

Skills for the Future:

Educational Opportunities for Digital Curation Professionals

Achim Osswald

Institute of Information Science
Cologne University of Applied Sciences
50968 Cologne, Germany
achim.osswald@fh-koeln.de

Abstract¹ - Several cultural heritage institutions all around the world have set up special services, trainings, courses or programs focusing on curation of digital material. Digital curation is a multifaceted task with a great variety of responsibilities, preconditions and objectives. For the first time in this field the DigCurV project offers a framework to locate competences and skills related to vocational education and training regarding digital curation processes. Referring to this framework should be a good starting point for differentiated educational activities focusing on special target groups, their educational background, the objectives of the digital curation process, and the material which has to be curated. Based on this, additional frameworks comprising these educational activities can be set up – still referring to the DigCurV framework partially or in total. This will offer the opportunity to compare educational activities regarding content and the results achieved.

Beside these efforts regarding content and concepts of digital curation education there is another ongoing challenge: getting people involved and making them eager to curate (their) digital material properly. The curation job is hardly glamorous or much admired. For the most part it is a service-oriented back office activity demanding functionality and perfection. For a long time, specialists will be needed – and will need qualified training – to meet these requirements. Increasing awareness of the need for digital curation by professionals and the public offers opportunities to get digital curation professionals and their skills involved even in everyone's working environment.

Keywords: *component; education; training; vocational; personal archiving*

I. INTRODUCTION

The title of this paper is deliberately left ambiguous: There are educational opportunities to be provided for and by digital curation professionals. The reason is quite easy to see: digital curation as a topic of educational activities is still in a stage far from maturity. Results from the DigCurV project have made obvious that there is a wide and still growing gap between the

various educational activities: On the one hand, there are still activities initiating and stimulating awareness of the digital curation challenge, on the other hand, there is a need for very specialized and sophisticated qualifications by those deeply involved in digital curation activities. Educational activities should and intent to serve both demands. Digital curation professionals and experts specialized in teaching and training are expected to work hand in hand to meet this challenge by vocational education and training. Results of the DigCurV project – especially the “Curriculum Framework for Digital Curation” – might be helpful points of reference during this effort.²

II. CHALLENGES OF EDUCATIONAL ACTIVITIES IN DIGITAL CURATION

A. *The need for vocational education and training*

The DigCurV surveys have documented and proofed what most of those involved in digital curation have seen as obvious: There is a very small group of institutions engaged in the management and long-term preservation of digital objects, nevertheless, they are growing in numbers. The more they immerse in the task the more specialization is required of their employees. Although training on the job is a very common way of qualifying employees the number of qualified persons is not sufficient. Exchange of experiences and ideas as well as specific, focused training in various tasks and competences are needed to reach the state of the art in digital curation. Furthermore, these specialists need to keep on improving their knowledge on methods and procedures. Until now, it seems that in the countries involved in and under focus by the DigCurV project this growing demand is served only partly. The situation varies from country to country but the overall picture seems that this specialized demand for qualification has not yet been met sufficiently.

While those already involved show a growing demand of qualification and training others seem to be far from being

¹ Paper presented at the international conference „Framing the digital curation curriculum” Florence, Italy 6 - 7 May 2013 with reference to the “Digital Curator Vocational Education Europe (DigCurV) Project” (<http://www.digcur-education.org/eng/International-Conference>).

² DigCurV and the Curriculum Framework - see <http://www.digcurv.gla.ac.uk/> - itself is referring to a set of other concepts and analyses of qualification for digital curation issues, e.g. the Matrix of Digital Curation Knowledge and Competencies (June 17, 2009 (version 13), see <http://www.ils.unc.edu/digccurr/digccurr-matrix.html> or the findings of DPOE (Digital Preservation Outreach & Education, see <http://digitalpreservation.gov/education/>).

aware that they are supposed to get into the digital curation business at all. Some of them may feel disturbed when they think about the durability and accessibility of the digital material they have in their custody. But a lot of them really do not know how to start the digital curation task properly.

Therefore the need for digital curation professionals regarding vocational training activities stretches from seeding awareness up to high-end topics regarding the state of the art in digital curation activities.

The number of persons involved in education and training has not increased very much in recent years. In addition, the digital curation topic has become more and more differentiated by research results and objects to be curated. In this respect there are a lot of opportunities for digital curation professionals.

B. Looking back on educational activities in digital curation

About ten years ago when some of us started providing education and training in digital curation the situation was quite easier: It all was about raising awareness of the problem of digital curation (and it does not matter if we have called it digital curation, digital archiving, long-term preservation or if we have used other terms). We were pioneers in a field when the knowledge on the topic was less differentiated. Therefore, nearly everyone interested and participating in international discussions on the topic could get involved. Education and training was provided as a cooperative effort of experts with practical experience and teaching experts to which training events were a kind of vocational training as well.

Although there was wide involvement of digital curation experts in education and training the demand for digital curation qualification increased. This and some other factors have changed the situation: with research processes becoming more complex enthusiasm for side activities fades. And last but not least progress of research and the resulting huge number of publications in the field of digital curation make it difficult to keep pace with the developments. While some of us still give introductory courses, a few others are focusing on special areas such as special material, methods or processes. Altogether, there is just a core group of persons available for training events and vocational courses. Therefore, the number of colleagues to meet the demand for specialized courses is not sufficient. This is the picture in Germany and it seems to be alike in other countries – at least in those where English is not the first language.

Most vocational trainings are provided in national languages. Therefore, localizing the state-of-the-art knowledge has been a major task for some of us in recent years. Organizational structures and the involvement of major players vary from country to country. This has to be observed when concepts and ideas are going to be taught and implemented on a national or regional level. Localization is a time-consuming task and occupies especially those of us who are not from English-speaking countries. A German example of these activities is the “nestor-Handbuch” (“Eine kleine Enzyklopädie

der digitalen Langzeitarchivierung”)³ [1], a cooperative state-of-the-art overview on basics and developments in the field of digital curation. The latest edition published on paper in 2009 is still a cash cow for the publisher although an updated online edition (2010; edition 2.3) is available open access under a CC license. Online access rates indicate (at least for Germany) that there is still demand for introductory information on the topic of digital curation in national languages. Most colleagues working in the heritage sector in libraries, archives and museums are reached by these activities in their first language.

Meanwhile there is a great variation of introductory material available regarding issues of curation and preservation of digital objects. Most of it is in English by which the largest audience is reached. Nearly everybody of us has seen and heard e.g. the adventures of “Team Digital Preservation” created by Digital Preservation Europe, a cooperative European Community financed network and project. At first sight this way of raising awareness of the challenges of digital curation seems to be much more attractive and convincing than videos of presentations at tutorials and workshops which are available online.⁴ Yet, these workshop recordings are helpful because they address another audience and provide much more insight into the relevant issues than those comic-like short videos of “Team Digital Preservation”.

Some of us have spent a lot of effort for many years – and still do – in creating online tutorials on various aspects of digital curation. The first and most famous one seems to be the “Digital Preservation Management: Implementing Short-term Strategies for Long-term Problems” tutorial realized by Cornell University 2003-2007. Available in three languages (English, Italian and Spanish) it has reached a large audience worldwide. We have used it within the courses of my university and at other occasions – until the nestor-based network of colleagues of German-speaking universities started in 2007 a moodle-based set of online tutorials.⁵ These tutorials are updated frequently and used by up to 300 students of different universities every year because some of us use them within the courses we teach. It is still under discussion whether this material can be made available to the public or should be kept accessible for a closed community only.

C. Updating and customizing teaching and training material

The teaching and training material available is adapted to special audiences and their needs and uses different didactic approaches and media channels. Because most of this material has been produced in a project context, it is rarely updated when projects have ended. Communication channels such as

³ The first digital version of the “nestor-Handbuch” was published in June 2008 under a CC licence. Its current edition 2.3 is available under urn:nbn:de:0008-2010071949. For details on the publishing history of the “nestor-Handbuch” see <http://nestor.sub.uni-goettingen.de/handbuch/artikel.php?id=0>.

⁴ See e.g. the DPE Digital preservation video training course from October 2013 at <http://www.digitalpreservationeurope.eu/video-training/prague-2008/?media=28>.

⁵ For more information see e.g. http://nestor.sub.uni-goettingen.de/education/nestor_e-Tutorials.pdf or [2] and [3].

wikis or blogs seem to offer fancy new opportunities of community-generated content. As a result new applications are popping up once for a while – and diminish. Over and above competition between universities and their educational activities sometimes at least complicates cooperative and collaborative activities in creating and updating course material.

However, students and participants of vocational trainings expect updated content in a state-of-the-art context. This requires ongoing efforts regarding content and its presentation for all of us in the education and training business – whether we offer introductory courses or not.

Sustainability and reusability of specialized course material seem to be another problem because there is so much research and other activities providing updated and new results. The more developed and advanced the topics are the more effort is needed to edit them for educational activities. Additionally, the pre-knowledge of the audience is often very varied and sometimes even unclear. This is one of the great challenges of vocational education and training especially in a small community like the digital curation scene. Nevertheless, most participants expect the presentation of customized material and solutions free of charge.

D. Differentiation and improvements

Participants of vocational education and trainings – like those of other educational activities – expect settled know-how and a good combination of theoretical/methodological knowledge and hands-on training. Projects like DigCurV and successional projects to be set up will offer not only a framework for this but can also stimulate agreements on specific content of educational activities. Beyond the basic framework provided and presented by DigCurV⁶ there is a need for qualification frameworks regarding the curation of specific objects like research data, databases, websites, multimedia objects, etc. Courses, school events and trainings on these topics already provided might be a good starting point for this. Such activities will continue to contribute to the development and a professional approach to the whole issue. In recent years some encouraging developments have been identified within the academic sector by setting up courses and Master curricula in the field of digital curation/preservation. With regard to vocational training, however, there is still a great lack of professional approaches. Therefore, ongoing efforts of developing baseline recommendations for special digital objects like DigCurV or the general topic are needed.

III. DIGITAL CURATION PROFESSIONALS AND THE LABOR MARKET

The professional approach might contribute to the basic issue of all these educational activities: It is still quite difficult to hire digital curation professionals because so far the numbers of digital curation professionals on the labor market is rather

small. There are only a few already specialized experts – most of them involved in project activities. The image of digital curation as a difficult and long term activity contributes to the problem. Indeed, the curation job is hardly a glamorous or admired one. For the most part it is a service-oriented back office activity with high requirements concerning functionality and perfection. The thrill of being part of a new challenge will get contained when these members of support staff do not get much appreciation. While most of the jobs are offered in the public sector, salaries are better in the private sector. In addition, IT-related careers in other contexts distract digital curation professionals to other jobs.

While general preconditions are not very appealing (at least for the public sector) we expect new colleagues to offer a great set of experiences and skills, e.g. in project management. They “need to keep up with emerging trends of digital scholarship, including electronic publishing, digital preservation, and data mining ...” [4]. Practical skills and technical skills combined with liaison and instruction skills are expected and should be related to “domain knowledge on the types of resources or data being managed.” [4] It seems that employers are looking for professional allrounders like a Swiss army knife – but are not willing or may not be able – to pay salaries which attract such professionals. It remains to be seen whether digital curation-related BA programs at universities will manage to qualify these additional experts. It is most likely that the labor market problem will not be solved in the near future. As a consequence, this will limit the further development of digital curation activities.

Yet, there is hope: If institutions realize how much they rely on services and know-how of digital curation professionals they might change their offers and perhaps will provide better career options. And if we as professionals can set up educational standards and develop adequate vocational trainings the reputation (and – hopefully little by little – salaries) of digital curation professionals will catch up as well. Frameworks like DigCurV and certified educational measures will support this development.

IV. AREAS OF EDUCATIONAL ACTIVITIES IN DIGITAL CURATION

Since librarians, archivists and colleagues from museums and the IT sector have been offering educational concepts on digital curation a differentiation in activities can be detected. There are at least three overlapping areas of action:

- At the beginning the topic was new to nearly everybody of us. We collected information regarding to whole scope of curation, preservation and archiving activities. During this phase activities on initiating and spreading out awareness were dominant. After defining areas of needs and actions introductory presentations, lessons and courses were set up mostly in cooperation with curation experts of memory organizations.
- In a second phase, another area of action emerged from projects focusing on digital curation education at universities. Digital curation became part of or the

⁶ See the presentations during the conference “Framing the digital curation curriculum” and the results made available at the DigCurV website <http://www.digcur-education.org>.

major topic of the content of university programs. Concepts like specialization within existing undergraduate programs, new BA programs integrating digital curation topics, or specialized post-graduate courses/programs by a single university or in cooperation with others have been set up.⁷

- Meanwhile, the third area of action becomes more and more relevant: vocational education and training of working professionals (of memory organizations and other organizations with needs in the digital curation business). These activities overlap with some of the others already mentioned. Nevertheless, it has always been clear that vocational education and training need a special didactic approach tailored to the pre-knowledge of the audiences. In the long run, vocational education and training could be the major educational opportunity by and for digital curation professionals.

Today we have set up different approaches for different audiences regarding content and teaching. We refer to a whole set of preconditions like different experiences, different knowledge and different learning styles. DigCurV shows that this is the road to success for vocational training whether it is designed as advanced training or curriculum-based further education. We need this success because vocational education and training will become increasingly relevant to our aging staff at heritage organizations. Setting up a European project like DigCurV and a conference discussing developments in this sector indicate the importance of both, the topic and the audience in relation to the topic.

V. POPULARIZATION OF DIGITAL CURATION KNOWLEDGE

Beyond all these qualification activities for staff members in the heritage sector there is an audience which we should keep in mind when we think about curation and preservation of digital objects: It is the population of our communities and states, our colleagues and family members and – last but not least – ourselves. We have to be aware that curation and preservation of the material we deal with in our professional working environment and especially in the heritage sector is only a small portion of the digital material out there.

Addressing our population and raising awareness of dealing with digital objects is a challenge which seems to go far beyond our staff capacities. Nevertheless, we should keep an eye on it because the so-called personal archiving will become an important part of digital curation. The personal archiving activities of the Library of Congress are an outstanding example of efforts in this field.⁸ Conferences like “Personal Digital Archiving 2013”⁹ indicate the dimensions of this topic. Until now, this topic has not received the attraction it deserves. It offers the chance for heritage institutions to renew and strengthen their position as social institutions. Public libraries might take this chance because they already have a very strong

impact on social life in our communities. However, the concept applies to academic libraries and their clients as well because there is a strong connection to curation and preservation of research data in humanities and sciences. As we all know, this is quite a hot topic in academics and the curation discussion these days.¹⁰

Commercial service providers and software companies already try to take their chances and offer features such as software and special services which help us to address and solve the archiving issue. It is most likely that cloud-based archiving services, some of which are already available on the market, will increase in numbers and scope very quickly. Yet, from a professional point of view these activities cover a small part of the curation and preservation needs only.

Therefore, it should be our mission to make people aware that there are several risks in leaving or perhaps sharing their personal or family-related records, pictures and other material with commercial archiving organizations. Nevertheless, for some people the issue of protecting their data privacy might have a different significance than for most of us. Whatever attitude to this topic people might have they will expect advice from us as digital curation professionals when there are discussions about solutions to the digital curation and archiving issue.

There is still hope that we will be able to contribute to a development where everybody is aware of the need to curate and where everybody will know how to curate and preserve objects from her/his digital environment properly. It is up to us as digital curation professionals to support this development. And we should not miss this chance. Massive Open Online Courses (MOOC) are an interesting option to provide such kind of information.

Vocational education and training regarding this task might be addressed in a future conference. From my point of view it is an educational opportunity for digital curation professionals to be put into focus.

VI. SUMMING UP

During the last ten years, education and training of digital curation professionals has improved quite a lot. Awareness programs have been realized and academic programs (graduate and postgraduate) have been set up or will start during the coming years. An extensive need for customized vocational education and training has been identified.

Until now, the skills of digital curation professionals demanded in job advertisements are extensive but not very much differentiated. This might change when the labor market improves and job advertisements will be more specific.

It is much likely that from the public sector’s point of view the gap in the labor market will grow in the years to come: It is most likely that the number of specialists graduating from

⁷ See e.g. <http://digitalcurationexchange.org/taxonomy/term/368>.

⁸ See <http://www.digitalpreservation.gov/personalarchiving/> for details.

⁹ See <http://mith.umd.edu/pda2013/schedule/> for details.

¹⁰ Clifford Lynch has addressed that issue lately. See [5], 577: “helping individuals preserve their own content and ultimately to contribute to the overall cultural record in new and different ways and roles.”

universities will not meet the demand of the labor market because graduates will take jobs outside the public sector due to better salaries and career options.

At least for some years the best way to get qualified staff for digital curation tasks especially in the public sector will be by vocational education and training. Digital curation professionals should take this educational opportunity as participants and teaching experts.

VII. REFERENCES

- [1] Neuroth, H.; Osswald, A., Scheffel, R.; Strathmann, S.; Huth, K. (Eds.), *nestor-Handbuch: Eine kleine Enzyklopädie der digitalen Langzeitarchivierung*, Edition 2.3, 2010, urn:nbn:de:0008-2010071949.

- [2] Osswald, A.; Scheffel, R., Neuroth, H., *Qualifizierung im Themenbereich „Langzeitarchivierung digitaler Objekte“*. Edition 2.3, urn:nbn:de:0008-20100617364, in: [1], pp. 19:1-19:20
- [3] Osswald, A.; Otto, D.; Stettler, N., *Qualitätssicherungsstrategie für kooperativ erstellte E-Learning-Kurse: Entwicklung einer iterativen Strategie am Beispiel der nestor-initiierten E-Tutorials zum Thema Langzeitarchivierung digitaler Objekte*, in: Kuhlen, R. (Ed): *Information: Droge, Ware oder Commons? Wertschöpfungs- und Transformationsprozesse auf den Informationsmärkten (Schriften zur Informationswissenschaft ; 50)*, Verlag Werner Hülsbusch, Boizenburg, 2009, pp. 415-428.
- [4] Kim, J., Warga, E., Moen, W., *Digital curation in the academic library job market*, ASIST 2012, October 28-31, 2012, Baltimore, MD, USA.
- [5] Lynch, C., Greifeneder, E., Seadle, M., *Interaction between libraries and technology over the past 30 years. An interview with Clifford Lynch* 23.06.2012, in: *Library Hi Tech*, vol. 30, no. 4, 2012, pp. 565-578.