

Enhancing the learning places by building digital repositories for sharing learning resources among the faculties in the higher education

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Abstract- Education and technological innovation are intrinsically interlinked. New ideas lead to digital transformation, which feeds back in turn to help us improve education systems. Together, education and technology can lead to holistic system level quality improvement and greater equity.

Higher education institutions are going through major changes in their education and operations. Several influences are driving these major changes. Digital transformation, online courses, digital-navy students, operational costs, and micro and nano degrees are just some examples of these influences. Digital technologies show a range of tools selected to include formalized learning environments in teaching in higher education, and students utilize these tools to promote their learning.

Index Terms- education, innovation, higher education, digital.

I. INTRODUCTION

As a brand-new aspect of higher education institutions that necessitates a digital advertising paradigm, the promotional extent is included in the digital transformation in higher education institutions.¹ The use of digital technologies to improve or replace current services with new ones, to streamline the processes involved in offering educational possibilities, and to lessen general uncertainty promotes the institution to reinvent itself.² The individuals engaged, the objectives that direct digital processes, the used methodologies, and the innovations that were used are all strictly related to the linkages developed in the digital transformation in higher education institutions after the information was analyzed.

The scope of using learning technologies is clearly increasing. With the expansion of technological possibilities in general, and the incorporation of web-based tools in particular, many teachers integrate applications and Open Educational Resources (OERs) in order to enrich their instructional material.

II. DIGITAL REPOSITORIES DEFINED

A digital repository is an online archive in which authors and academics can deposit their work, with the intention that it will be openly available in digital form. The term 'digital repository' may also be used to refer to the organization which is responsible for the long-term maintenance of digital resources and for making these resources available to the public or specified communities of users. A digital repository is a secure online database that houses digital versions of most authorized grades 4 to 12 student basic textbooks for language arts, mathematics, social studies and science. Individual publishers cooperated to make this digital repository a reality.

A digital repository:

- enables staff and other subscribers to have easy access to scholarly and research material generated by members of your institution;
- provides access to a range of materials at other institutions worldwide, where your repository forms part of a global system of interoperable repositories;
- provides stable, long term archiving of information and research output thereby preserving it for the future
- allows for information to be widely and quickly disseminated so that it achieves the highest impact (this can be contrasted with traditional publishing models which are based on restricting, through subscription prices, access to information);
- increases the academic reputation of your institution by demonstrating the quality and relevance of the research output produced by members of your institution and by increasing your institution's general visibility, which can translate into tangible benefits such as increased funding from both public and private sources; and
- facilitates greater citation of deposited articles, thereby increasing the profile of contributing authors.

¹ Zulfikar, M.W.; bin Hashim, A.I.; bin Ahmad Umri, H.U.; Dahlan, A.R.A. A business case for digital transformation of a Malaysian-Based University. In Proceedings of the 2018 International Conference on Information and Communication

Technology for the Muslim World (ICT4M), Kuala Lumpur, Malaysia, 23–25 July 2018; pp. 106–109. [Google Scholar]

² Grab, B.; Oлару, M.; Gavril, R. Self-managed teams as a key to unlocking digital transformation in business management. Qual.-Access Success **2019**, *20*, 280–286. [Google Scholar]

Open Educational Repositories or OERs offer a broad range of open and flexible learning opportunities, thereby facilitating informal and lifelong learning. OERs also yield strong social benefits, since they can bring learning opportunities to disadvantaged and excluded groups of learners. The sharing and use of OERs may result in increased efficiency and quality in the development of new materials, courses, or programs. OERs may also increase efficiency by reducing duplication and promoting inter institutional collaboration and sharing. Through this channel, high-quality learning resources are produced and shared at lower cost. Typically, OERs also drastically reduce the cost of accessing learning resources for students, teachers, and institutions.

Using, producing and sharing OERs may benefit individual learners, teachers, institutions, countries, and the global community at large. In fact, this practice can be seen as a systemic transformation in itself, since it affects all parts of the educational system.³ Many academic institutions including the world's leading universities offer open online courses to the general public, containing learning materials, recorded lessons conducted on campus, quizzes, lectures, transcripts, and other materials (Open Courseware: OCW). These materials are uploaded to various platforms. The use of these platforms enables viewing and engaging in the courses anywhere, anytime.

The purpose of a digital repository is not only to store catalogued learning materials and distribute them, but also to allow sharing and reuse.⁴ Meta-data (data about data) is critical for such sharing and reuse. Meta data is descriptive information about the learning material. Therefore, it is essential that each element of learning material will have consistent meta-data fields.⁵

Many repositories are effectively created by their users and offer tools that enable users to publish their opinion and comments regarding the learning materials, whether by vote, frequency of use, or peer review. Using these tools, one may learn of an object's quality or receive other users' recommendations of the best ways to use materials. User involvement and exchange of information between learners creates a learning community that shares information of great value.⁶ These communities are created across borders and add a great deal of informal knowledge to formal information. The exchange of information and recommendations among participants increases the potential to benefit from others' knowledge. Moreover, the combination of different evaluated learning material offers the learner an effective, high-quality learning process. Community members' involvement in the repository environment increases the motivation to use the learning materials and to support the

community by passing on valuable informal knowledge to other users.⁷

Repositories are important for organizations in helping to manage and capture intellectual assets as a part of their information strategy. Repositories can provide linking to other repositories and can also provide machine process able data to support Higher Education institutions to address the challenges. There are a number of institutional repository initiatives underway within higher education.

Exploitation of educational-specific metadata in digital repositories particularly intended for educational purposes has the following benefits:

- Allows the characterization and categorization of learning resources based on widely accepted standards and specifications, thus further boosting interoperability between systems and applications
- Facilitates integration in more complex systems, where queries are not handled only by one repository
- Helps in preserving and disseminating learning objects of higher "quality", making them easily discoverable and reusable
- Contributes to the efficient management of the vast and continually increasing number of resources, which demand for a more precise and refined way for their characterization
- Allows the exploitation of educational metadata by learning specific tools and applications that are able to consume them after harvesting them through an appropriate metadata harvesting facility

Access in open education is the removal or lowering of economic, technological, geographical and institutional barriers which obstruct the doorway to knowledge. It grants permission to learners to engage with educational content, courses, programmes, communities of practice, networks and other types of knowledge sharing environments, media and activities in formal and non-formal education. It is also about enabling informal and independent learners to seek and get recognition of their learning.

III. CONCLUSION

Expanding access to information and knowledge is a core value of openness and a key enabler of formal and non-formal education. Consequently, it is one of the main goals of open education. In practice, from an educational institution's perspective, this broad conception of access can be promoted at

³ Hylén, J., Damme, D. V., Mulder, F., & D'Antoni, S. (2012). Open educational resources: Analysis of responses to the OECD country questionnaire. OECD education working papers, No. 76, OECD publishing.

⁴ Duncan, C. (2003). Digital repositories: e-Learning for everyone. Presented at eLearn International, 9–12 February, Edinburgh.

⁵ Shmueli, E., & Cohen, A. (2012). The usage of open educational resources in MAOR repository. The International Journal of Technology Enhanced Learning (IJTEL), 4(3), 284-298.

⁶ Monge, S., Ovelar, R., & Azpeitia, I. (2008). Repository 2.0: Social dynamics to support community building in learning object repositories. *Interdisciplinary Journal of E-Learning and Learning Object*, 4, 191-204. Retrieved from <http://www.ijello.org/Volume4/IJELLOv4p191-204Monge.pdf>

⁷ Shmueli, E., & Cohen, A. (2012). The usage of open educational resources in MAOR repository. *The International Journal of Technology Enhanced Learning (IJTEL)*, 4(3), 284-298.

three interrelated levels: access to programmes, access to courses, access to educational content (free of charge content or OER), and access to their related communities of practices and networks. This is inclusive of all applicable educational services offered by the institution, as well as access to teachers and other learners.⁸

Content in open education refers to materials for teaching and learning, and research outputs, which are free of charge and available to all. Content in open education encompasses texts of all sorts, textbooks, course materials, pictures, games, podcasts, video-lectures, software, data, research papers and outputs, and any other type of educational material that conveys information

and can be used for teaching and learning. It can be open licensed, in the public domain or copyrighted but still 'gratis' and accessible by everyone without restrictions. It consists of two types of content: open educational resources (OER) and free of charge content.

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⁸ AI dos Santos; JRC Publications Repository; Opening up Education - JRC Publications Repository; 2016, <https://publications.jrc.ec.europa.eu › jrc101436>