EMPOWER expert pool: Knowledge Resources

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Innovative impact

Examples:

The case of the Open University of Cyprus (OUC)

[http://www.ouc.ac.cy]

The Open University of Cyprus (OUC), is the country's state university dedicated entirely to open and distance education. An Open University is a typical setup that requires learners and instructors to have digital skills for using the eLearning tools and enroll in distance learning programs of study. Learners of different ages and background choose to study a program of study. They do not have to be physically present at the University, but they have to learn how to use the eLearning tools available and more specifically the eClass eLearning Platform. To accomplish that, the eLearning team has prepared a special course (delivered online) using the same tools the learners use during their studies. Instructors are also enrolled in a similar course, for learning how to use the eLearning tools and services to maximize the learning possibilities of their classes and to help their students.

Moreover, learning analytics are available in all courses, for monitoring the learning process and detect possible

The 7 steps to support teaching, learning and research from Digital Libraries

Introduction

Libraries are well-positioned in order to work in cross-disciplinary teams in teaching and learning as well as in research landscape.

The new trends and significant challenges in education and the important developments in technology are drivers for developing and changing libraries. For instance, among others, the economic and political pressures, the evolving nature of the scholarly record and the research data management are examples of areas that are affected by this change.

The seven steps described in the following pages were selected by the authors after a thorough bibliography review, the application of previous professional knowledge and experience within the field of libraries and further discussion of the topic. These steps are intended to be a roadmap to accelerate the transformation of digital libraries aiming to support teaching, learning and research.

Seven Steps:

1) Increasing costs for access to academic journals make access to research data even harder for the smaller Institutions worldwide and restrict access to only the privileged few researchers. **Open access** and **Open resources** publishing models are a good solution to this problem and expand research accessibility. Even though this idea was introduced in earlier days, current status shows that we have not achieved a good level of adoption (NMC, 2017). Libraries should provide guidance to authors on how to publish under an open access model and promote the Open Access Repositories available. Moreover, libraries have another important role to play, in managing and promoting the distribution of **Open Data**. Libraries and information experts should aim in the release of Public Government data in a machine-readable format that allows digital citizens to consume them for promoting research, innovation and transparency.

2) One of the major assets of an academic institution is its educational content. Currently, a lot of it is delivered in an

problems.

Examples of current actions/projects that follow these steps:

o Open Access repository that holds Thesis & dissertations, publications, and cultural heritage artifacts

o Development of Open Data Portal (in progress)

o Integration of a Learning Analytics solution to monitor the learning process (early stages)

o Online training for instructors and learners to develop digital skills both for their studies and their careers

o Librarians offer remote personalized help to instructors for choosing suitable research material for delivering it to learners

o Integration of specialised tools to the eLearning Platform for importing bibliographical resources to each course and allowing easy search to the Library resources

o Promotion of Open Access publication models, in line with the European Union policy for research

o Focus on open technologies and open source tools that are expandable and adaptable to new modes of learning

electronic format and is constantly updated. The effort needed to create good educational material is huge and hence difficult for smaller institutions to absorb it. The use of **Open Educational Resources (OER)**, that is content for teaching, learning, and research resources available in the public domain or have been released under an intellectual property license that permits their free use and re-purposing by others, can be used as a potential solution for reducing costs. Libraries should guide instructors to use such content while preparing their courses and also promote Cross-Institution Collaboration for creating networks of open content.

3) The use of technology requires a digital skillset and practices that are crucial for success in the workplace and beyond. Academic institutions are responsible for developing students' **digital skills**, ensuring mastery of responsible and appropriate technology use, in blended and online learning settings and beyond. Libraries should provide the necessary frameworks and guidance for helping institutions assess current staff capabilities, identify areas that need improvement, and develop strategies to implement **digital literacy practices** (NMC, 2017)

4) Understanding how, when and where people learn is not an easy task. Today, we have the opportunity to use the vast amounts of data captured from online learning platforms using **Learning Analytics** that come with online learning for achieving this goal. Artificial Intelligence algorithms can be set up to predict a learner's future studying behaviour based on the historic activity. Libraries should be able to read these data and also train instructors to read and use them for setting up interventions (Kellam & Thompson, 2016) to support "at-risk" students and hence decrease dropout rates.

5) Pedagogical trends in higher education are decidedly more focused on the students and their learning activity. **Student-centred libraries** should offer flexible and adaptable resources to different study routes and particularities of each student ('**adaptive learning'**) and services for creating or providing richer and varied learning. More flexibility is needed in how, when, and where people learn in online environments. However, students not only want the flexibility to fit learning around their lifestyles; they also are interested in a personalised learning experience (OU, 2017). This need is not only related to the always-connected devices but also with different formats and types of resources which are not supposed to be for learning (games, films, gadgets, software, simulations, etc). The e-learning model ensures that information is not consumed in the same way and format neither at the same speed. Adapted learning resources encourage people to become self-directed learners.

o Cooperation's between other Institutions for offering joint degrees and sharing resources and expertise

The case of the Open University of Catalonia (UOC)

[http://www.uoc.edu]

UOC is an online university founded in 1995 with the mission to provide students with lifelong learning, personalization, and educational opportunities through a Student-Centered educational model. It is based on three main elements: accompaniment, collaboration and knowledge resources. The UOC virtual library is involved in two of these elements: as a provider and manager of learning resources and also for supporting teachers in their teaching action.

Some actions, in line with steps included in here, that UOC Library is already developing are:

o The participation in learning materials creation and electronic edition.

o Adaptive learning support service: different patron-driven acquisitions, such as contracts with films and games platforms, software licenses, agreements with cultural institutions in order to use their resources, etc.

o Online Teaching Support Services tailored for

6) In relation to the above, there are a series of identified innovation areas in education (Santos-Hermosa, Bacsich, Rodosthenous et al., 2016) that are directly related to the library field of expertise. Libraries should work with teachers, educational technologists and designers in order to strengthen these advancements; such as providing "alternative" environments outside the classroom ('**cross-learning**'). These are suitable for students seeking information and trusted sources, as well as some training in digital and literacy skills in order to move easily during their learning process. The physical or online library spaces would allow students to interact with other resources and colleagues in order to create their own context of learning (**context-based learning**').

7) Library services platforms (LSP) and Integrated Library systems (ILS) represent a new conceptual approach to library automation, online service delivery, electronic resources management and provision of information access. Online learning requires new approaches to content collection management and curation of **digital libraries**. Library automation systems have emerged in order to satisfy this claim but they are not enough for becoming digital libraries. The information technologies enable a technical interoperability of content but digital libraries also need an '**user-oriented interoperability**' (Papy & Dinet, 2016), in order to allow the adhesion of a public connected to very different information profiles and techniques where the questions of consultation interfaces and content description processes are crucial.

Conclusions

New trends in education and important developments in technology, including the area of Artificial Intelligence, make the need of Lifelong Learning more evident than ever before. People need to constantly educate themselves to keep up with the technology evolution and minimize the risk of unemployment (Frey & Osborne, 2015). The role of Libraries is crucial in this domain for informing and guiding learners and instructors. In addition, libraries should be willing to join to the continued development train, in terms of challenges related to big Data, online identity, the evolving nature of the Scholarly Record and the Research Data Management and new patrons in the creation of content.

educators throughout the whole teaching process: conceptualization and design of the courses, search and selection of specific learning resources, monitoring the use of them and Course assessment. http://biblioteca.uoc.edu/en/teaching

o Digital literacy training

o Open Access initiatives: Institutional repository management, Guidelines for the deposit of students' final works, Plans to boost the OERs created inside the institution, Open data projects, etc.

o Research Data Management and provision of a range of services: searching for bibliometric data and assessing the quality of scientific output, support for publication - retrieving quality indicators-, assistance with the ORCID registry, bibliographical reference management, etc

o Developing measures to increase the international impact and visibility of UOC R&I Open Acces Journals: http://www.infographicsshowroom.cat/uoc.html

References

Kellam, L. M., Thompson, K. (2016). Databrarianship : the academic data librarian in theory and practice. Association of College and Research Libraries. Retrieved from http://www.alastore.ala.org/detail.aspx?ID=11774

Papy, F., & Papy, F. (2016). Digital Libraries Retrieved from: https://doi.org/10.1016/B978-1-78548-045-4.50002-7

Santos-Hermosa, G; Bacsich, P., Rodosthenous, C et al. "Library's Knowledge Resources for students and teaching staff in digital universities from EADTU", Enhancing European Higher Education: Opportunities and impact of new modes of teaching. http://conference.eadtu.eu/images/Proceedings/Conference_proceedings_2016_defcompressed2.pdf

The New Media Consortium (NMC). (2017). Horizon Report 2017 Library Edition. Retrieved from http://cdn.nmc.org/media/2017-nmc-horizon-report-library-EN.pdf

The Open University (OU). (2016). Trends in Learning Report. Retrieved from:http://www.open.ac.uk/research/main/news/trends-learning-2016-report

Frey, C. B., & Osborne, M. A. (2015). The future of employment: How susceptible are jobs to computerisation? Technological Forecasting and Social Change, 114, 254–280. http://doi.org/10.1016/j.techfore.2016.08.019