IJoL International Journal of Librarianship

ISSN: 2474-3542 Journal homepage: https://journal.calaijol.org

Building Literacies: Best Practices for Academic Libraries in the Library 3.0 Era

Niklas Ferdinand Carlsson

Abstract:

This paper explores the evolving role of academic libraries as educational hubs through the lens of foundational literacies—Information Literacy (IL), Digital Literacy (DL), and AI Literacy (AIL). Based on observations of practices at Linköping University Library (LiUB), it synthesizes these initiatives into a proposed framework inspired by the principles of Library 3.0: Participation, Interactivity, and Adaptability. The framework offers a structured approach to integrating these literacies into library educational programming, emphasizing the library's role in fostering critical competencies for lifelong learning in a rapidly changing digital environment. Key best practices from LiUB's initiatives, such as the DigiMaker makerspace and AI literacy workshops, are highlighted, providing actionable insights for academic libraries seeking to remain relevant and impactful in their educational missions.

To cite this article:

Carlsson, N. F. (2025). Building Literacies: Best Practices for Academic Libraries in the Library 3.0 Era. *International Journal of Librarianship*, *10*(1), 3-12. https://doi.org/10.23974/ijol.2025.vol10.1.437

To submit your article to this journal:
Go to https://ojs.calaijol.org/index.php/ijol/about/submissions

INTERNATIONAL JOURNAL OF LIBRARIANSHIP, 10(1), 3-12
ISSN: 2474-3542

Building Literacies: Best Practices for Academic Libraries in the Library 3.0 Era

Niklas Ferdinand Carlsson
Linköping university, Sweden

ABSTRACT

This paper explores the evolving role of academic libraries as educational hubs through the lens of foundational literacies—Information Literacy (IL), Digital Literacy (DL), and AI Literacy (AIL). Based on observations of practices at Linköping University Library (LiUB), it synthesizes these initiatives into a proposed framework inspired by the principles of Library 3.0: Participation, Interactivity, and Adaptability. The framework offers a structured approach to integrating these literacies into library educational programming, emphasizing the library's role in fostering critical competencies for lifelong learning in a rapidly changing digital environment. Key best practices from LiUB's initiatives, such as the DigiMaker makerspace and AI literacy workshops, are highlighted, providing actionable insights for academic libraries seeking to remain relevant and impactful in their educational missions.

Keywords: Library 3.0, Information Literacy, Digital Literacy, AI Literacy, Academic Libraries, Pedagogical Frameworks

INTRODUCTION

In today's information-driven society, academic libraries are redefining their role from traditional repositories to active educational hubs. The rapid evolution of digital tools and the emergence of artificial intelligence (AI) have transformed libraries into critical spaces where users develop the competencies necessary for navigating, evaluating, and creating within complex digital landscapes (Kasneci et al., 2023; Kivinen & Piiroinen, 2023; Yolcu, 2023). Modern libraries must now support a trio of foundational literacies—information, digital, and AI-literacy—that empower users to critically engage with information, adapt to new technologies, and actively participate in knowledge creation (Aysu, 2023; Bawden, 2008; Lloyd, 2010; Ng et al., 2021; Owusu-Ansah, 2004; Wang & Zhang, 2014).

This transformation is captured in the Library 3.0 model, which frames the library as a participatory, interactive space that provides the tools, environments, and guidance necessary for users to become literate across multiple domains (Fletcher, 2021; Jochumsen et al., 2012; Lloyd, 2010). In a Library 3.0 framework, libraries move beyond traditional roles to become hubs where users actively engage with resources, collaborate with peers, and interact with new technologies (Clark, 2015; Kwanya, 2023; Navarrete, 2023; Walczak, 2020). This model prioritizes three core principles:

- **Participation:** Library 3.0 centers on user engagement, encouraging students to take an active role in their learning process. Through multimodal access to library educational resources, users can independently explore pedagogical content and participate in peer-led learning opportunities, fostering a sense of ownership and agency in their educational journey.
- **Interactivity:** It promotes interactive spaces, like makerspaces, where users can experiment with digital tools, explore creative projects, and gain digital skills through collaborative efforts.
- **Adaptability:** Library 3.0 emphasizes flexibility, adapting resources and programming to meet evolving user needs, especially as technology and literacy demands change.

By embedding these literacies and principles into their offerings, academic libraries strengthen their educational mission and play an essential role in lifelong learning. Rather than simply providing access to resources, Library 3.0 emphasizes user engagement and hands-on learning, helping patrons develop critical skills that are transferable beyond academia. At Linköping University Library (LiUB) in Sweden, this vision is brought to life through a series of structured initiatives designed to meet the literacy needs of a digitally native academic community. Recognizing the need for students and faculty to build competencies across digital and AI-domains, LiUB has developed programs that span traditional information literacy training, digital skills development through makerspaces, and AI literacy workshops that address both practical and ethical dimensions of AI use. Through these programs, LiUB offers users not only the knowledge and skills to manage information effectively but also the ability to understand, interact with, and contribute to the evolving digital and AI landscape.

To illustrate these best practices, the following section outlines LiUB's integrated approach to foundational literacies, detailing the strategies, tools, and educational activities that make LiUB an exemplary model for literacy-centered library services. Each literacy area addresses distinct competencies yet contributes to a cohesive model that encourages user engagement and skill development across digital landscapes (Kivinen & Piiroinen, 2023; Fletcher, 2021). By examining the outcomes and lessons learned at LiUB, this paper offers insights for other libraries looking to enhance their educational impact and remain relevant in a rapidly changing digital environment.

INTEGRATED LITERACY PRACTICES AT LiUB

Library Literacy

Today, advanced tools and methods are thus made available via the library, and this in turn, necessitates an expansion of the library´s pedagogical framework consisting of information literacy (IL) to also include digital literacy (DL) and Artificial Intelligence literacy (AIL) in order to keep up pedagogically with the technological developments (Onyancha, 2020).To conceptualize these literacies from the library's perspective, the author suggests doing so based on the concept of library literacy, i.e., knowledge of the library's resources, services, and material organization (Liu et al., 2020). Another definition states that "in the academic setting, library literacy refers to the acquisition of a range of skills relating to the identification of and familiarity with sources and information-seeking processes, usually through formal bibliographic instruction and informal user education" (Bell, 1990, p. 32).

The concept of information literacy has been extensively explored by scholars such as Lloyd (2010) and Bruce (1997), who emphasize its critical role in navigating digital environments. Similarly, digital literacy, as defined by Gilster (1998) and Bawden (2008), encompasses the skills required to effectively use digital tools and resources. However, library literacy, as defined in this paper, uniquely focuses on the skills and knowledge necessary to effectively use library resources and services. Library literacy intersects with information literacy, digital literacy and AI-literacy by emphasizing the ability to locate, evaluate, and use information effectively. In recent years, AI literacy has emerged as an essential competency, highlighting the need for individuals to understand and engage with AI technologies effectively.

Library literacy thus becomes a key overarching factor giving rise to an opportunity for the library to place itself at the center of a society or domain clearly in need of guidance and education concerning mainly information and knowledge, but also how to use the library´s spaces and tools to address these needs. Technical tools and associated digital methods linked to multimodal expressions such as 3D-printers and 3D-modeling, as well as generative AI, thus place new demands on the individual, and since an academic library like LiUB accommodates all these aspects in its operations, there is an obvious need to reassess and redefine what library literacy is and how the library can utilize it today.

Information Literacy

Already in 1989, the American Library Association stated that:

> "To respond effectively to an ever-changing environment, people need more than just a knowledge base, they also need techniques for exploring it, connecting it to other knowledge bases, and making practical use of it. In other words, the landscape upon which we used to stand has been transformed, and we are being forced to establish a new foundation called information literacy." (American Library Association, 1989)

Much of the reason for taking this overview of practices, writing this article and the subsequent need to redefine library literacy lies in the very evolution of information technology. Digital tools and AI have created a need for a broader scope in order to avoid confusion to what IL pertains to (Julien, 2016). The American Library Association defined IL as a learned skill, regardless of medium, that empowers the user to "locate, evaluate, and use effectively the needed information" (Iannuzzi, 2000). IL can therefore be defined as a set of theoretical principles to abide in order to ensure a verifiable and trustworthy outcome in the information seeking process. The practical handling of digital tools and AI shall hence be defined as grounds for seeing them as separate literacies in relation to IL. IL can therefore be situated into a symbiotic relationship with DL and AIL in order to be properly understood in the academic library context foremost.

LiUB has focused its recent development on digital access to information via an educational approach i.e. the institution has developed new pedagogical, multimodal, digital methods for the purposes of making its IL pedagogy more accessible. Linköping university (LiU) launched an interweb for all students, Liunet student, in 2022 and this presented the library with an opportunity to permanently share and give access to not only their information, but also their knowledge base i.e. educational programming concerning seeking, identifying, and evaluating information and also referencing, plagiarism and copyright. This knowledge base is disseminated

in multimodal form via Liunet student i.e. text, film, image, and even pure audio as LiUB has an educational podcast. In this way LiUB has standardized it´s pedagogical approach to IL via digital tools and methods and made it multimodal and always accessible in its full form to students, as opposed to prior methods that were based on librarians making their individual educational materials accessible to each course, class or group of students that they taught.

To adapt to a digital landscape that enables the students to participate in both interactive and independent learning via multimodal pedagogy is thus key to develop IL in the local sphere. IL is a theoretical set of principles that form the basis for the academic library educational curriculum, and it should be formally recognized as the pedagogical basis for the academic library´s educational programming towards the student body.

Digital Literacy

DL is defined by ALA as "the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills" (*Digital Literacy – Welcome to ALA's Literacy Clearinghouse*, n.d.). This means that it requires practical skills, and this is where the library has evolved by way of introducing makerspaces and this is a process that is currently in development in academic libraries in general (Nagle, 2021; Niaros et al., 2017).

LiUB have in 2024 developed a pedagogical curriculum within its makerspace DigiMaker, and this is a pedagogy based on the utilization of DigiMaker´s tools and spaces. DigiMaker's classroom pedagogy in program and standalone courses usually involves showcasing both the accessibility of various methods and serving as inspiration and a concrete starting point for various student projects. For example, 3D modeling, 3D printing, Virtual Reality, and audio and video editing are commonly included elements in DigiMaker's educational practice. Working with the Nursing program at LiU, DigiMaker comes in with VR-headsets that allow the students to experience different physical and mental states, fear and tranquility, for the purpose of letting the students perform different physical tests on each other which they later analyze. DigiMaker thus contributes with its own unique pedagogical dimension, DL, as no other entity within the university can specifically provide such a spectrum of tools and expertise. DigiMaker also offers workshops, showcases and drop-in education which are conducted by student workers i.e. the utilization of the peer-to-peer system. This is the multidimensional library 3.0 in practice.

AI-literacy

So, what about AIL; does that need that to be a part of library literacy too? The definition of AIL is something that is currently in progress and very much up for discussion in different fields, but of the different attempts made there are some core concepts distinguishable (Allen & Kendeou, 2024; Faruqe et al., 2022; Long & Magerko, 2020). They encompass how to recognize and understand its functions, as well as to being able to apply knowledge, utilize and evaluate the outcomes both practically and ethically (Ng et al., 2021). From an academic library´s point of view, IL is immediately put into high alert as text generative AI gave rise to a sudden impact on higher education as text is the primary exam method (Cassidy, 2023; Zhang et al., 2024). In fact, the author contends that generative AI is such a singular game-changer that higher education institutions must now adopt a whole new way of assessing written text (Halaweh, 2023; Kress,

2003). It is such a powerful and widespread tool that it must be assumed that it is being utilized in some manner subject to the user's task; albeit to generate the whole text, parts of it or to rewrite existing text (Dwivedi et al., 2023; Kenwright, 2023; O'Dea, 2024; Persson & Savulescu, 2012). This means that this has quickly become a very important and potentially problematic issue to contend with in many different ways in higher education (Sullivan et al., 2023).

In this context, AI literacy has quickly become critical not only for librarians but across educational sectors. Recent research underscores the urgent need for AI literacy in teacher education. A scoping review by Sperling et al. (2024) identifies significant gaps in AI-literacy training for educators, emphasizing that comprehensive AI-literacy frameworks must be integrated into education to equip professionals with the skills necessary to navigate and teach AI-related content effectively. This aligns with the broader need for AI-literacy in libraries, highlighting that librarians, like teachers, require the tools and frameworks to understand and manage AI in educational environments.

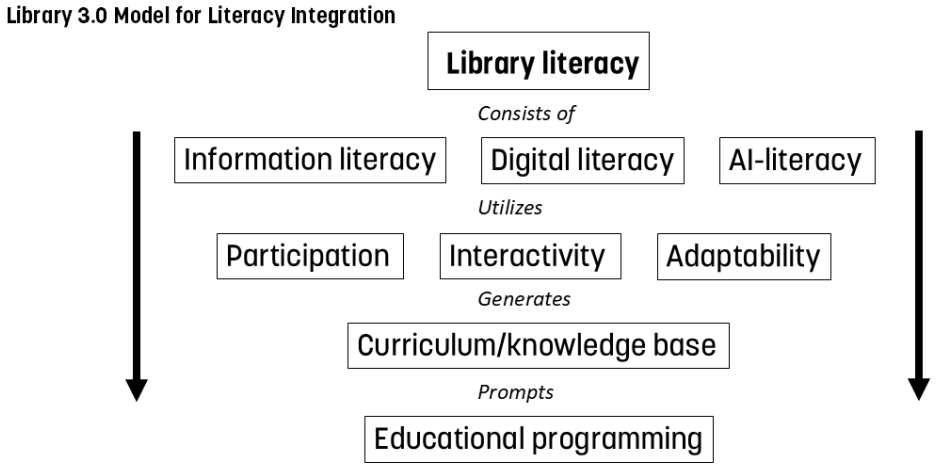
At LiUB their educational approach to AIL has mainly been brought on by the demands and needs of the managers of courses and programs that book the library for teaching sessions i.e. lectures and workshops. They express a clear demand for guidance and an underlying pedagogy concerning foremost AI-tools and how and why they are to be implemented. The library educational programming concerning AI-tools at LiUB in the classroom, as of yet, thus concerns disseminating local guidance documents for principles and rules, copyright issues, ethical issues, and practical ways to utilize AI-tools in the information seeking process. So pretty much in line with the previously mentioned accumulated definition of AIL (Ng et al., 2021). In some cases, the library´s educational team has even been prompted to give two-hour lectures with course aligned workhops exclusively designated to AI and its utilization towards students.

As students at LiU have exclusive access to Scopus AI via the library since 2024, the library can thus now be said to have practical AI-tools in its supply as well, further prompting a demand for education and guidance. LiU were also one of the first universities in the world to share access to the AI-tool Microsoft CoPilot to first its coworkers and then its students (Gramenius, 2024; Wingren, 2023). In 2024 there are ongoing internal faculty wide discussions at LiU for the purposes of pinning down the pedagogical structure of AIL, and the library has taken a central position in this both theoretical and practical dialogue. Will for example the library be a key educational actor offering its pedagogy on AIL via their educational programming reaching all faculties or will every different faculty and department render their own pedagogical take on AIL? At present, there seems to be a great impetus on the library as a pedagogical actor and the development of its educational programming concerning AI-issues.

A MODEL SUMMARY

The evolving role of the academic library as an educational actor now requires a reevaluation of library literacy, reflecting the need for a dynamic, participatory pedagogical framework. The model proposed in this paper is a synthesis of principles from Library 3.0 and the observed practices at LiUB. While LiUB's current initiatives align with many of these principles, the model provides a formalized structure to guide educational programming in academic libraries more broadly. It extends beyond knowledge of library resources and services to encompass a curriculum that actively engages users in Information Literacy (IL), Digital Literacy (DL), and AI Literacy

(AIL), designed with core principles of Participation, Interactivity, and Adaptability (Coravu, 2010; Fletcher, 2021; Kivinen & Piiroinen, 2023; Liu et al., 2020).



In this framework, library literacy becomes a foundation for educational programming, where users learn not only how to locate and evaluate information but also how to engage collaboratively with digital tools and emerging technologies. By centering on Participation, Interactivity, and Adaptability, this model supports a knowledge base that equips users with practical skills for lifelong learning and adaptability in a digital world. This model, therefore, provides a flexible tool for libraries aiming to integrate foundational literacies into their educational programming, ensuring that academic libraries remain relevant, responsive, and actively engaged in supporting evolving user needs.

KEY TAKEAWAYS FOR BEST PRACTICE

The LiUB experience illustrates how the Library 3.0 model can be applied to develop a flexible, literacy-centered framework that aligns with modern academic needs. By actively engaging users in information, digital, and AI literacy, libraries can position themselves as essential learning hubs in an era of rapid technological change. The following key takeaways outline best practices inspired by LiUB's success and reflect core Library 3.0 principles:

- **Embed foundational literacies into library services**: Adopting Library 3.0 means integrating information, digital, and AI-literacies into standard library offerings. By making these literacies core services, libraries support a diverse set of skills that meet both academic and digital demands.

- **Leverage makerspaces to enhance digital literacy:** Interactive spaces, such as LiUB's DigiMaker, are essential components of the Library 3.0 model. Makerspaces enable hands-on, skill-building activities and foster peer-to-peer learning, offering practical ways for users to develop digital literacy.
- **Integrate AI-literacy as a core component:** The rapid rise of AI makes it crucial to include AI-literacy in library services. By offering workshops that address ethical and practical AI-skills, libraries prepare users to navigate AI's academic and professional implications.
- **Offer multimodal, on-demand resources:** In line with Library 3.0's user-centered approach, supplement in-person sessions with digital guides, videos, and other on-demand resources, ensuring users have continuous access to educational literacy support empowering them to take control of their learning paths.
- **Foster adaptability in educational programming**: Design educational programming to be adaptable to new technologies and user feedback, ensuring the library remains a responsive resource as digital needs and literacy demands evolve. This adaptability allows libraries to refine their offerings and remain relevant in supporting ongoing digital and AI literacy growth.

LiUB's initiatives, synthesized into a framework inspired by the Library 3.0 principles, provide a flexible, adaptable approach that libraries worldwide can replicate to meet the evolving literacy needs of their communities. As technology and user needs continue to change, Library 3.0 will remain a guiding model for creating interactive, learner-centered libraries that foster foundational literacies essential for lifelong learning.

References

Allen, L. K., & Kendeou, P. (2024). ED-AI Lit: An Interdisciplinary Framework for AI Literacy in Education. *Policy Insights from the Behavioral and Brain Sciences*, *11*(1), 3–10. https://doi.org/10.1177/23727322231220339

American Library Association. (1989). *Presidential Committee on Information Literacy: Final Report*. American Library Association. http://www.ala.org/acrl/publications/whitepapers/presidential

Aysu, S. (2023). Today's Two Important Skills: Digital Literacy and Critical Thinking. In D. Köksal, Ö. G. Ulum, & G. Genç (Eds.), *Undividing Digital Divide: Digital Literacy* (pp. 37–48). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-25006-4_4

Bawden, D. (2008). Origins and concepts of digital literacy. In C. Lankshear & M. Knobel (Eds.), *Digital Literacies: Concepts, Policies and Practices*. Peter Lang Publishing.

Bell, R. (1990). Library Literacy in the Academic Library. *Innovation*, *1*.

Bruce, C. (1997). *The Seven Faces of Information Literacy*. Auslib Press Pty Ltd.

Cassidy, C. (2023, January 10). Australian universities to return to 'pen and paper' exams after students caught using AI to write essays. *The Guardian*. https://www.theguardian.com/australia-news/2023/jan/10/universities-to-return-to-pen-and-paper-exams-after-students-caught-using-ai-to-write-essays

Clark, M. (2015). Improving library efficiency to meet patron's needs: A data envelopment analysis benchmarking model. *2015 Portland International Conference on Management of Engineering and Technology (PICMET)*, 1415–1423. https://doi.org/10.1109/PICMET.2015.7273170

Coravu, R. (2010). *Library Literacy: The Step before Information Literacy*. First International Conference in Romania on Information Literacy, Sibiu, Romania. http://eprints.rclis.org/14540/#

Digital Literacy – Welcome to ALA's Literacy Clearinghouse. (n.d.). Retrieved April 8, 2024, from https://literacy.ala.org/digital-literacy/

Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., Baabdullah, A. M., Koohang, A., Raghavan, V., Ahuja, M., Albanna, H., Albashrawi, M. A., Al-Busaidi, A. S., Balakrishnan, J., Barlette, Y., Basu, S., Bose, I., Brooks, L., Buhalis, D., … Wright, R. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, *71*. https://doi.org/10.1016/j.ijinfomgt.2023.102642

Faruqe, F., Watkins, R., & Medsker, L. (2022). Competency Model Approach to AI Literacy: Research-Based Path From Initial Framework to Model. *Advances in Artificial Intelligence and Machine Learning*, *2*(4), 580–587. https://doi.org/10.54364/AAIML.2022.1140

Fletcher, C. (2021). A case for scholarly making in the library: Makerspaces, innovation labs, and the evolution of scholarly communications. *College and Undergraduate Libraries*, *27*(2–4), 339–353. https://doi.org/10.1080/10691316.2021.1899881

Gilster, P. (1998). *Digital literacy*. Wiley Computer.

Gramenius, M. (2024, 12). *Svenskt universitet bland de första i världen när Copilot släpps till universitet och högskolor – Pressrum*. Microsoft. https://news.microsoft.com/sv-se/2024/01/12/svenskt-universitet-bland-de-forsta-i-varlden-nar-copilot-slapps-till-universitet-och-hogskolor/

Halaweh, M. (2023). ChatGPT in education: Strategies for responsible implementation. *Contemporary Educational Technology*, *15*(2), ep421. https://doi.org/10.30935/cedtech/13036

Iannuzzi, P. (2000). Information Literacy Competency Standards for Higher Education. *Community & Junior College Libraries*, *9*(4), 63–67. https://doi.org/10.1300/J107v09n04_09

Jochumsen, H., Hvenegaard Rasmussen, C., & Skot-Hansen, D. (2012). The four spaces – a new model for the public library. *New Library World*, *113*(11/12), 586–597. https://doi.org/10.1108/03074801211282948

Julien, H. (2016). Beyond the hyperbole: Information literacy reconsidered. *Communications in Information Literacy*, *10*(2), 124–131. https://doi.org/10.15760/comminfolit.2016.10.2.28

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., … Kasneci, G. (2023).

ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, *103*. https://doi.org/10.1016/j.lindif.2023.102274

Kenwright, B. (2023). Is it the end of undergraduate dissertations? Exploring the advantages and challenges of generative AI models in education. In *Generative AI in Teaching and Learning* (pp. 46–65). https://doi.org/10.4018/979-8-3693-0074-9.ch003

Kivinen, O., & Piiroinen, T. (2023). Epoch-Making Changes in the Cultural Evolution of Communication: Communication technologies seen as organized hubs of skillful human activities. *Journal for the Theory of Social Behaviour*, *53*(2), 221–237. https://doi.org/10.1111/jtsb.12361

Kress, G. R. (2003). *Literacy in the new media age*. Routledge.

Kwanya, T. (2023). From collections to connections: Transforming libraries to knowledge centres. In *Information Services for a Sustainable Society: Current Developments in an Era of Information Disorder* (pp. 320–341). https://doi.org/10.1515/9783110772753-022

Liu, G., Zhang, Z., Smith, C., Xu, S., & Pillon, K. (2020). Plagiarism and Information Literacy Workshops for International Students Plagiarism and Information Literacy Workshops for International Students. In V. Tavares (Ed.), *Multidisciplinary Perspectives on International Student Experience in Canadian Higher Education* (pp. 240–264). https://doi.org/10.4018/978-1-7998-5030-4.ch013

Lloyd, A. (2010). *Information Literacy Landscapes: Information Literacy in Education, Workplace and Everyday Contexts*. Chandos Publishing.

Long, D., & Magerko, B. (2020). *What is AI Literacy? Competencies and Design Considerations*. Conference on Human Factors in Computing Systems - Proceedings. https://doi.org/10.1145/3313831.3376727

Nagle, S. B. (2021). Maker Services in Academic Libraries: A Review of Case Studies. *New Review of Academic Librarianship*, *27*(2), 184–200. https://doi.org/10.1080/13614533.2020.1749093

Navarrete, O. A. (2023). The Digital Divide in the Industrial Revolution 4.0. Opportunity and challenge for Libraries. *Revista Interamericana de Bibliotecologia*, *46*(3). https://doi.org/10.17533/udea.rib.v46n3e345719

Ng, D. T. K., Leung, J. K. L., Chu, K. W. S., & Qiao, M. S. (2021). AI Literacy: Definition, Teaching, Evaluation and Ethical Issues. *Proceedings of the Association for Information Science and Technology*, *58*(1), 504–509. https://doi.org/10.1002/pra2.487

Niaros, V., Kostakis, V., & Drechsler, W. (2017). Making (in) the smart city: The emergence of makerspaces. *Telematics and Informatics*, *34*(7), 1143–1152. https://doi.org/10.1016/j.tele.2017.05.004

O'Dea, X. (2024). Generative AI: Is it a paradigm shift for higher education? *Studies in Higher Education*, *0*(0), 1–6. https://doi.org/10.1080/03075079.2024.2332944

Onyancha, O. B. (2020). Knowledge visualization and mapping of information literacy, 1975–2018. *IFLA Journal*, *46*(2), 107–123. https://doi.org/10.1177/0340035220906536

Owusu-Ansah, E. K. (2004). Information Literacy and Higher Education: Placing the Academic Library in the Center of a Comprehensive Solution. *The Journal of Academic Librarianship*, *30*(1), 3–16. https://doi.org/10.1016/j.jal.2003.11.002

Persson, I., & Savulescu, J. (2012). *Unfit for the Future: The Need for Moral Enhancement*. Oxford University Press.

Sperling, K., Stenberg, C.-J., McGrath, C., Åkerfeldt, A., Heintz, F., & Stenliden, L. (2024). In search of artificial intelligence (AI) literacy in teacher education: A scoping review. *Computers and Education Open*, *6*. https://doi.org/10.1016/j.caeo.2024.100169

Sullivan, M., Kelly, A., & McLaughlan, P. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning and Teaching*, *6*(1), 31–40. https://doi.org/10.37074/jalt.2023.6.1.17

Walczak, M. (2020). Library 3.0 – where are we heading? Directions of libraries development in the 21st century. *Medical Library Forum*, 2–17. https://doi.org/10.34738/mlf.0019

Wang, A., & Zhang, X. Q. (2014). Cultivating College Students' Information Literacy under Network Environment. *Advanced Materials Research*, *989–994*, 5349–5352. https://doi.org/10.4028/www.scientific.net/AMR.989-994.5349

Wingren, A. (2023, 17). *Linköpings Universitet bland de första i världen att använda Copilot i sin verksamhet – Pressrum*. Microsoft. https://news.microsoft.com/sv-se/2023/11/17/linkopings-universitet-bland-de-forsta-i-varlden-att-anvanda-copilot-i-sin-verksamhet/

Yolcu, P. (2023). A systematic review of the literature on digital citizenship. In *Innovations in Digital Instruction Through Virtual Environments* (pp. 157–176). https://doi.org/10.4018/978-1-6684-7015-2.ch009

Zhang, L., Amos, C., & Pentina, I. (2024). Interplay of rationality and morality in using ChatGPT for academic misconduct. *Behaviour & Information Technology*, *0*(0), 1–17. https://doi.org/10.1080/0144929X.2024.2325023

About the author

Niklas Ferdinand Carlsson is a librarian and lecturer at Linköping University in Sweden, a behavioural scientist and a published and cited researcher. He has a special interest in the library's pedagogical role, as well as its integration and utilization of new technologies.