Editorial: Information and digital literacy initiatives

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The final version was published as (please use the following reference when citing it):

Machin-Mastromatteo, J.D. (2021). Editorial: Information and digital literacy initiatives. *Information Development, 37*(3), 329–333. https://doi.org/10.1177/02666669211031695

It is a pleasure and privilege to present, for the first time, an issue of Information Development, an extended issue in this case. The term information literacy is among the classic terms in library and information science (LIS), as it was coined in the 1970s, and it refers to an individual's skills for using information, which includes information seeking, access, retrieval, evaluation, management, reuse, and communication, often regardless of its genre or medium. Being information literate means that a person is capable of successfully interacting with information, while information literacy is often used for referring to the act of aiding people to develop their information skills, and as it defines this area of practice, it also can be used for labelling the corresponding research area. Digital literacy is a newer term, coined during the 1980s and in a similar way refers to individual's skills for successfully using information and communications technologies (ICT) and interacting with digital information ecosystems.

During the past decades, these terms have been used separately, together, and other times information literacy is understood as a broader term, that can include digital literacy. However, a common conception nowadays is to see them as a dyad, mainly because most of the information we get and consume is presented in digital forms and environments. It must also be said that there are a multitude of associated concepts that researchers and practitioners have used, mainly for been more precise regarding the nature of the information handled and the skills developed in each case (e.g., media literacy, numerical literacy, musical literacy, new literacies, scientific literacy, visual literacy, health literacy). As with most of the articles in this issue, we are taking the dyad conceptual stance, and understanding that information literacy is often the basis that allow people to conduct

activities to deal with getting and managing content, while digital literacy allow us to do so with technologies. However, we are not excluding the use of the mentioned associated terms for clarity's sake.

Information literacy has been linked with various environments and both practitioners and researchers strongly advocate it, as it may fulfill various purposes, such as fostering reading habits, supporting academic performance, problem solving, decision making, emancipation, citizenship, critical thinking, and lifelong learning. Information literacy initiatives are mostly conducted within libraries and educational institutions, where librarians are the main stakeholders in their promotion and development. However, given the purposes it can fulfill, it has gone outside of these contexts, to help individuals improve how they conduct their specific endeavors or daily activities, by training them on ways for getting and managing the best information they need to do so. That is why it is one of the most dynamic and still promising areas of LIS research and practice

This issue provides a very good sample of information and digital literacy research and practice in different contexts. We start with two articles dealing with librarians' skills and then eight about research conducted with students. The remaining five articles go beyond these traditional contexts and show how information and digital literacy are important and can help marginalized groups, farmers, and citizens in general. In this issue we take a tour that takes us from revising and assessing librarians' digital skills, then we see examples on how to evaluate and develop high school and university students' skills regarding their typical information competences for solving problems, for developing financial and health literacy, assessing their reading habits, while we also reflect on how to recognize and counteract limitations in ICT infrastructure and how students have coped with distance education during the pandemic. Finally, we have the cases where authors present us with the information and digital literacy challenges to help individuals using mobile devices for accessing healthcare solutions, then for improving farmers' access and use of information, and for citizens to be able to organize in digital communities to respond to disasters and other crises. All the articles present very interesting ideas and instruments that can be useful for other practitioners and researchers. I thank Stephen Parker, our Editor, for the opportunity of compiling and presenting this special issue.

This issue opens with two Nigerian studies which dealt with librarians' ICT skills. Ogagaoghene Uzezi Idhalama and Magnus Osahon Igbinovia from Ambrose Alli University, together with Chioma Augusta Ezeabasili from Nnamdi Azikiwe University, contributed 'Use of webinar tools for teaching and learning by library and information professionals in Nigeria', in which they sought to determine librarians' ICT skills regarding their capacity to use videoconferencing software, as well as using web 2.0 tools, presentation programs, mobile devices, browsers, networks, and new technologies in general. Such an exploration is very important under the context of the COVID-19 pandemic, which turned webinars from interesting and complementary options into a mandatory technology for staying active, for learning, teaching, and participating in professional activities. The authors surveyed 109 LIS professionals who were members of the Nigerian Library Association's platform. Their findings included that librarians' skills were relatively high, they mostly used smartphones and laptops, the common platforms were Zoom and YouTube. Also, the main perceived benefits of employing webinars included reducing the risks associated with travelling, easy exchange of information, simple registration, and conveniency. However, the biggest challenges involved poor Internet connectivity, high costs of data packages for mobile devices and unstable power supply. They suggested that the use of webinars should be encouraged in Nigerian educational institutions.

Next, in 'Influence of ICT skills on job performance of librarians in university libraries of South-South, Nigeria', Gloria Ogheneghatowho Oyovwe-Tinuoye, Saturday U. Omeluzor and Ijiekhuamhen Osaze Patrick from the Federal University of Petroleum Resources surveyed 233 librarians from 21 public and private university libraries. Their results included that these librarians usually self-sponsor the development of their skills and this relates to a lack of institutional policies for training staff. The largest opportunities for developing further ICT skills had to do with database management, web and web 2.0 applications, videoconferencing tools, website design and digital communications. Most of these platforms can be very helpful for offering services and connecting with library users, hence, the authors claim that their job performance and delivery of services might improve if they obtain a higher proficiency in the use of these technologies; the surveyed librarians also had this perspective, as they largely agreed that higher ICT skills would improve

service delivery, library administration, librarians' efficiency, as well as producing a better job performance and reducing work-related stress.

The next eight articles present research conducted with students. Consuelo Garcia, Esther Argelagós and Jesús Privado from the Universidad Internacional de la Rioja in Spain presented an international and comparative study with participants from three different Spanish-speaking countries. In 'Assessment of higher education students' information problem-solving skills in educational sciences', they adapted and applied the Procedural Information Problem-Solving Knowledge Evaluation in Education test (PIKE-E) to 700 students from Spain, Colombia and Ecuador. This online test allows assessing the information problem solving skills related to defining the research question, search strategies planning, searching, and locating sources, selecting and processing information and organizing and presenting information. The authors presented an extensive discussion on the statistical and theoretical validity and reliability of this version of the test, demonstrating that it shows good reliability and adequate internal consistency for what it intends to assess. Even so, they recommended applying this test while gathering other kinds of data, such as log files, eye-tracking, and not relying solely on an online application.

In 'Demographic and socio-economic differences in financial information literacy among university students', Faiza Liaqat, Khalid Mahmood and Fouzia Hadi Ali from the University of the Punjab (Pakistan) turn our attention to financial information literacy (FIL). They applied a questionnaire to 382 students from Pakistan who were enrolled in university programs not related to finance, to explore if their sociodemographic characteristics affected their FIL. Results showed an intermediate level of FIL and the students who scored better were male, graduate, over 26 years old, enrolled at private universities, residing in dormitories, and had a higher academic performance. Other elements that help developing FIL were to follow family advice, study finance courses and have a bank account. Authors recommended raising awareness about these topics among higher education students.

Saadia Mushtaq, Saira Hanif Soroya and Khalid Mahmood from the University of the Punjab, Lahore, contributed the article 'Reading habits of generation Z students in Pakistan:

Is it time to re-examine school library services? Explored the reading habits of students from the so-called generation Z, from the understanding that Information and Communication Technologies (ICTs) may affect good reading skills, which in turn, has an influence on academic performance. The authors surveyed 391 students from two high schools and their findings included that they read texts in both English and Urdu, they prefer not to read at the library and their awareness of library services and resources was low, they mostly read for academic purposes or leisure for around two hours per day, and those students who read on screens also did it more frequently. They prefer digital reading for portability reasons and because they can customize fonts to their liking; although they recognized that there are health issues, distractions and higher costs involved in e-reading. Interestingly, they prefer having their own print copies of books, because they like to annotate them, something they cannot (and should not!) do on borrowed books.

S.O. Oyediran-Tidings (Yaba College of Technology, Nigeria), F.H. Nekhwevha (University of Fort Hare, South Africa) E.M. Ondari-Okemwa (Machakos University, Kenya) and Oghenere Salubi (University of the Western Cape, South Africa) contributed 'Access to educational information enabled by ICT tools in the Fort Beaufort Education District (FBED), Eastern Cape, South Africa'. The authors used a mixed methods design for evaluating the state of ICT infrastructure available to high school students, specifically as an enabler for accessing educational information. They collected data from 331 Grade 12 students and 29 teachers of four high schools located at a province with low economic conditions, by using questionnaires, structured interviews and focus groups. Results revealed that students seriously lack access to personal computers, smartphones or to an Internet connection, although some students cope with hardware owned by the schools, libraries or their parents. The authors inquired about the state of ICT and information literacy by asking teachers about it and they reported that there were no formal training programs in place to train students on accessing educational information and hence students generally did not have the habit of using the school library. Considering this alarming situation, the authors wish to draw the attention of the government and school officials so that they provide appropriate technological infrastructures to school as well as information literacy initiatives for ensuring and improving students' access to information.

In ‘Health Information behaviour during COVID-19 outbreak among Egyptian library and information science undergraduate students’, Ahmed Shehata (Sultan Qaboos University, Oman and Minia University, Egypt) argued an individual’s level of health information literacy and their information skills will determine their ability to obtain valid and useful health information. With the aim of studying Egyptian LIS undergraduates’ health information behavior during the pandemic, the author surveyed the 161 students enrolled in the LIS undergraduate program at Minia University about the use of information related to the pandemic. In general, students got health information from official health websites, social media, as well as from family and friends. However, students showed adequate health information skills, because they were already trained on retrieving and assessing information as part of their LIS education. The author also provided some details about how students evaluated the credibility of health information and how they chose to share it on their social media sites.

From Turkey, Arzu Deveci Topal (University of Kocaeli) and Münir Süner (Istanbul Technical University) submitted ‘Information searching and commitment strategies of maritime faculty students on the web’, in which they surveyed 158 students from a maritime faculty at a Turkish state university by employing an adaptation of the Information Search on Web and Interpretation Strategies Scale. Their findings included that the students used advanced searching strategies (e.g., searching on different sources, retrieving consistent content, and organizing the information) and that students’ employment of advanced searching strategies was mostly influenced by their level of digital literacy, but not so much by their usage time of devices (computers or smartphones).

In ‘Access to information technology of households and secondary school students in Turkey’, Nejat İra, Mehmet Yıldız, Gamze Yıldız and Eylem Yalçınkaya-Önder from Çanakkale Onsekiz Mart University, and Ali Aksu from Dokuz Eylül University conducted a similar study to that of Oyediran-Tidings et al. (also in this issue), as they explored high-school students’ and teachers’ access to information technologies, but they compared this issue among different regions from Turkey by analyzing reports by the Turkish Ministry of National Education, the Turkish Statistical Institute (TUIK), and from the Programme for International Student Assessment (PISA). Findings included that less than 70% of students

had an Internet connection, a computer at home and Internet in their classrooms, but 38% of used a digital device for reading; regarding teachers, 77% did not have ICT-related training before the pandemic. As their African colleagues, the authors wish to draw the attention of the educational authorities for improving the technological infrastructure as well as the digital skills of students and teachers, especially in disadvantaged regions.

Heriyanto, Yanuar Yoga Prasetyawan and Ika Krismayani from Diponegoro University (Indonesia) contributed 'Distance learning information literacy: Undergraduate students experience distance learning during the COVID-19 setting', in which they interviewed 17 undergraduate students about their information and digital literacy experiences of students at an Indonesian university during the lockdown due to the pandemic. Data were classified in four categories: understanding distance learning, platform literacy, learning strategies, and learning resources. Digital literacy was basic for students to adapt quickly to the distance learning platform, but their information literacy and informational behavior might have limited their engagement with the contents of their classes and their lecturers.

The next five articles deal with experiences that brought information and digital literacy to society, including marginalized groups, farmers, and the community in general. In 'Informal mobile phone use by marginalised groups in a plural health system to bridge healthcare gaps in Sierra Leone', Steven Sam from Brunel University London analyzed qualitative data from a large ethnographic study that employed observations, interviews and focus groups, conducted with 50 participants from 2012 to 2016, about the health information seeking practices of marginalized groups in Sierra Leone and dealt specifically with the implementation of mobile phones for formal and informal mobile health (m-health) ecosystems. Such integration facilitates opportunities for seeking healthcare, but several challenges hamper their effectiveness, such as deficient connectivity, high costs, low digital literacy skills and lack of regulations. However, m-health solutions allowed participants to search for the healthcare options that were available to them, and they saw these solutions as essential for communication and allowed them to make decisions more quickly.

Hazem S. Kassem (King Saud University, Saudi Arabia, and Mansoura University, Egypt), Bader Alhafi Alotaibi (King Saud University), Yomna A. Ghoneim (Mansoura University) and Ahmed M. Diab (New Valley University, Egypt) presented 'Mobile-based advisory services for sustainable agriculture: Assessing farmers' information behavior', in which they surveyed 382 farmers to ask them about their usage of mobile phones, the kinds of information they retrieved, and their usage of mobile advisory services related to the characteristics of the information they offer. The information that is important for farmers and that was mostly needed and sought by the participants of this study was related to best agricultural practices, weather, seed varieties and treatment and water management. Findings indicated that 47% of the farmers had low information literacy, although 71% were keen on using mobile agricultural services and 60% adopted the information they received; also, high information literacy was determined by farmers' characteristics such as literacy (reading/writing), education level, and a higher size and diversity of their farm.

Continuing with farmers' information literacy, we move to Pakistan. In 'Sustaining agriculture with information: An assessment of rural citrus farmers' information behaviour', Muhamad Asif Naveed and Ali Hassan from the University of Sargodha interviewed 120 citrus farmers and they asked them about the information they require by employing a very complete inventory of relevant topics for agricultural activities. The information most frequently needed included land preparation and management, irrigation, citrus varieties, harvesting, pest control and application of fertilizers and agrochemicals, about finances and buyers, government policies, and weather. Farmers usually relied on their experiences and fellow farmers for getting the information they needed but, interestingly, they rarely used mobile phones and online information. As in the previous article, their farm size and education were elements that characterized the farmers who had better information literacy; but the main issues affecting their information retrieval included lack of timely access, lack of awareness about where to get the information they need, poor economic conditions, low educational levels, illiteracy, and language barriers. These kinds of studies about farmers' conditions, their information and digital literacy, and their success on retrieving the information are relevant for devising actions to improve their use of information and ICTs so that they can proactively seek the best information they need to be more successful in their activities; obviously, this is an area of opportunity for libraries and

librarians. These studies can also be useful for designing robust information services that cater to their very particular informational needs, especially for findings ways to support illiterate farmers.

Xinghan Wu, Xitong Guo and He Zhu from the Harbin Institute of Technology (China) contributed 'Exploring the human factors for mindfulness in mHealth service usage: An Elaboration Likelihood Model', in which they surveyed 255 consumers of an mHealth service in China using an instrument grounded in the elaboration likelihood model and the mindfulness theory, in relation to the usage of such service. They found that perceived information quality and mindfulness positively affect the service usage and the information quality aids in the establishment of mindfulness, which is also positively influenced by peer patient influence and medical recommendations. However, these effects on mindfulness depend on the individuals' perceived health literacy level and the medical recommendations are vital for raising mindfulness, particularly among people with low literacy.

Najeeb Gambo (Abdulhamid Jigawa State Polytechnic, Nigeria), Mark Perry and Armin Kashefi (Brunel University, UK), and Daniel Azerikatoa Ayoung (Bolgatanga Polytechnic, Ghana) close this issue with the article 'Harnessing social and collaborative tools in digital disaster response work: Implications for design and practice', in which they used a virtual ethnographic approach to analyze the activities of Humanity Road, a non-profit and volunteer-based digital disaster response charity, specifically international volunteers' use of technological platforms and tools. The authors provided detailed descriptions on the software used by volunteers, how they used them and the challenges they have faced, for instance: Google Docs is used for collaboratively writing situation reports, Skype is employed for monitoring, coordination, communication, and training, while Twitter allows them to share situation reports and public safety information, and translation tools enable volunteers to make sense of victims' urgent needs and crisis information. This case study can be very useful to develop other digital volunteer communities and initiatives for handling disasters and other crises. Obviously, the volunteers participating in these types of initiatives will require having very good digital literacy skills so that they can act efficiently and effectively within the networks in which they participate.

In the next issue

The next issue (Vol. 37, no. 4) will contain the following articles:

'Critical success factors for digital library implementation in Africa: Solution focused rather than problem focused', by Feria Wirba Singeh, Abrizah Abdullah and Kiran Kaur; 'A response to the persistent digital divide: Critical components of a community network ecosystem', by Micaela Jordann Rich and Shaun Pather; 'A model for open access institutional repositories usage for university libraries in Ghana', by Kwame Kodua Ntim and Madeleine Fombad; 'Predictors of electronic health management information system for improving the quality of care for women and people with disabilities', by Edda Tandi Lwoga, Raphael Zozimus Sangeda and Restituta Mushi; 'Technology Acceptance Model and Moodle: A systematic mapping study', by Gabriel García Murillo, Pavel Novoa-Hernández and Rocío Serrano Rodríguez; 'Conceptualising China's approach to 'Internet Plus Government Services': A content analysis of government working plans', by Lihong Zhou, Minglei Ying and Jiang Wu; 'So far we have travelled – are we there yet? An exploration of national archival expedition in Eswatini', by Mpho Ngoepe, Andile Maseko and Vusi Tsabedze; 'E-justice evaluation factors: The case of Smart Court of China' by Jia Yu and Jun Xia; 'Mobile-based advisory services for sustainable agriculture: Assessing farmers' information behavior', by Hazem S. Kassem, Bader Alhafi Alotaibi, Yomna A. Ghoneim and Ahmed M. Diab; 'Knowledge management strategies adopted in agricultural research organizations in East Africa', by Boniface Akuku, Timothy Mwololo Waema, Robert Oboko and Irwin Brown.