, Virtual services, Information services, Covid-19,

Introduction

In December 2019, a progression of pneumonia instances of unclear reason developed in Wuhan, Hubei, China, with clinical introductions enormously taking after viral pneumonia. In-depth sequencing examination

from lower respiratory tract tests showed a novel coronavirus named 2019 novel coronavirus Covid-19 (Huang et al., 2020).

As researchers in several studies worldwide are work together in a "war" against an unseen foe. In what capacity can social science researchers add their contributions to this worldwide exertion? While social science researchers probably won't have the option to settle the emergency straightforwardly. We accept that we can give information and bits of knowledge that may be useful in the battle against COVID-19 and future pandemics (Ågerfalk et al., 2020).

Libraries may assume a significant job responsibility in giving trustworthy services in this COVID-19 pandemics, utilizing their social event qualities, assessing, and curating information for the general society (Wang and Lund, 2020). Apprenticeship ideas were received while structuring and executing the preparation of the workshops. We began with full guidelines on the best way to utilize "zoom cloud" through video and a specialized instructional course before the seminar (Eltayar et al., 2020).

The advancement lies with contributing different organizations to share their assets to help the learning and teaching process. Taking accessible survey assets and inhabitant needs, chose an open online ground, and arrange the educational program. Moderators are advised to engage in online activities before their talk (Zuo et al., 2020).

The findings of the study state that online learning usually affects the student's studies. The details indicated that over 67% of the respondents feel that their classes are highly affected by closing institutions, Schools, Colleges, and Universities (Tanveer et al., 2020).

Rethinking how we can make resources accessible when doors are closed, it is necessary to evaluate the libraries' services in the crises. This research is the first study of its nature to assess the services provided by academic libraries in the top five effected countries by COVID-19 through the embedded design of the mixed-method approach.

Objectives of the Study

Following are the objectives of the study;

1. To explore the current status of library & information services delivery in the COVID-19 crises.
2. To assess the role of librarians in service delivery during the COVID-19 pandemic.

Methodology

The study is based on a mixed-method design. We adopted an embedded approach to conducting this study. Purposive sampling techniques were used to select library websites based on the top five affected countries by COVID-19 during the first five months of the virus's emergence. We identified these countries using the world health organization (WHO) statistical report No:80 (Organization, 2020). According to the WHO report, the

most affected country in the United States of America, 395,030 cases are reported, followed by Spain with 146,690 patients, Italy with 139,422 patients, Germany, and China, respectively (Figure-1).

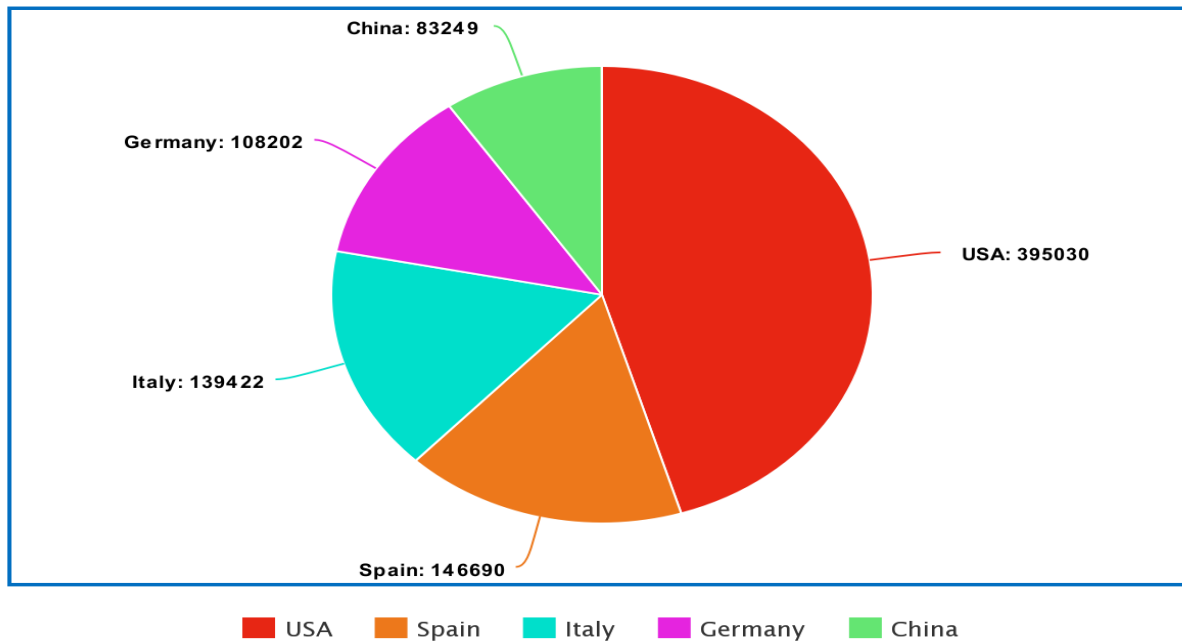


Figure-1: Most affected countries by COVID-19

Google search was used to select the most visited library websites of the five chosen countries (Figure 2). "Google crawled out the keywords from millions of webpages and showed the massive traffic based results on the top" (Jacobson, 2015). The top five visited academic library websites from each country were selected on traffic-based, most visited web pages. We assessed twenty-five library websites to identify the fundamental ways to deliver academic libraries' resources and services during the lock-down. Choosing libraries from the five most affected countries as a sample was because of the strict implementation of lock-down and social distancing in these countries.

In the first part, we critically assessed the web contents of recruited websites in a sample using a web content analysis technique, the leading and primary component of this study. Webometrics has likewise been presented. It is "the investigation of online web contents with quantitative strategies for social science studies to utilize systems that are not specific to a single subject study" (Thelwall, 2009).

In the second part, the data from information professionals were collected through the open-ended questions. We approached participating information professionals through social media accounts such as Twitter handle and Facebook IDs. To determine the role of informational professionals towards library services delivery in the COVID-19 lock-down. A total of thirty-six information professionals from school, university, medical colleges, and hospital libraries participated in a survey.

The inferences were drawn through basic themes which are collected and assessed from the opinions of the respondents.

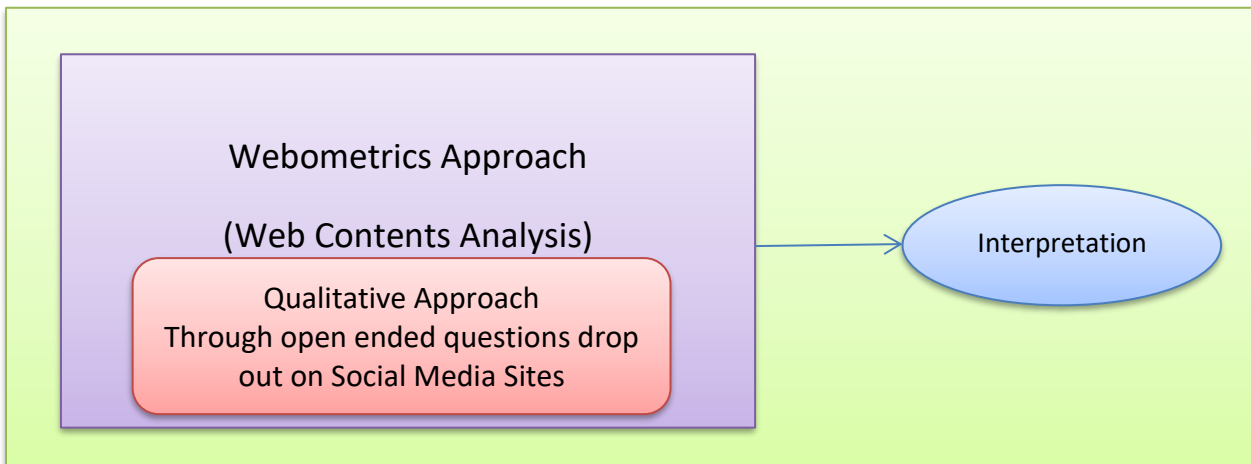


Figure-2: Mixed Method Embedded Design

Results and Discussion

The first part of the study provides the results based on web content analysis of twenty-five library websites from the top five effected countries by the coronavirus. The top five visited academic library websites from each country were selected on traffic-based, most visited web pages (Figure-3). The first part attempted to identify the types of services being offered by the libraries.

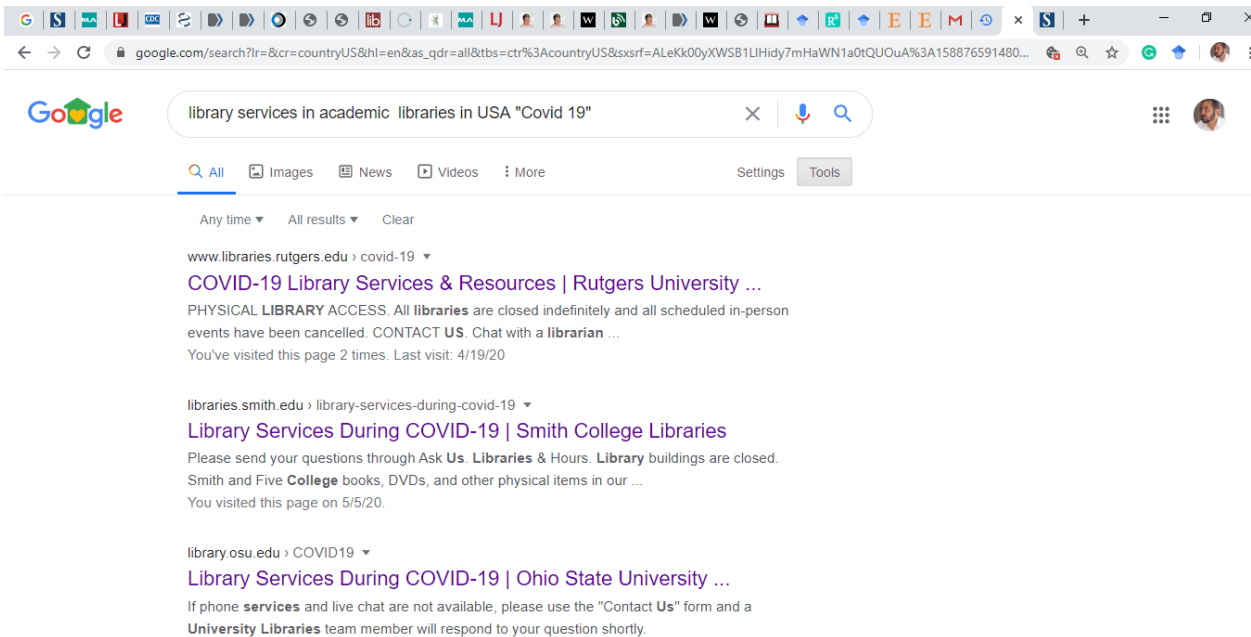


Figure-3: Traffic Based Google Search Results

Status of library services delivery in the Covid-19

We found that eighteen (72%) of the libraries had updated web pages regarding the provision of information services and resources related to COVID-19. However, seven (28%) libraries' web pages were not updated. In that case, we collected data for this study from the websites of the parent institution of such libraries.

The findings show in (Table-I) that academic libraries' websites were the frequently visited websites for information seeking about COVID-19 than to any other type of libraries' websites, e.g., medical libraries or hospital libraries. The US- Rutgers university library website was the most visited library website in the US. The website of Saint Louis University library was the most visited library website in Spain. The Tor Vergata University library of Rome, Italy. The Stuttgart University library website in Germany and Duke Kunshan University Library of China was also among the most visited library websites.

Table: I

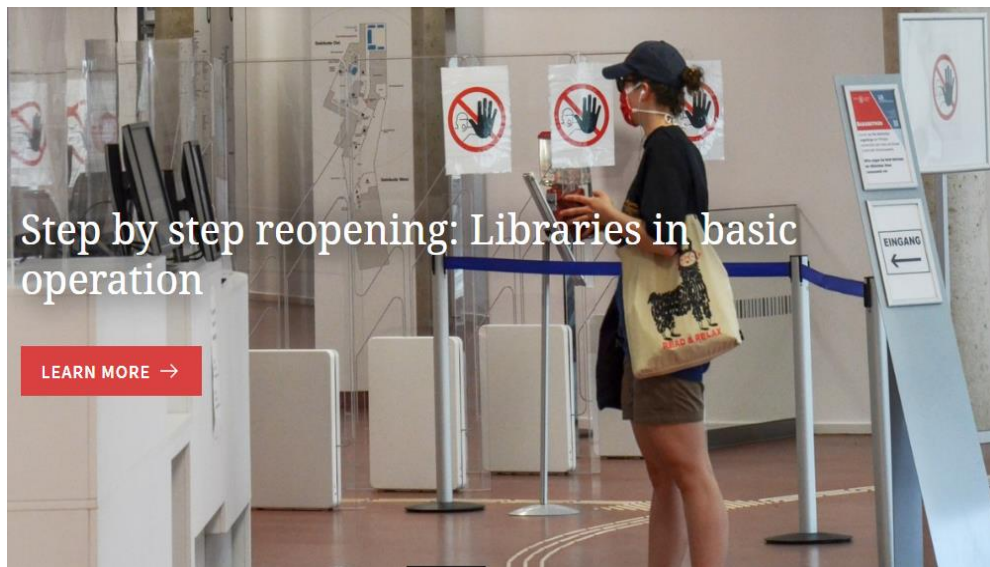
List of Country Wise Academic Library websites

Country Name	Name of library	Type of library	Website
United States of America	Rutgers University	University Library	https://www.libraries.rutgers.edu/covid-19
	Smith College	College Library	https://libraries.smith.edu/library-services-during-covid-19
	Ohio State University	University Library	https://library.osu.edu/COVID19
	Loyola University Chicago's,	University Library	http://libraries.luc.edu/continuity
	University of Washington	University Library	https://www.lib.washington.edu/coronavirus/coronavirus
	Spain	Saint Louis University Madrid	University Library
Salamanca University		University Library	https://www.salamanca-university.org/
University of Las Palmas de Gran Canaria		University Library	http://www.english.ulpgc.es/servicios/university-library
Universitat Politècnica de Catalunya · Barcelona		University Library	https://biblioteca.upc.edu/biblioteques-durant-crisi-covid-19
IE University		University Library	https://library.ie.edu/en/Home
Italy		Tor Vergata University of Rome	University Library
	University of Macerata	University Library	https://www.unimc.it/en/the-university/whats-to-know-about-coronavirus-2019-ncov?set_language=en
	Ca Foscari	University	https://www.unive.it/pag/40453

Italy	University of Venice	Library	
	Università di Bologna	University Library	https://www.unibo.it/en/campus-ravenna/libraries/coronavirus-libraries-are-closed
	The Polytechnic University of Milan	University Library	https://www.biblio.polimi.it/en/locations-and-times/bbc-library
Germany	Stuttgart University	University Library	https://www.ub.uni-stuttgart.de/bibliotheksschliessung/index.en.html
	University of Passau	University Library	https://www.ub.uni-passau.de/en/
	Goethe University Frankfurt	University Library	https://www.ub.uni-frankfurt.de/corona/
	The University of Freiburg	University Library	https://www.ub.uni-freiburg.de/en/research/digital-library/additional-resources-corona/
	Philipps University Marburg	University Library	https://www.uni-marburg.de/de/ub/aktuelles/nachrichten/sars-cov-2-02
	China	Duke Kunshan University	University Library
Xi'an Jiaotong-Liverpool University		University Library	https://lib.xjtlu.edu.cn/
University of Nottingham Ningbo China		University Library	https://www.nottingham.edu.cn/en/library/index.aspx
The University of Shanghai for Science and Technology		University Library	http://enlib.usst.edu.cn/
Bohai University of China		University Library	http://210.47.176.3/page/depart/tsg/index.asp

Regular / Physical Services

The findings indicate that academic libraries in the United States do not provide traditional physical services during COVID-19 pandemics. However, we found that just one library, "IE University Spain," offers conventional or physical services during COVID-19 epidemics using social distancing and adopting safety measures. However, we did not find any instructions about the book quarantine on that library webpage. University libraries in Italy are also not providing traditional or physical services during COVID-19 pandemics (Table II).



Step by step reopening: Libraries in basic operation

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Two libraries webpages of Goethe University Frankfurt Germany, and Philipps University Marburg Germany, mentioned that they are reopening the libraries and starting traditional operations in their libraries. Two Chinese university libraries: the University of Nottingham Ningbo China, and the University of Shanghai for Science and Technology, provided traditional and physical services during COVID-19 pandemics. However, their library pages do not indicate any safety measures and book quarantine services. Just Philipps University Marburg, Germany mentioned book quarantine service for twenty-four hours at dropbox.

Table: II

Traditional / Physical Services in academic libraries during COVID-19 pandemics

Regular Services	USA	Spain	Italy	Germany	China
Physically library visit	0 %	20%	0 %	40%	60%
Reference Services	0 %	20%	0 %	40%	60%
Circulation services	0 %	20%	0 %	40%	60%
Current awareness services	0 %	20%	0 %	40%	60%
Citation Management	0 %	20%	0 %	40%	40%
Research Guides	0 %	20%	0 %	40%	40%
Book Quarantine	0 %	0 %	0 %	20%	0 %
Printing	0 %	20%	0 %	40%	40%
Social Distance and other safety Measures	0 %	20%	0 %	40%	0 %

Note: Each library service = 20%

Online and Virtual Services

A checklist of 22 items-online and virtual library & information services was compiled with the help of literature. The checklist is used for the content analysis of the websites. In our cohort, we found that the US implemented lock-down strictly in their academic institutions. We discovered that The Rutgers University library was providing all the 22 services given in Table 3. We found that the other four libraries in the US were

not providing the services such as 'E-Newspapers, new digital contents, virtual training, and workshops, w-manuscripts collection.' However, they offered all other online and virtual services in the checklist (Table- III).

All five Spanish university libraries provide online and virtual services, excluding "e manuscripts collection, knowledge bank and online publishing services and physical to electronic conversion." Just one of the Spanish university libraries provides services such as "e-newspapers, new digital contents, virtual training and workshops and library support for remote teaching." Italian university libraries also offer online and virtual services, excluding 'virtual training and workshops, online tutorials, and e-manuscripts collection.' Just one of the Italian library webpage mentioned that they provide 'new digital contents, teaching and learning IT tools, in-depth counseling via online meeting applications, knowledge bank, and online publishing services' in the COVID-19 lock-down. We also found that university libraries in Germany and China also continued providing online and virtual services during the crises. Libraries in Germany did not mention on their websites about providing "online research guides, virtual training, and workshops, in-depth counseling via online meeting applications, and e-manuscripts collection." Chinese university libraries' websites did not mention the services regarding 'e-manuscripts collection, knowledge bank, and online publishing services. However, just one of the Chinese library websites found providing "virtual training and workshops, virtual research help, library support for remote teaching and in-depth counseling via online meeting applications'.

Table: III

Online and Virtual Services in academic libraries during COVID-19 pandemics

Online Services	USA	Spain	Italy	Germany	China
E- Books	100%	100%	100%	100%	100%
E- Articles	100%	100%	100%	100%	100%
E- Thesis and Dissertations	100%	100%	100%	100%	100%
E- News Papers	20%	20%	40%	80%	80%
OPAC	100%	100%	100%	100%	100%
Online Book Renewal	100%	80%	60%	80%	80%
Ask a Librarian Meet Remotely	100%	100%	100%	100%	100%
New digital contents	20%	20%	20%	40%	20%
Online Library instruction	100%	60%	60%	80%	60%
Online Research guides	80%	60%	80%	0 %	80%
Virtual Trainings and Workshops	20%	20%	0 %	0 %	20%
VPN service	100%	80%	80%	100%	80%
Online chat service	80 %	60%	60%	60%	60%
Tutorials	40%	60%	0 %	60%	60%
Teaching and learning IT tools	100%	60%	20%	20%	40%
Virtual research help	100%	60%	80%	20%	20%

Library support for remote teaching	100%	20%	40%	20%	20%
In-depth counseling via online meeting applications	80%	40%	20%	0 %	20%
E manuscripts collection	20%	0 %	0 %	0 %	0 %
Knowledge Bank and online Publishing Services	40%	0 %	20%	20%	0 %
Physical to Electronic conversion	60%	0 %	40%	60%	60%
Due date extension due to lockdown	100%	100%	100%	80%	40%

Note: Each library service = 20%

Role of librarians in the service delivery during the COVID-19 pandemic

The respondents were asked a question about "*what is the role of LIS professionals towards library services in COVID-19 pandemics*". The findings indicate that most information professionals in academic libraries are providing online services to faculty and students. They are doing their work from home. "Ask a librarian" facility is also provided. They are doing this with live, virtual, face-to-face programming, and through tutorials or recorded programming. One of the respondents answered that their university staff, including the library, are considered their essential duty to provide the library & information services in these panic situations. They are scanning items & lots of virtual reference appointments. One of the respondents said that they provide reference service telephonically, helping patrons with e-books and other reliable information resources. A respondent answered that they create library lessons for the upper grades and curate in Google drive. These content will be uploaded on their university website and it will help library patrons be aware of library and information sources virtually. Another librarian mentioned that he has the responsibility of managing and running social media for updating library patrons about the COVID-19 during the pandemic. In our cohort, four respondents were school librarians. They indicated that they provide live reference support to answer questions when parents or students cannot find the resources they need to complete a work project. School librarians have put together online resources for free and reduced e-books, put together resources for staff, participated in the play performance- Google meets.

However, the LIS professionals from the medical side answered differently than academic or school librarians. They were providing regular traditional and physical services using personal protection equipment (PPE). They were also observing strict restrictions on talking with each other, making the distance from each other's, wearing masks and gloves, sanitizing, and handwashing. They were serving the faculty, clinicians, students, and researchers regularly without any break during the pandemic. One of the respondents indicated that they are swamped in preparing guides, gathering resources, and providing healthcare professionals services. They have developed a COVID-19 lib-guide (<http://guides.lib.uchicago.edu/covid19>). Another medical librarian

answered that their library team offers traditional and online services to hospitals and medical college staff and gathering help to loan a3d printers to a group for making PPE for frontline healthcare workers.

Conclusion

The study results conclude that traditional/ physical library and information services were suspended in the lock-down situation other than the libraries of medical or hospital. However, librarians were providing online resources and virtual services to their users, particularly relating to COVID-19.

Implication for Practice

- There is a need to continuously adapt to the situation and information dissemination in whatever ways patrons need it.
- Librarians should provide virtual reference services in the future after this panic era.
- Libraries should update their websites, and digital libraries regularly stay in contact with their patrons and to provide them with the latest and reliable information resources.
- Libraries should also update their websites about national decisions towards Covid-19 pandemics and lock-down situation.

References

- Ågerfalk PJ, Conboy K and Myers MD. (2020) Information systems in the age of pandemics: COVID-19 and beyond. Taylor & Francis.
- Eltayar AN, Eldesoky NI, Khalifa H, et al. (2020) Online faculty development using Cognitive apprenticeship in response to COVID 19. *Medical Education*.
- Huang C, Wang Y, Li X, et al. (2020) Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet* 395: 497-506.
- Jacobson M. (2015) *How Far Down the Search Engine Results Page Will Most People Go?* Available at: <https://www.theleverageway.com/blog/how-far-down-the-search-engine-results-page-will-most-people-go/>.
- Organization WH. (2020) Coronavirus disease 2019 (COVID-19): situation report, 80.
- Tanveer M, Bhaumik A and Hassan S. (2020) COVID-19 PANDEMIC, OUTBREAK EDUCATIONAL SECTOR AND STUDENTS ONLINE LEARNING IN SAUDI ARABIA. *Journal of Entrepreneurship Education* 23.

- Thelwall M. (2009) Introduction to webometrics: Quantitative web research for the social sciences. *Synthesis lectures on information concepts, retrieval, and services* 1: 1-116.
- Wang T and Lund BD. (2020) Announcement Information Provided by United States' Public Libraries During the 2020 COVID-19 Pandemic.
- Zuo L, Dillman D and Miller Juve A. (2020) Learning At-Home During COVID-19: A Multi-institutional Virtual Learning Collaboration. *Medical Education*.