Reimagining the role of the library in the digital age: changing the use of space and navigating the information landscape

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*Yesterday Carnegie Mellon University announced a new partnership with technology company Digital Science. CMU's **Keith Webster** describes the mutual commitment to research discovery and smarter workflows that underpins this collaboration, and also outlines some of the ways in which academic libraries have changed; from their more dynamic use of space to the redeveloped tools and services made available to students and researchers looking to navigate the vast information landscape.*

At Carnegie Mellon University, we traditionally mark Library Lovers' Day through a number of events, but this year we added an extra celebration by announcing our development partnership with Digital Science. The connection between a university library and a technology company may not be immediately obvious, but we are both committed to helping the research community conduct their work in a smarter way in order to fuel discovery. In advance of the announcement, I recorded a podcast interview with Digital Science. Two questions in particular allowed me to touch briefly on some of the trends in academic libraries.

"When your average citizen thinks of a library they think of floors filled with shelves of books. How true is that statement today?"

Books and libraries have a long relationship, one that will continue well into the future, but I think that anyone who uses any type of library today will recognise the array of services, resources and technologies made available – makerspaces, gaming studios, collaboration spaces – alongside spaces for quiet and reflective study.

Sorrells Library, Carnegie Mellon University.

This changing use of the library's space points to the need to move on from the inseparable vision of books and libraries, and think about why someone makes use of the contemporary library. A student may simply be looking for a serious space for serious work. They know their needs can best be met in the library; after all, generations of students have come through our doors to work. We see two fundamental differences, though: firstly, the majority of today's students are not using libraries in a traditional sense. They pass by our collections and rarely interact with librarians. Secondly, the form of student work today is very different from the past. It often requires collaboration with other students, the creation of tangible objects using technology housed in the library, the pursuit of interdisciplinary debate, and all of that has to be accommodated alongside a continued demand for quiet study environments. Whilst some universities have been able to build or expand their libraries to meet these changing needs, others have moved collections to off-site stores to create an opportunity for versatile space allocation.

What librarians can certainly report is that their libraries are busier than ever. At CMU we've seen the number of visits double in the past decade. Meanwhile, for most disciplines, the researcher finds her information needs met entirely outside the library. Put crudely, the success of our online services has driven the researcher away. Of course, a scholar in the humanities might well find that their research questions are inspired and advanced by working with primary resources, including collections of books, archives, and manuscripts.

The key point is that we are operating in a hybrid environment, both in the use of information resources and in the use of library spaces: we must meet information needs from both print and digital sources; and we need to provide spaces that serve those who need a quiet space alongside those who need collaborative facilities.

"What will academic librarians of the future be tasked with doing?"

In the print-based environment, our users organised their workflows around the library because the information they accessed to keep up-to-date and to inform their research was housed inside our buildings. Today it's very different: users are able to meet their information needs outside the library and we need to redevelop our services so that we are interacting with and fitting into the user's workflow. We need to rethink our business model for the digital age and redesign our model of interaction with the research community.

Over the last twenty or so years we have seen a shift away from the library as a collection of information that is purchased and kept on shelves, towards a distributed global network of resources. This includes the online journal collections, e-books and digital archives produced by learned societies and commercial publishers; the freely available resources from repositories and digitised archives; and the large-scale, also freely available resources such as the Hathi Trust's digital collection and Google Books. That gives the end user, whether student or researcher, access to almost all relevant scholarly content online. That is a fantastic enhancement but at the same time it creates a very complex information network, and there's an important role for librarians to help navigate the information landscape. There are two major tasks ahead for our librarians: building pathfinders and guides to the increasingly overwhelming scholarly literature (something many librarians already do tremendously well), and partnering with technologists to strengthen the discovery tools available for scholarly research.

Having transformed the work of librarians, the digital world has also impacted all aspects of the research process. Today's students and researchers are interacting with information resources and web-based tools and technologies from the moment they have their initial idea, through planning their research, the experimental phase and fieldwork, to disseminating their findings and promoting reuse of their research outputs.

There's an increasing array of tools available to support these activities (see 101 Innovations in Scholarly Communication, for example) and many feel overwhelmed by the decisions around selection. Librarians' knowledge of the information landscape can be readily extended to guide people to the most appropriate information management tools. In doing so, we'll gain an awareness of which tools are being developed and used, and in turn become more readily able to design our services to interact with research workflows.

Finally, there's a real opportunity for librarians to help showcase research outputs, including publications and data

sets, consolidate and track the outcomes of research, and track and measure research activity. Whilst some of these services may appear new, they use the same foundational skills that have been at the heart of our professional practice for generations.

Through our new partnership with Digital Science, we are taking a major step in building the information infrastructure for one of the world's top research universities and, at the same time, reimagining the role of the library in the digital age.

Note: This article gives the views of the author, and not the position of the LSE Impact Blog, nor of the London School of Economics. Please review our comments policy *if you have any concerns on posting a comment below.*

About the author

Keith Webster is Dean of University Libraries and Director of Emerging and Integrative Media Initiatives at Carnegie Mellon University, ranked in the top 25 of the Times Higher's World University Rankings. Previously, Keith was Vice President and Director of Academic Relations and Strategy for John Wiley and Sons and before that held library Library Dean and Director roles at universities in Australia, New Zealand and the United Kingdom. Keith serves on the Board of Directors of the National Information Standards Organization and on the Publications Board of the Association of Computing Machinery.