

A Tale of Two Countries

Digital Curation Education in Malta and New Zealand

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Abstract—This paper looks into the current tertiary and vocational offering in the domain of digital curation in two small countries, Malta and New Zealand. It illustrates how the specifics of local memory institutions and digital media sector influence the existing course, and identifies areas which can be improved. Particular emphasis in both countries needs to be placed on the vocational education and in-service training; in addition in Malta there is a need to develop a framework for the validation of the non-formal and informal learning in the domain of digital curation.

Keywords—Higher education, in-service training, validation of non-formal and informal learning.

I. INTRODUCTION

Small countries face particular challenges in attempting to deliver digital curation training and education. Resources and expertise are likely to be very limited, with perhaps just one or two individuals with the specialist skills required to teach in this area. Nevertheless, the need for learning opportunities are just as great as elsewhere in the world, and there is likely to be considerable interest and enthusiasm for training and education, both from new entrants to information management professions and established practitioners. If there are no local programmes prospective students may have no option but to try to gain their education overseas but this will only be feasible for very few. At the same time, when specialist digital curation positions become available employers may prefer to recruit from overseas, thus further denying development opportunities for the local workforce. From the training/education provider's perspectives the numbers of potential students, and potential job opportunities simply may not seem to justify the provision of specialist programmes. This paper reports on experiences in two small countries, Malta and New Zealand, to show approaches that have been successfully developed despite considerable resourcing constraints.

II. CURRENT PROVISION AND NEEDS IN DIGITAL CURATION EDUCATION IN MALTA AND NEW ZEALAND

The selection of the countries presented in this paper followed the natural interest and previous cooperation of the authors who work in the countries discussed. However, the choice of the cases is not only a matter of serendipity. Both countries are small and this signals the key problem, how countries with limited human resources respond to needs and new developments in digital curation. Do their memory institutions and other stakeholders taking care of digital data have the awareness in digital curation? Do they have the potential to develop solutions which match their needs? How is education responding to local needs—both in the cases of tertiary education, and vocational training? Which are the areas where most urgent action is needed and how much of it can be locally developed, and what would be better suited to happen in some form of international cooperation or eInfrastructure?

A. Malta

The population of Malta is about 400.000 people. It has a well-developed system of memory institutions. The Archives Act of 2005 [1] provided the necessary legislative framework for the Archives and records management in the country; however in particular the requirements to have qualified records managers in all governmental bodies are still not applied in real life practice.

This characterizes a situation where even the most basic records management is not implemented in places and this will have a further negative impact on the holdings of the National Archives when they receive records which are not prepared up to high professional standards.

Most specialists with a master's degree in archives and records management received their training abroad, with UK courses being most popular. The only University in Malta addresses the need in specialists in archives and records management on the lower higher education levels.

1) *Higher education: curation in infancy*

The tertiary education in the country addresses the need to increase professional skills in the domains of archives and records management in general. The University of Malta has offered courses on archives and records management (a diploma in archives and records management and a Bachelor in Library, Archives and Information Studies since 2007 [2] which had been discontinued in the last years and is now being restored. The decision to stop the course reflected a restructuring in the area of Library Information and Archive sciences—when the former division established in 1992-3 became a department in 2011. Since 2012 the departments also started offering for the first time in Malta a Master by research in Library Information and Archive Studies; this is a useful programme for motivated professionals but not particularly suited for the area of digital curation where practical skills are largely still to be introduced in Malta.

The Diploma in Archives and Records Management is currently undergoing a revision and will be re-launched in 2013-14. Among the discussion on the introduction of new subjects such as Records management, Audio-visual archiving, Personal archiving, one area which is considered for inclusion is digital curation. Having a module on digital curation within the archival and records management context would definitely need to address the specific needs of these institutions. The department has one staff member with expertise in digital preservation and curation – and contributed in 2012 to a highly acclaimed summer school on Access to Digital Archives (July 2012, Summer University at Central European University, Budapest) which is the basis for a specialised edited collection on issues around access to digital archives [3].

The local situation in Malta requires the promotion of awareness and basic knowledge in this domain. Currently most efforts of memory institutions are still concentrated on digitisation and digital asset management systems with preservation and curation not in focus.

Given this context, the digital curation course aims to establish the understanding of digital curation as an essential component from the digital objects' lifecycle, and to offer basic knowledge on preservation strategies, major standards, preservation functional entities and illustration of popular curation tools and services.

Examples from the EC-funded projects will be used widely during this new course, in order to provide also the necessary EC context, which is essential in the case of Malta.

2) *Specific curation needs*

One heritage area in Malta which attracts substantial attention not only in the memory institutions, but also through projects

implemented by non-governmental organisations and based on crowdsourcing [4], is the Maltese musical heritage. There are several initiatives which aim to gather and preserve historical musical records (M3P project as described by Toni Sant [4], and the work of A. Alamango on 'The Lost Voices' project [5].

Although these initiatives emphasize the need for preservation, it is understood merely as sustaining our access to historical records through digital surrogates. The sustainability of the digital objects still needs to be considered properly. The interest to this domain is illustrated by the fact that one of the first three Master by research students in Library Information and Archive studies is working on user engagement in the case of musical historical heritage and will touch upon the preservation issues.

Furthermore, the Department of Library Information and Archive Sciences also joined as an associated partner EUScreenXL, the continuation of the EUScreen project [6] funded by the European Commission as an associate member—a step which hopefully will increase the local expertise in the presentation and preservation of video and audio heritage.

Unfortunately, Malta is not part of eInfrastructure projects which could improve the local knowledge and competences, such as DARIAH or DCH-RP. One possible way to improve the current situation is to be more proactive towards such opportunities to be informed and to apply newly developed tools and services.

Another area which needs urgent attention is the one of data curation. While it emerges as a domain of training in its own right [7], it is still not addressed in either higher education or in-service training in Malta. Currently curation needs in Malta are dominated by the work done within memory institutions, but this definitely will need to be addressed in the near future.

3) *In greatest need: in-service training and validation of non-formal and informal learning in the area of curation*

While the higher education in Malta addressed the needs in proper introduction of curation content, aligned to the level of current needs in the country, the offers for in-service training and professional courses in the country are completely missing at the moment.

The Maltese Library and Information Association (MaLIA) offers talks and also short courses, but this domain is currently completely untouched. This illustrates that other domains of library and archive and record management practice are given priority and considered to be in need of urgent attention, part of them concern digital skills. However a systematic effort needs to

be made to also improve local awareness and skills related to curation.

This is also linked to an area which is only emerging in Malta, validation of non-formal and informal learning. It makes sense when developing programmes for in-service training to link them to subsequent validation of staff. This will help to consolidate efforts of different bodies—memory institutions and those which are authorized to validate skills and expertise.

B. New Zealand

New Zealand's relatively small population of about four million, coupled with its geographic isolation in the South Pacific are significant factors impacting on the provision of education. Numbers of potential students for specialist courses are low, and in today's economic climate courses that do not promise at least a return on investment are unlikely to come to fruition. This environment however encourages the development of innovative solutions to problems, and where there is a need as is the case of digital curation skills, there is the will to find ways to make things happen.

New Zealand has just one provider of information management education at postgraduate level, including archives and records management, the School of Information Management (SIM) at Victoria University of Wellington [8]. A course on managing digital collections which focused on digitization activities had been developed some years earlier. The existing masters qualification provided the opportunity for the development of a single 15 point unit of study on digital curation, which was offered for the first time in the third trimester of 2011. There was a keen interest from students in this new course, and importantly there was also a lot of enthusiasm from the New Zealand digital preservation community in Wellington. This community support was instrumental in the very successful initial offering.

New Zealand's capital city of Wellington is the centre for much of the ongoing digital curation activity in the country, not only taking place at the national library, archives and museum but also at other government departments such as the national statistics agency. Practitioners in these organisations were very keen to be involved in the new course, and their contributions ensured that the course content was very relevant to workplace concerns.

Delivery of the course was challenging as it had been decided at a much earlier stage to offer it as a condensed six-week course. A further complicating factor was that there were insufficient enrolments for the daytime face-to-face class, but over 30 students wanting to study at a distance, online. Online courses at SIM generally have an evening synchronous component, using

voice over Internet protocol, in conjunction with a supporting asynchronous learning management system (Blackboard).

These two factors meant that the course was delivered in double lecture sessions on six concurrent Monday evenings in the pre-Christmas period leading up to the Southern Hemisphere summer break – a difficult time to study and concentrate. So a key requirement was to make sure the content was engaging and stimulating.

The course was structured as follows:

- Session One: Issues and challenges; digital preservation strategies
- Session Two: International research projects; OAIS
- Session Three: Ingest and Storage
- Session Four: Administration, Data management and Access
- Session Five: Preservation planning and Evaluation
- Session Six: Alternatives to OAIS

For sessions one to five, one or more practitioners volunteered their time as guest speakers, talking about their experiences with the issues and challenges associated with the topic for that evening. Using the OAIS terminology provided the common language necessary to ensure that the practitioner guest speakers could easily focus on the areas required. At the same time, more practitioners were involved in the Blackboard environment. As such limited time was available, with no immediate possibilities apparent to offer further courses, it was important to make sure the problems associated with specialist areas were at least signalled. Consequently there were online discussion forums for questions and answers about the curation of digital audio-visual information and data, providing the opportunity for students to 'talk' directly to specialist digital archivists working in those areas.

The course was very successful indeed. Student feedback was extremely enthusiastic, with many positive and appreciative comments made about the involvement of practitioners. This community involvement had significant benefits. Firstly, students were exposed to a depth and breadth of specialist digital curation knowledge and experience that could not have been provided by a single instructor. Secondly, students and potential employers had the opportunity for relationship and network building across New Zealand. Thirdly, although offered in the context of a formal masters qualification, the course content was very firmly grounded in vocational realities.

III. DISCUSSION AND RECOMMENDATIONS

The presentation of the situation in both countries is summarized in the table below.

Criterion	Malta	New Zealand
Current offering of higher education courses	Yes, one module on Digital Curation within the DipARM course; one on-going Master by research project. Curation module is under development.	Yes, one course in the Masters of Information Studies, plus one pre-existing course on managing digital collections.
Type of provision in higher education courses featuring curation	Reactive, curation is currently introduced as a module in the DipARM course.	Proactive, aiming to capitalize on local strategies and expertise.
Current offering of in-service training	No	A 100 hour work placement is an option, but not specifically developed for digital curation.
Clear criteria for validation of non-formal and informal learning	No	Partly - New Zealand's library association has an accreditation programme for members.
Areas where interest exists but there is lack of expertise	Digitised musical heritage.	Audio-Visual archiving.
Areas completely unaddressed	Data curation.	Big data archiving.

TABLE I. COMPARISON BETWEEN DIGITAL CURATION EDUCATION PROVISION AND NEEDS IN MALTA AND NEW ZEALAND

One issue which needs to be addressed seriously in Malta is the need to make a step over the current 'reactive' type of offering to a more proactive scenario which is not only addressing local realities, but actively introduces existing best practices and technological solutions. Domain-wise, in Malta there is a clear need to do more about the education on data curation, which currently is *terra incognita* in both higher and in-service education.

On the basis of these two examples, we also looked into the possible priorities for future development and summarized it in a Roadmap (see Table II). We should note that Malta and New Zealand could tap into different external collaborations in order to develop further digital curation education. In the case of Malta the European Commission and projects implemented within it are

naturally to be considered; in the case of New Zealand the focus should be outwards, with the aim of attracting international students from the Asia Pacific region.

Timeframe	Malta	New Zealand
Short-term (1-2 years)	<ul style="list-style-type: none"> Join relevant EC eInfrastructures. Stabilise curation course in higher education. Introduce components of curation knowledge within in-service and vocational training programmes. 	<ul style="list-style-type: none"> Rationalise content coverage in 'digital' courses, and develop certificate programme. Market certificate to practitioners as post-experience programme. Develop work placement opportunities for students.
Medium-term (3-5 years)	<ul style="list-style-type: none"> Introduce validation of non-formal and informal training. Address needs in training on data curation. 	<ul style="list-style-type: none"> Continue to actively involve local digital curation community in provision of learning & identification of training needs.
Long-term (10 years)	<ul style="list-style-type: none"> Achieve a solid level of curation in institutions which currently work on digitisation of and access to cultural heritage. 	<ul style="list-style-type: none"> Develop a suite of courses which address a range of specialist requirements, and make available internationally.

TABLE II. ROADMAP FOR THE FUTURE DEVELOPMENT

It would be very helpful to compare to what extent the emerging priorities in digital curation training in Malta and New Zealand correspond to those in other countries, and how small teams can join forces to offer high quality training. For both countries a useful strategy will be to undertake a gap analysis of current training provision with the DigCurV Evaluation Framework [9]. This will be particularly useful in terms of assessing the extent to which the training needs of different potential audiences are being fulfilled.

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