The ICA-SAE Conference Papers

Innovation and Engagement in Archival Education

3rd Asia Pacific Conference on Archival Education

Renmin University, China
23 – 24 October 2013

International Council on Archives (ICA)
Section on Archival Education and Training (SAE)

International Council on Archives

OCTOBER 2014 VOLUME 1 NUMBER 1

The ICA-SAE Conference Papers

The *ICA-SAE Conference Papers* is a publication of the International Council on Archives - Section on Archival Education and Training (ICA-SAE). Following presentation at the Section's annual regional conferences, articles in this international periodical undergo peer review prior to publication. The *ICA-SAE Conference Papers* is released yearly and is freely downloadable at the ICA-SAE website.

Any editorial correspondence should be directed to Dr. Ricardo L. Punzalan, Editor-in-Chief, *ICA-SAE Conference Papers*, University of Maryland, College Park, 4117-J Hornabake Building, South Wing, College Park, MD 20742. Telephone: +1 (301) 405-65-18; Fax: +1 (301) 314-91-45; Email: punzalan@umd.edu.

The ICA-SAE Conference Papers

October 2014
Volume 1
Number 1

Contents

INTRODUCTION

It is with great excitement that we present the inaugural issue of the *ICA-SAE Conference Papers*. This publication marks the creation of a much needed, yet previously lacking, venue for publishing peer-reviewed international conference proceedings for the archival education community. This is an auspicious occasion for the world of information and preservation in general, and the archival field in particular. For ICA-SAE, this is a realization of a goal that has been brewing for many years. This volume is testament to the dedication and commitment of numerous individuals from across the globe that over the years served in the Section's steering committee.

The articles published in this issue were all presented at the 3rd Asia Pacific Conference on Archival Education held at Renmin University, China, from October 23 to 24, 2013. Consistent with the conference theme, *Innovation and Engagement in Archival Education*, the papers selected for publication are themselves contributing to archival innovation being part of this inaugural issue.

In the pages of this publication, readers will encounter diverse regional and national perspectives as well as varied approaches to methodological and technical concerns in international archival education. Karen Anderson, Jeannette A. Bastian, and Andrew Flinn's paper, "Mapping international core archives curriculum" examines archival education programs at three notable institutions, underscoring progress in exchanges and collaboration among archival educators. Giovanni Michetti's work discusses the adoption of the European Qualifications Framework (EQF) in archival education by focusing on the development of a national standard for Italy. Finally, Anna Sobczak provides an overview of a laboratory-based training for archivists. The papers in this volume truly represent the range and breadth of issues addressed by ICA-SAE.

The success of this publication largely relies on the expertise and generous commitments of many volunteers. The Editorial Board of the *ICA-SAE Conference Papers* wishes to thank, in particular, the anonymous referees who generously agreed to serve as peer reviewers. We cannot express enough our deep appreciation.

Finally, we wish to dedicate this issue to Terry Cook, a true pillar and inspiration in archival education, whose passing this year was a great loss for the archives community.

Ricardo L. Punzalan, Karen Anderson, and Kelvin White

Mapping international core archives curriculum

Karen Anderson* • Jeannette A. Bastian** • Andrew Flinn***

ABSTRACT

This paper explores the possibilities for international common core curricula across archival education programs. Three universities' existing but independently developed curricula are analyzed to identify common core content. The development of the programs over time is also described noting some of the influences that have contributed to the current content of the three programs. A survey of the views of archival educators on the possibilities and the barriers to developing and sharing courses internationally was also conducted. Some attempts to cooperatively develop shared courses across international borders are also described; demonstrating that collaboration between archival educators is in progress.

Keywords Archival education • Curriculum research • Professional education • Masters programs • International cooperation

Prologue

This paper arose from discussions among the three authors from three different archival education programs about developing a joint course on international archives that would present a range of national traditions, policies, and approaches to managing and preserving archives, together with the cultural and legislative frameworks that have shaped those traditions. Our discussions led us to consider what archival education programs across the globe might have in common as a first step towards imagining what an international archival education might look like. As representatives of our three archival programs, we have been working together and discussing archival issues for several years and the idea of trying to capture what we hold in common, and where that might lead took shape. The gathering of international archival educators at the 3rd Asia-Pacific SAE Conference on Archival Education in Beijing offered an opportunity to further explore our ideas with our colleagues.

*Mid-Sweden University
Email: karen.anderson@miun.se

** Simmons College
Email: bastian@simmons.edu

*** University College London
Email: a.flinn@ucl.ac.uk

ICA-SAE Conference Papers, vol. 1, no. 1, pp. 1-18
Published Online: 12 October 2014

Introduction

A presentation at the DLM Forum[1] in 2005 suggested that, "archival education must adapt professionals to changes, but also be an agent of change itself" (Guercio 2005, 1). The presenter, Maria Guercio, laid out a case for international archival education within the context of rapidly evolving digital innovation, of increasing multi-disciplinarity and of the subsequent need to develop universally accepted standards and policies. The new competencies required for managing records and data were not confined to any one nation, she argued, but spanned the world. She noted that, "the records systems, characterized for the last two centuries by a systematic knowledge, stable methodologies and well-developed tools are today at the center of a general transformation which requires at any level the existence of specific, frequently updated and more variegate skills" (Guercio 2005, 3).

Addressing a different information audience a year earlier, the director of a midwestern United States Library and Information school named 'globalization' as one of three critical competencies for information professionals in the twenty-first century. By globalization he meant both an awareness of the inter-connectedness of nations and peoples as well as an understanding of "the vast differences in cultural and economic realities" (Elmborg 2008, 499). Globalization offers a dual vision that includes appreciation of distinct communities and cultures on the one hand and recognition of their interrelationships on the other. The director further suggested combining globalization with his other two competencies, technology and critical thinking, into "one coherent vision – a whole vision of what it means to work as an information professional in the 21st century" (Elmborg 2008, 504).

A 'coherent vision', with globalization and technology at its center, combined with the increasing evolving and interconnected nature of record making and keeping across national borders suggests the need for an archival educational paradigm that both recognizes and speaks to national and cultural differences and acknowledges and fosters areas of shared international interests. Archivists must learn to negotiate, function and interact between two parallel paths, one documenting the culturally and nationally specific, the other operating within a universal technological environment where records and data are created across cultures and nations, time and space.

It was the recognition of these parallel paths that initially inspired three archives and records programs in information science schools in three different countries to come together around their own converging interests in the feasibility of international archival education. Their experiences, while still in the formative stages, suggested a wider examination of this issue. This paper is a preliminary investigation into the viability of an international archival education, exploring both the advantages and the disadvantages as well as the potentials for synergy. It explores this synergy through three different but related lenses: analyzing responses to a questionnaire given to participants in a 2013 ICA/SAE conference presentation as well as 'on-the-spot' responses to the presentation itself; mapping the curriculum of all three programs to gain insights into those topics that can be internationalized and those that are more localized; and utilizing an example of a syllabi developed and to be piloted and delivered online jointly by faculty in two of the three different programs in two different countries.

[1] The acronym "DLM" stands for "Document Lifecyle Management". See http://www.dlmforum.eu/

International Archival Education: A Review of the Literature

Conceptualizing international archival education suggests a whole range of potential educational combinations and scenarios requiring varying degrees of joint participation. One instructor may offer an online course to students across multiple programs and venues; students in a program in one country may join a class at a program in another. Students in separate program work together and collaborate in virtual spaces, or students from different programs in different countries attend jointly held online classes around a common topic taught simultaneously by instructors from each program. These are only a few of the possibilities. There are as many options as creativity and technological ingenuity can imagine.

The subject matter for international archival pedagogy could range from creating new cultural and social awareness, to imagining universal archival theory and practice, to understanding archives in a global context, to exploring universal issues such as ethics and social justice, to joining together to examine international standards and policies. But despite the many global issues and the universality of the archival endeavor itself and despite the increasing interest in archival education as manifested in numerous conferences and presentations over the past two decades, an international archival education has not yet developed.

This could be due to a number of reasons. From the burgeoning literature on archival education it is clear that many nations are focused on getting their own educational houses in order (Lybeck 2003; Eastwood 2000). Academic institutions in many countries are often tied to the state in some way and while this offers opportunities for standardization within countries it also mandates that educating to internal archival practices will, of necessity, predominate. In addition, the growing literature from developing countries indicates that they are seeking to establish archival education that speaks directly to their own local needs (Gathegi and Mwathi 2007; Wamukoya and Kemoni 2001). And while differences in archival evolution in countries across the globe suggest that an international and internationally delivered archival education might greatly benefit small under-resourced countries, there is also the concern that this advantage may be counterbalanced by a vital loss of cultural specificity. At the same time, there has been recent movement among the archival educators community to push back against traditional Western archival antecedents and to cast archival education in a more multi- cultural and diverse light, an approach that might address these cultural concerns (Gilliland and White 2010).

Literature on archival education has proliferated in the professional journals over the past two decades concurrently with the development of archival education programs themselves. While the existence of education committees such as SAE within the International Council on Archives would suggest a focus on international education, the literature tends to divide into several more localized categories: discussions of specific programs (Jimerson 2001); discussions of national trends generally including programs at several institutions (Katuu 2009; Johare 2006); survey articles where the discussion is on a particular archives or records topic and where and how it is being taught in a variety of venues, and more generalized discussions of educational needs and trends (Menne-Haritz 2000; Bastian and Yakel 2006).

Although the bulk of the literature considers archival education by country or region, there are indications that international education concerns have been gradually coming into sharper focus over the past decade. Anne Gilliland and her co-authors have written a series of articles on their research into the cultural aspects of archival education. In "Pluralizing the Archival Paradigm: Can Archival Education in Pacific Rim Communities Address the Challenge?," they explore archival education within the

context of the diverse indigenous and minority communities of the Pacific Rim nations suggesting, "a need to develop and deliver culturally sensitive and responsive archival curricula and associated pedagogy inclusive of local and Indigenous knowledge and practices," and one that is also integrated into a paradigm for archival education broadly (Gilliland et al. 2008, 87). In "A global search for universal models of education and training in electronic records management," Rusnah Johare (2007) surveys the records management education programs in Europe and the United Kingdom, analyzing the elements of these programs and exploring how these techniques and strategies can be applied in developing countries.

From a more interdisciplinary perspective, Fernanda Ribiero in "An Integrated Perspective for Professional Education in Libraries, Archives and Museums: A New Paradigm, a New Training Model" (2007) suggests an educational approach that integrates archives, libraries and museums. She writes that "the new information age has given rise to a recent perspective that understands archivistics, librarianship and, in some aspects, museology, as applied disciplines in the area of information science," (Ribiero 2007, 116) noting that this transdisciplinary model has significant implications for education in each of these three areas.

The literature suggests not only a continuing concern with archival education on a national level, but also an increased focus on the international level. In fact it seems to indicate a natural progression, one that was reinforced throughout this entire investigation.

Research Methodology

The authors chose to approach the broad issue of international archival education from three perspectives, each of which might offer different types of insight. A short questionnaire would elicit direct responses to basic questions about the viability as well as the need for international archival education. The mapping of core archives and records courses from different institutions would expose commonalities and differences in course offerings as well as indicating different emphasis and understanding of core archival knowledge. A practical example of a possible course jointly designed and delivered by two institutions in two different countries would illustrate how such an education might be implemented.[2]

The questionnaire, administered to the participants in the SAE Beijing conference, posed four questions: 1. What do you consider to be the 'core content' for an archival education program? 2. Do you think that identifying 'core content' internationally across archival programs is even a goal to work towards? Why or why not? 3. Do you think there is a potential for an online international archives program? What do you see as the obstacles? 4. Do you think there is a need – now or in the future for archivists and records managers with a more developed awareness of and focus on the international dimensions of archival theory and practice? If so, what new skills or education might they need?

The mapping utilized the core curriculums of the archives and records programs at Mid-Sweden University, University College London and Simmons. The joint course in international archives is currently being designed by faculty at UCL and Simmons for online delivery in Spring 2015.

[2] Program scheduling in the third school prevented its inclusion at this time.

Research Perspective: Questionnaire

The questions were introduced as a component of the presentation of this project at the 2013 SAE Beijing Conference. Responses were solicited at the presentation and were also requested through a questionnaire sent to all participants immediately after the conference. In addition to the discussions recorded at the conference, seven respondents returned the questionnaire. The authors recognize that such a small sample can only be indicative of possible trends and is not necessarily representative of the larger body of archival educators. However, it is important to note that each respondent is an archival educator from a different country where they either direct an archival program or represent it on this ICA/SAE committee. They therefore bring significant expertise and experience to these issues. The following analysis of responses draws both from the questionnaires and from significant feedback from the presentation.

Question #1. What do you consider to be the 'core content' for an archival education program?

Respondents all agreed that an understanding of archival theory and history along with the traditional archival activities – appraisal, arrangement and description, records management, preservation, reference, outreach – was essential, as was electronic record-keeping. But they also added a variety of other knowledge areas. Several identified cross-cultural awareness and an understanding of records issues within a global context. Technology and digital skills were crucial. Diplomatics and paleography were also considered important knowledge areas, particularly by European respondents.

Several responses indicate a lack of distinction between archives and active records in Europe, suggesting that keeping Archives and Records Management together would be necessary in a global curriculum. Responses from Italy and China highlighted how these countries feel that they are differentiated from others, and support much of the literature that suggests countries highly value their own perspectives. Responses from China in particular describe an education that begins earlier, demands practical management and analysis experience and also has a corporate focus.

Question #2. Do you think that identifying 'core content' internationally across archival programs is even a goal to work towards? Why or why not?

All respondents agreed that identifying core content across programs was a worthwhile and reasonable goal, one respondent even pointing out that this was compliant with EU standards that called for creating a "common marketplace and educational space."

They also felt strongly that context, specifically cultural context and consideration for local conditions was essential and that, "any such educational program should be supplemented by knowledge related more specifically to the country in which archivists are supposed to work." One respondent wrote that, "I notice that often in international meetings, people from different professional traditions speak past each other." Core content would help to develop an understanding of what archivists share in common and help towards creating a common understanding of basic archival terms and concepts. It was even suggested that identifying core content would help educational programs overall since even within programs it was difficult to find agreement.

Most responses also seem to agree that harmonization should be a goal because of benefits like common vocabulary, common understanding of core activities, and the overcoming of ethnocentric attitudes. Some suggested that archives, by necessity, need to

follow business and government in making the world smaller and more connected. By stressing the importance of local culture and context, respondents opened up a potentially challenging educational issue, whether, on the one hand, to limit a core international curriculum to subjects without controversy and thus avoid cultural clashes, or on the other hand to make efforts to address all controversies and embrace cultural diversity.

Question #3. Do you think there is a potential for an online international archives program? What do you see as the obstacles?

Respondents all agreed that there was 'enormous' potential for an online international archives program. Sharing expertise across programs was seen as a huge plus. As one respondent commented, "to be able to focus on one's own expertise and call up the expertise of others rather than having to (poorly) re-invent it, frees up the space for innovation and development of new curriculum." In addition, online availability could significantly increase educational options from an economic perspective and might mean that 'anyone can get an archival education, saving the money they would need for travelling and living abroad." Students would graduate with more mobility due to sharing the same basic knowledge and understanding of the profession as well as an increased cultural awareness.

But respondents also noted compelling obstacles that included infrastructural barriers, language, technological capacities, cultural traditions, different university regulations and policies, as well as some of the strictures associated with on-line education such as the loss of face-to-face interaction. However, there was also a strong feeling that many of these may be "obstacles to be overcome rather than major impediments to the proposal."

Question #4. Do you think there is a need – now or in the future – for archivists and records managers with a more developed awareness of and focus on the international dimensions of archival theory and practice? If so, what new skills or education might they need?

All respondents strongly agreed that there is currently a need for international archival education. A number felt that to some extent that need was already being met through educators who were actively involved in collaborative international projects as well as through online classes that attracted international students. However, all agreed that there was much more to be done.

At the same time, as one respondent pointed out, this is also "not about being homogeneous, but about supporting heterogeneous systems and practices." Pooling expertise and creating basic structures "on which layers of context specific customization can then be added," were suggestions for ways of accomplishing this. Globalization as well as the increasing inter-disciplinarity between cultural heritage institutions (i.e. archives, libraries, museums) were also major reasons for the internationalization of archival theory and practice. Some of the skills and affordances needed included cultural sensitivity, personal and social competencies, ability to work in teams, understanding global issues, international placements and student exchanges.

Research Perspective: Mapping Curriculum Across Three Universities

Graduate School of Library and Information Science, Simmons College (GSLIS)

Single archives courses were first introduced into GSLIS the early 1980s but archival education did not become a consolidated program track within the library curriculum until the mid-1990's. At that time the archives program followed what was known in the United States as the 'three-course sequence,' (Davis 1988, 283) that generally included an introductory course, a practicum and a seminar. In the late 1990's this track expanded, moving from the three core courses to four with a menu of electives and became a "concentration," that is, a suite of courses leading to a specific career path.

As the program continued to grow, both in courses and in students, the faculty also grew from one full-time faculty with three to four adjuncts in 1999, to four full-time faculty and eight to ten adjuncts in 2011. In 2005, the Archives concentration, traditionally only offered in Boston, was extended to GSLIS's extended campus in western Massachusetts.

In 2013 the GSLIS program was ranked as the #1 program in Archives and Preservation in the United States along with the programs offered by the University of Michigan and the University of North Carolina.[3]

GSLIS offers both a Master of Science and a Ph.D. The doctoral program is fairly new - only five years old - and includes a number of students focusing on archival and digital preservation issues.

Archives and Records Management, University College London

Archives and Records Management has been taught at UCL since the 1947 when Sir Hilary Jenkinson established the Diploma in Archive Administration (Shepherd 2009). For a substantial portion of the intervening period (between the late 1980s and 2012) there were in fact two programs: the Master of Arts (MA) in Archives and Records Management (ARM, designed for UK students) and the MA in Records and Archives Management (International) (RAMI), formerly known as the MA in Overseas Records Management and Archives Administration and established and overseen in its early years by Anne Thurston. Both the MA and the postgraduate Diploma offered via these two programs were accredited by the Archives and Records Association and by its predecessor the Society of Archivists. The curricula were refreshed and reorganized at regular intervals notably in the early 1990s, again in the early 2000s and most recently in 2011-2012. The 2002 review left the two programs in place but with less to differentiate them than before and committed both programs to a records continuum understanding of the indivisible link between archives and records, and between archives and records management. The teaching also exhibited an increased awareness of the growing significance of digital records whilst retaining many traditional elements of archival education that Jenkinson would have recognized (Yeo, Shepherd, and Flinn 2014).

The most recent review in 2012 merged the two existing programs resulting in one professionally accredited Archives and Records Management program incorporating a more internationally, digitally and conceptually focused curriculum (see more details of these changes later). Nearly all the teaching at UCL is conducted face-to-face and the postgraduate qualifications are completed either full-time in one year or part-time in a

[3] U.S. News and World Report, http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools/top-library-information-science-programs/library-preservation-rankings

modular fashion over two to five years. The postgraduate Diploma in Archives and Records Management and the taught element of the MA is worth 120 credits (equivalent to 48 ECTs) and the MA Dissertation is worth a further 60 credits (24 ECTs) making a total for the MA of 180 credits or 72 ECTs. At any time there are 35 to 40 full-time and part-time students on the postgraduate ARM program, of which around 10 come from outside the UK. In addition to the postgraduate professional qualifications since the 1960s UCL has had a PhD with students from all over the world joining UK doctorial students in conducting a considerable body of original research in the then emergent field of archives and records management.

Archives and Information Science at Mid Sweden University

The discipline of Archives and Information Science was established at Mid Sweden University, Härnösand in 1988/1989. It now offers programs at all three levels of tertiary education: bachelor, master and PhD level. At bachelor level, students can follow a program consisting of courses at first, second and third year totaling 90 ECTS out of a required 180 ECTS for a full Bachelor degree. The equivalent of a one-year full-time (60 ECTS) program is offered at master level. Both of these programs were evaluated as being of 'High quality' when the Swedish Higher Education Authority announced in January 2014 the results its rigorous evaluation of all university programs in archives, library and museum studies. This national evaluation program is conducted on a five-year cycle.

The bachelor and master courses are all offered by distance learning, using a blended learning approach, in which students may attend intensive lecture sessions on campus or online. These sessions are recorded and posted on the course website, so that students may log in later or replay whenever they wish. On the learning platform they also have access to structured learning resources and study guidance. In between these intensive sessions students work independently, always with the opportunity to discuss issues online with fellow students and tutors. All student work is submitted via the online learning platform for grading. At any one time there are approximately 200 part-time students per year enrolled across the bachelor and master courses.

A two-year Master by Research program has also recently had its first student intake. In this program there is a strong emphasis on research planning, and research methods appropriate to archival science. The second year consists of research project work and a dissertation arising from the project work.

The Master by Research and PhD programs require attendance on campus. This is seen as a means of providing and participating in a collegial and supportive environment for research.

Comparing Core Curricula from three universities in three countries

Because all three universities teach at the master level, the authors decided to focus at this level for the comparison of our core curricula. Figures 1-3 set out the program structures at master level for each of the three universities, using official course titles. A brief program description is provided above each Figure. When reading the Figures, note that Mid Sweden University uses the European Credit Transfer and Accumulation System (ECTS)[4] in which one credit point represents 25-30 hours' work. 30 ECTS is a full-time study load for one semester; 60 ECTS is a full-time study load for one year. At UCL a

[4] The ECTS System, http://www.studyineurope.eu/ects-system. Accessed 29 January 2014.

postgraduate Masters is worth 180 credits (equivalent to 72 ECTs) and represents an annual fulltime student learning load of 1800 hours. Simmons College follows the U.S. credit hour system whereby a course is worth a certain number of credits often (but not necessarily) related to the number of class contact hours per week. The GSLIS Masters program is 36 credit hours. Each course is worth 3 credits, taught in one 3-hour session per week, for a total of thirteen or fourteen weeks per semester. The MS program is 12 courses in total. In the process of carrying out this project, the authors have realized that it is extremely difficult to compare course concentrations across different credit systems. A set of guidelines for comparison across credit systems would be a useful future project.

TABLE 1.
Simmons College GSLIS Core Master Degree Courses

Course Title	Credits
Introduction to Archival Methods and Services	3
Managing Records in Electronic Environments	3
Establishing Archival Programs (an Archives management course)	3
Archival Access and Use	3
Preservation (choice of Digital Preservation and Preservation Management)	3
Field Study	3
+3 electives in chosen stream	9 (3 each)
+3 core LIS courses (Foundations, Organization and Reference)	9 (3 each)

The GSLIS Archives Concentration consists of six core archives courses, three core LIS courses, three electives, one of which must be a Technology course with the rest selected from three tracks: Archives, Digital Preservation and Cultural Heritage, for a total of twelve courses or thirty-six credit hours (each course is three credits).

The six core courses for the Archives Concentration include: Introduction to Archival Methods and Services (a 60 –hour internship is a required in addition to the classroom learning), Archival Access and Use, Establishing Archives and Manuscripts Programs, Managing Records in Electronic Environments, and an Archives Field Experience (130 hour internship), and a choice of Preservation courses, either Digital Stewardship, Preserving Digital Media or the more traditional Preservation Management for Libraries and Archives.

For their electives, students have a variety of choices including Appraisal, Oral History, Photographic Archives and Cultural Heritage Informatics. They also have a range of technology choices appropriate for archivists such as XML, Database Management, and Digital Asset Management for Libraries, Archives and Museums.

After the most recent thorough-going review at UCL a refreshed Archives and Records Management Master's program has been offered since 2012-2013. Although the new program is best characterized as an evolution rather than a revolution, it does contain a number of elements that are substantially different from the preceding programs. The new program seeks to:

(1) Address the redundant separation of the ARM and RAMI programs by merging the two programs and teaching all students a more internationally-aware curriculum as befits a more globalized archives and records world;

(2) Better embed thinking about the connection between records and archives and their management arising out of the records continuum and the digital curation lifecycle, resulting in a more coherent and more digitally aware program;

(3) Embrace a more conceptual and discursive approach by introducing the doubled-weighted, over-arching and jointly taught Concepts and Contexts module which combines shorter, concepts based lectures with more seminar teaching and which makes connections with more applied modules (Creation and Capture, Curation and Stewardship, Access and Use, the Record-keeping Professional) being taught at the same time;

(4) Encourage a more pluralistic and active approach to archives and records management theory and practice by inviting students to investigate diverse ways of understanding archives and record-keeping. This includes re-thinking traditional profession concepts and definitions, exploring a variety of non-organizational, personal, community-based and participatory approaches to record-making and record-keeping, promoting greater awareness of the influence of technological change on the creation and management of a range of digital objects, and acknowledging and accounting for the active influence of record-keepers in framing the archival legacy and shaping social memory, and the ethical responsibilities that underpin such influence;

(5) Offer more choice and pathways by offering fewer core modules and more options encompassing both traditional skills (paleography, preservation) and more contemporary ones (digital curation, digital recordkeeping, oral history).

The majority of students, full-time and part-time complete their Masters by completing a 60-credit dissertation of original research in a subject of their own choice from within the field of archives and records management.

TABLE 2.
UCL Core Master Degree Courses

Course Title	UCL Credits	ECTs
Concepts and Contexts	30	12
Creation and Capture	15	6
Curation and Stewardship	15	6
The Record-keeping Professional	15	6
Access and Use of Archives and Records	15	6
(*Plus two relevant electives*)	(15 each)	(6 each)
MA Dissertation	60	24

Mid Sweden University's master-level courses aim to develop understanding of archival theory and promote awareness of research in the discipline. The Information Management and Records Management course provides an introduction to standards, theories and models for information and document management and information architecture. It places particular emphasis on the Records Continuum and Information Continuum models (Upward 1996; Upward and Stillman 2006). Theory of organizations is also covered in this first course. The Archival Theory course begins with the history of ideas in archival science and goes on to cover appraisal theory, records concepts including authenticity, and the Life Cycle and Records Continuum Models. The course on Archival Systems deals with strategies, models, standards and methods for developing and administering archival systems, interpreting systems in the broader sense of the word. Preservation strategies, the Open Archival Information Systems Model (OAIS) (Consultative Committee for Space Data Systems 2012) 2012) and metadata are included in this course. Access and Use includes the use of archival information and archival information systems, methods for analysis of use of archives and of user behavior; methods for analysis and design of information systems; and strategies for promoting accessibility of archives. Full-time students study the Theory and Methodology and Research in Archives and Information Science at the same time as they work on their own Dissertation. The Theory and Methodology course gives a brief introduction to qualitative and quantitative research methods, discusses research methodologies for the social sciences and then focuses on theory and the widening range of research methods employed in archival science research in recent years. The course on Research in Archives and Information Science explores recent international research projects in the discipline, as well as past and current research projects at Mid Sweden University.

TABLE 3.
Mid Sweden University core master degree courses

Course Title	Credits
Information management and records management	7.5
Archival theory	7.5
Archival systems	7.5
Access and use	7.5
Theory and methodology	7.5
Research in archives and information science	7.5
Dissertation	15

Common core content across the three universities

The following is a very brief overview of common content across the three university programs. The authors recognize that course titles are not a sufficiently meaningful basis for course comparison. It must be stressed that this overview is only a preliminary exploration and is not the result of a detailed analysis of course syllabi, which would be necessary if all course content were to be mapped across the three programs. However, it is clear that there are several shared themes. All three teach about:

- Digital records management and archival systems, reflecting awareness of the need for understanding, planning and managing systems for the entire information flow from records creation to the archive.
- Access and use of records and archives, reflecting increasing emphasis on services to users and the use and re-use of information in the archive. Interestingly, this was the only topic for which all three programs had a common course title.
- Preservation strategies. The emphasis in this broad topic varies across the three programs to some extent. Simmons College offers a choice between digital preservation and preservation management. In the digital preservation courses, two focus on digital curation, the others programs takes the OAIS standard for the transfer of records to the archive as the conceptual model for teaching in this area.

Enrichment or elective courses

Both Simmons College and UCL offer students the opportunity to select from a fairly extensive range of electives which are considered to be specializations, offering enrichment rather than being core curriculum requirements. Mid Sweden University does not formally offer students a choice of electives. However, at various times special courses have been offered and substitutions for the core content can be approved on a case-by-case basis, subject to the course coordinator's approval. Examples of electives that have been offered across the three universities include the following:

- Specific formats (for example photographs, rare books, art, maps);
- Digital curation or preservation;
- Standards for digital recordkeeping;
- Oral history
- Cultural heritage and cultural memory.

Traditions and structural requirements in archival education

Tradition and regulation play a large part in the development of educational programs in several ways. Most countries have a regulatory organization that governs the requirements for higher education and the standards and structure of degree programs at every level. For example, in some countries regulations set a minimum credit point requirement for a dissertation or equivalent independent work without which a postgraduate degree cannot be called a master degree. Thus, students in Mid Sweden's one-year program at master level formally graduate with a 'magister' degree, not a master degree, since in Sweden a master degree must contain a dissertation worth 30 ECTS. Other program patterns may be more influenced by custom than regulation, such as whether or not students may choose from a range of elective courses. Similarly, practical fieldwork may be considered a valuable component of a master degree in some professional communities, but not in others. An alternative strategy for providing practical experience is the provision of situated learning about digital systems and tools in a virtual environment, such as that offered by the Simmons College Digital Curriculum Lab (DCL). The DCL is open to new educator partners who wish to join and contribute (Anderson et al. 2011).

Furthermore, archival traditions and the education programs that develop to serve them are socially constructed, related to the cultural and intellectual climate in which they are offered. Students must know the legislative framework surrounding the creation and

capture of contemporary records and which has historically shaped the national archives of their country. Other contextual issues also play a significant role in shaping the archive and the archival curriculum. For example, whether the country has a political history as an ancient sovereign state or a postcolonial nation; or a cultural history that includes a significant oral tradition. Diversity within the student body, the population in general and in the records / communities that the archivists will engage, all mean that programs have to embed plural understandings and approaches to recordkeeping in a manner which recognizes and acknowledges that cultural sensitivities may differ and contradict traditional Western archival theory and practice (Archival Education and Research Institute (AERI), Pluralizing the Archival Curriculum Group (PACG) 2011). Similarly local climate and specific environmental challenges shape approaches to teaching preservation. For example, Simmons College must address the two separate archival traditions of manuscripts and public records that prevail within the U.S. archives and records environment. Thus appraisal, donor relations, advocacy are important topics in the Simmons College curriculum while they might be less so at UCL or Mid-Sweden.

The curriculum must also change and evolve to meet contemporary needs in the workplace. At UCL paleography remains an important curriculum topic because many UK professionals must manage and promote access to many very old records, however, the recent review made the difficult decision to re-cast *Reading and Interpretation of Archives from 1500* from a core to an optional module. Paleography and diplomatics continue to be viewed within the program and the professional more widely as important archival skills but no longer compulsory for those whose interests lie elsewhere and wish to specialize in other directions. Mid Sweden University decided a paleography course that was also very popular with genealogists should be transferred to the History Department, where it continues to be taught, again freeing up space in the curriculum for other topics of increasing importance. Appraisal is a part of the curriculum, but a more theoretical approach is taken, since in Sweden appraisal and disposal in government archives have been very strictly regulated for many years.

Research Perspective: Developing shared courses

The first step in exploring the potential for a shared program of international archives and records management education could be in the development of individual courses which might be shared between the three universities and possibly wider afield and could be used as a proof of concept. Mid Sweden and UCL have already jointly developed and shared an online course of Standards for Digital Recordkeeping. This module which has been taken by students from both universities over the last few years aims to develop the skills and knowledge necessary to evaluate the utility of national and international standards for the management of records in digital environments.

This is accomplished by exploring the historical development of records and information management standards and by examining the global similarities and challenges through examining the development of standards in Australia, America and Europe. Taught in English, students are required to read, analyze and understand a suite of national and international standards relating to the managing of records and information in a digital environment and then evaluating their application to their own national situation and where applicable to their own local organizational context.

Further to this, as part of the formal research and teaching collaboration between the three programs, in 2014 faculty from the three programs are working on developing a course on the international contexts in which archivists and recordkeepers operate, provisionally entitled The Recordkeeping World; International perspectives on archives and records. Still in the process of development in early 2014, it is intended that this

course will be offered to Masters students at the three universities in the academic year 2014-2015.

Utilizing a variety of online teaching materials, activities, virtual tours and readings, the subjects that the course introduces will be discussed and debated via online discussion forums and video seminars and the students will be asked to collaborate on joint projects which examine different archival questions from a range of different national, cultural and legislative perspectives. By introducing the students to a range of different ways of thinking and doing about archives and records, and then analyzing these different approaches in an multinational context, it is hoped not only that the course will result in a broader understanding of the different professional challenges that they might face in their career but also that it will better prepare them for working in an increasingly digital and global environment.

At the heart of this approach is a culturally sensitive commitment to identify and explore a variety of diverse and heterogeneous ways of thinking about the archives and records and their management. To that end, the course will inspect the similarities and the commonalties of global recordkeeping and the world of international standards and multinational corporate governance, but it will also set this drive for standardization against the diversity of national cultural, political and administrative traditions and practice some of which may be contradictory and even incommensurable.

The outline of course contents and the choice of topics to be examined has been developed by mapping together courses on international archival contexts taught in the individual universities. Amongst the different topics which have emerged from this process are:

- The development of international theory and practice in archives and records management including divergent understanding and terminologies.
- Examples of international collaboration and archival solidarity.
- International discourses about recordkeeping, transparency, accountability and governance.
- Comparative perspectives on international approaches to archival legislation and access to information, privacy and other information management legislation.
- International strategies for using records and archives to support human rights, social justice and international justice movements and their opposites.
- International and diverse discourses about archives and cultural heritage.
- The causes of and approaches to dealing with international archival disputes such as disputed, displaced and migrated archives; non-organizational and non-Western approaches to records and archives including community and personal archives, oral and other non-textual records, indigenous recordkeeping.
- The development of international standards and the challenges and benefits of such standards; experiences of recordkeeping within multinational and transnational governmental, non-governmental and corporate bodies.
- A comparative international analysis of the challenges and opportunities of digital and social technologies for recordkeeping.
- The development of archives and records management as a profession in different national and international contexts.

One of the most immediate challenges will be to discover how (and if) all these different themes and wide international framework can all be contained within one single module.

It is hoped that this course and the interactions between the staff and students it enables will not be an end-point for these processes but will rather provide a launch pad for the collaborative development of further and more specific curriculum. Of course the

working relationship between these three universities are not the only places that these conversations and collaborations developments are taking place. Notably at AERI[5] but also elsewhere, discussions about how to make the most of the internationally scarce resources and different expertise which exist in the archival education world by sharing content including perhaps core archival and recordkeeping courses are on-going. Existing models of sharing courses and students online (WISE Consortium) and the development of the online open access model of higher education (MOOCs[6], etc.) all offer something very promising. However we feel that the biggest challenges will not lie in the platforms that are developed to deliver these new courses but in the crucial task of defining the curriculum that will make up these international collaborative courses and programs.

Other internationally shared courses

There is further evidence that the possibility of international collaborative courses is gaining acceptance. There have been two other examples of collaborative course development in recent years, although neither has been developed with the intention of seeking formal approval by several universities as a course to be regularly offered within their specific archival education programs.

Both Mid Sweden and UCL have been partners in the EU-funded ARCHIDIS Erasmus Intensive program,[7] cooperatively developed and taught by fifteen European archival education programs. ARCHIDIS, which was funded from 2011-2013, was a 2-week residential summer program focusing on appraisal. Mid Sweden and UCL students were offered the course as an option. The universities involved are members of NAET: the North-western European Archival Educators Network.[8] Although the funding cycle for ARCHIDIS course ended with the 2013 course in Dundee, the NAET is interested in continuing to work together, having found the experience both stimulating and enjoyable for teachers and students alike. Course evaluations from both students and teachers have been very positive. The Network hopes to find funding for developing a similarly structured but new course on a different topic.

The second example is a suite of *Digital Pathways* course materials developed in a collaboration between ICA and InterPARES at the University of British Columbia. These eight modules were developed as a cooperative project during 2011 and 2012, workshopped at an ICA SAE Conference in Rome 23-24 June 2011 and completed in 2012 and promoted with an Introduction Video created in 2013. They are freely available to educators who wish to download and use them with acknowledgement.[9]

Conclusion and future research

This paper has discussed three approaches to exploring the possibilities for international common core curricula across archival education programs. One is a first attempt at identifying common core content in our own three universities' existing but independently developed curricula, documenting the development of the programs over

[5] AERI, The Archives Education Research Initiative is an annual institute for archival educators and doctoral students. Grant funded by the Institute for Museum and Library Services it is currently entering its sixth year, http://aeri.gseis.ucla.edu/

[6] Massive Open Online Course

[7] ARCHIDIS website: http://www.archidis-naet.eu. Accessed 29 January 2014

[8] North-western European Archival Educators Network: http://www.naet-europe.org. Accessed 29 January 2014

[9] The modules and video are available for download at http://www.ciscra.org under the heading" Collaborations with ICA".

time in attempt to describe the historical journey and influences that have contributed to the current content of the three programs. The next step in this part of our ongoing research will be a much more detailed analysis of our syllabi for comparative purposes.

The second approach is a survey of the views of archival educators on the possibilities and the barriers to developing and sharing courses internationally. Admittedly a small initial sample, a more focused survey to a wider audience and with more targeted questions building on the responses already received might be both a strategy for drilling down to specifics and engaging the international community of archival educators around an increasingly common purpose.

The third is a description of some deliberate attempts to cooperatively develop shared courses across international borders, demonstrating that international collaborative courses in archival education are not only a possibility but a reality. In each of the examples, the educators involved have found the experience of working together to cooperatively develop the courses a stimulating and rewarding experience. The ARCHIDIS course is the only one of the three which has so far also been cooperatively taught.

We hope that other educators who are considering collaboration will be encouraged by our findings, both to build collaborative course content and to publish their experiences in the archival literature. Much research remains to be done. Our work has focused and built on what we have in common and we have merely raised some questions about areas that may always require a national or cultural focus. Learning where we must agree to differ will also be crucial to successful collaboration.

ABOUT THE AUTHORS

Karen Anderson, PhD, is the Foundation Professor of Archives and Information Science at Mid Sweden University since 2008 and Professor II at Oslo University College. She is a member of the research team in the Centre for Digital Information Management (CEDIF) at Mid Sweden University and the Director of the InterPARES Trust European Team. Her research interests include implementation of trustworthy, standards-based digital recordkeeping systems; benchmarking information management practice and development of professional standards for sustainable long-term management of records. A particular interest is fostering a scholarly approach to professional education for archivists and records managers.

She is an Editor-in-Chief for Archival Science. She was President of the ICA SAE 2004-2008 and Vice President in 2004-2012. From 2008-2014 she has been a member of the Swedish Institute of Standards TK546 Committee for Records Management Standards and also served on the Swedish Archives Association committee as a member and Vice Chairperson 2011-2014. In 2006 she was made a Fellow of the Australian Society of Archivists.

Jeannette A. Bastian, PhD, is Professor and Associate Dean for Academic Affairs at the School of Library and Information Science, Simmons College, Boston where she also directs their Archives Management program. She received her Ph.D. from the University of Pittsburgh. Before moving into academia in 1999, she was Director of the Territorial Libraries and Archives of the United States Virgin Islands. Jeannette's research interests and writings are primarily in the areas of collective memory, post-colonialism and archives education. Her books include *West Indian Literature: An Index to Criticism, 1930-1975* (1982*)*, *Owning Memory, How a Caribbean Community Lost Its Archives and Found Its History* (2003),) and an edited volume, *Community Archives, The Shaping of Memory* (2009).

Andrew Flinn, PhD, is a Reader in Archival Studies and Director of the Archives and Records Management Master's programme in the Department of Information Studies, University College London. I am a member of the ICA's Section on Archival Education steering committee, vice chair of the UK Community Archives and Heritage Group, and also the chair of the UK and Ireland Forum for Archives and Records Management Education and Research (FARMER) between 2008 and 2011. Recent publications include (with Duff, Suurtamm, & Wallace) 'Social justice impact of archives: a preliminary investigation' *Archival Science* (2013) and (with Anderson, Bastian and Samuelsson) 'Virtual experiments in collaborative archival education: constructing a digital laboratory for digital learning', *Comma* (October 2014).

REFERENCES

Anderson, Karen, Jeannette Bastian, Ross Harvey, Terry Plum, and Göran Samuelsson. 2011. "Teaching to Trust: How a Virtual Archives and Preservation Curriculum Laboratory Creates a Global Education Community?," *Archival Science* 11 (3-4): 349-372.

Archival Education and Research Institute (AERI), Pluralizing the Archival Curriculum Group (PACG). 2011. "Educating for the Archival Multiverse," *American Archivist* 74: 69-101.

Bastian, Jeannette and Elizabeth Yakel. 2006. "Towards the Development of an Archival Core Curriculum: The United States and Canada," *Archival Science* 6(2): 133-150.

Consultative Committee for Space Data Systems. 2012. *Reference Model for an Open Archival Information System* (OAIS). CCSDS 650.0-M-2 Magenta Book.

Davis, Susan E. 1988. "Development of Managerial Training for Archivists,"*American Archivist* 51: 278-285.

Elmborg, James K. 2008. "Framing a Vision for 21st Century Librarianship: LIS Education in Changing Times," *Serials Librarian* 55: 499-507.

Eastwood, Terry. 2000 "Archival Research: the University of British Columbia Experience," *American Archivist* 63: 243-257.

Gathegi, John N. and Peter G. Mwathi. 2007. "Creating a Needs-responsive LIS Curriculum in a Developing Country: a Case Study from Kenya, *The International Information & Library Review* 39: 134-144.

Gilliland, Anne J. and Kelvin L. White. 2010. "Promoting Reflexivity and Inclusivity in Archival Education, Research, and Practice," *Library Quarterly* 80: 231-248.

Gilliland, Anne, et al. 2008. "Pluralizing the Archival Paradigm: Can Archival Education in Pacific Rim Communities Address the Challenge?" *American Archivist* 71: 87-117.

Guercio, Maria. 2005. "Records and Archival Education as Fundamental Requirements for Digital Society Citizenship: Challenges to Face, Risks to Govern, Knowledge to Re-build and Implement," *DLM Forum*, 1-9.

Johare, Rusnah. 2006. "Education and Training Needs in Electronic Records Management: A Case Study of Record Keepers in the Malaysian Federal Ministries," *Malaysian Journal of Library & Information Science* 11: 1-21.

Jimerson, Rand. 2001. "Graduate Archival Education at Western Washington University," *OCLC Systems and Services* 17: 157-165.

Katuu, Shadrack. 2009. "Archives and Records Management Education and Training: What Can Africa Learn from Europe and North America?" *Information Development* 25: 133-145.

Lybeck, Jari. 2003. "Archival Education in Scandinavia," *Archival Science* 3: 97-116.

Menne-Haritz, Angelika. 2000. "Archival Training in a Changing World," *American Archivist* 63(2): 341-352.

Ribeiro, Fernanda. 2007. "An Integrated Perspective for Professional Education in Libraries, Archives and Museums: A New Paradigm, a New Training Model," *Journal of Education for Library and Information Science* 48: 116-124.

Shepherd, Elizabeth. 2009. *Archives and Archivists in 20th Century England* (Surrey, U.K.: Ashgate).

Upward, Frank. 1996. "Structuring the Records Continuum - Part One: Postcustodial Principles and Properties," *Archives and Manuscripts* 24(2): 268-285.

Upward, Frank and Larry Stillman. 2006. "Community informatics and the information processing continuum." *Proceedings of Constructing and Sharing Memory: Community informatics, Identity and Empowerment*, CIRN Prato, October 9-11.

Wamukoya, Justus and Henry Kemoni. 2001. "Educating Recordkeeping Professionals in Africa: the Case of Moi University, Kenya," *ESARBICA Journal* 20 (2001): 97-102.

Yeo, Geoffrey, Elizabeth Shepherd, and Andrew Flinn. 2014. "Education in records and archives management: a view from London," In J. Wamukoya & J. Lowry, eds., *Public Records and Good Governance: Essays Presented to Anne Thurston* (Forthcoming).

Knowledge, skills, and competences: An Italian standard to define the archivist's profile within the European Qualifications Framework

Giovanni Michetti*

ABSTRACT

The European Qualifications Framework (EQF) for lifelong learning is a reference model established by the European Parliament and Council to support the improvement of education and training systems. Based on a multi-dimensional matrix where knowledge, skills and competences should be identified as learning outcomes and assigned their proper level of qualification, such a model may serve not only as a translation device between different education systems, but also as a tool for assessing a professional profile in a transparent and efficient way.

Building upon the results of an Italian initiative aimed at developing a national standard, this paper will show how the model may be applied to the archival domain, hence helping to identify the relevant features of the archivist's profile and consistently re-design archival curricula.

Keywords EQF • European Qualifications Framework • Italian standard • UNI 11536 • Archivist's profile

New technology and socio-economic phenomena like globalization have dramatically changed the labour market, resulting in a demand for new skills and professional figures able to cope with the change. This is more than true for the archival domain: the space in which archivists work, the tools they work with and the way they work have totally changed since the last century, to the point that the archival community is investigating whether the archivist's role and identity needs for a redefinition – rather: a reinterpretation – in light of these big changes.

These phenomena clearly affect education and training systems, which are struggling to be responsive to an increasing demand for new skills and competences. To this end, the European Union has assumed that *competences* are a central feature of any lifelong learning policy and launched a set of initiatives with the objective of reforming agendas "in vocational education and in tertiary education in the Member States [including] revision of curriculum and guidance, teacher training initiatives, and the development of new education programmes" (Shapiro, Lauritzen and Irving 2011). These actions are fundamental steps of a more ambitious initiative, the so-called *Bologna process*, which is an institutional process promoted since 1999 by the European Union and aimed at creating a European Higher Education Area (EHEA) meant to ensure comparability in the

*Faculty of Arts and Humanities, Sapienza University of Rome
Email: giovanni.michetti@uniroma1.it

ICA-SAE Conference Papers, vol. 1, no. 1, pp. 19-37
Published Online: 12 October 2014

standards and quality of higher education qualifications (Vercruysse 2010). "Besides the general value of a European dimension of higher education for promoting intercultural understanding and collaboration, the [Bologna process] wants to respond to the increasing need to prepare graduates for the global labour market and has very practical objectives, such as transparency of curriculum content, facilitating mobility and building 'mutual trust' zones for quality" (Tammaro 2012, 196). To this aim, the "national educational and research systems in Europe (East and West) have initiated a close dialogue and entered into a close collaboration with each other" (Lørring 2006, 16). In particular, within the Library and Information Science domain, scholars and professionals have met to explore the knowledge map of the discipline (Zins 2007) and deal with the progressive Europeisation of curricula (Juznic and Badovinac 2005; Kajberg and Lørring 2005; Kajberg 2008; Spink and Heinstrom 2012; Kawalec 2014).

It is in this context that an Italian initiative had to be framed which was aimed at developing a national standard to define the qualifying features of the archivist, hence contributing to redesign consistently the archival curricula at graduate and post-graduate level. In fact, while not a proper educational standard, the outcome of the Italian initiative is a document that may be well be integrated into a national educational standard expressing, in a systematic and clear way, the essential goals of pedagogical work.

The Italian initiative is probably the first example of adoption and implementation in the archival domain of a European Recommendation[1]: in fact, the Italian initiative is based on the European Qualifications Framework (**EQF**) for lifelong learning, a reference model established by the European Parliament and Council in 2008, to support improvement of education and training systems (European Parliament and Council 2008). The European act recommends using the European Qualifications Framework as a reference tool to:

- compare the qualification levels of different qualification systems;
- promote lifelong learning and equal opportunities; and
- promote further integration of the European labour market, while respecting the rich diversity of national education systems.

Also, the Recommendation encourages relating the national qualifications systems to the EQF and adopting measures so that all new qualification certificates and diplomas issued by the competent authorities contain a clear reference to the appropriate EQF level. Therefore, EQF should be considered as a European reference model in the educational domain.

Its architecture is very simple: in fact, it is based on the triad of Knowledge, Skill, and Competence, which are considered as fundamental learning outcomes by which any professional profile may be identified.

Within the EQF framework, **Knowledge** is considered as a body of facts, principles, theories and practices that is related to a field of work or study. It is the outcome of the assimilation of information through learning, "the result of an interaction between intelligence (capacity to learn) and situation (opportunity to learn)"—hence its socially-constructed nature (Winterton, Delamaire-Le Deist and Stringfellow 2006, 6-7). Knowledge may be theoretical and/or factual: it includes theory and concepts, as well as experience resulting from performing certain tasks. In other words, Knowledge is about

[1] European Recommendations are not binding for Member States. They suggest a line of action without imposing any legal obligation on those to whom they are addressed.

holistic understanding of processes and contexts: it is "know-why, as opposed to know-that" (Winterton, Delamaire-Le Deist and Stringfellow 2006, 7).

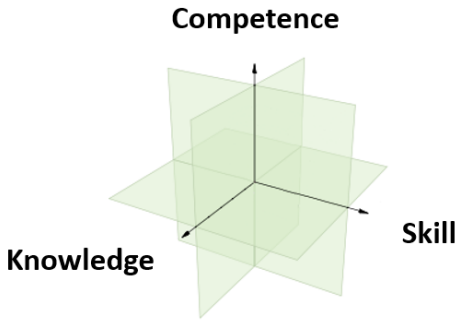

FIGURE 1.
The EQF Model: The Basic Structure

Knowledge is based on the ability of acquiring and understanding new knowledge, which in turn requires some cognitive prerequisites and specific knowledge and skills.

It is not always easy to distinguish between knowledge and skills. As a matter of fact, higher levels of competence are characterised by increasing proceduralisation of knowledge, so "at higher levels, knowledge is converted to skills" (Klieme et al. 2004, 70).

FIGURE 2.
Blurred Boundaries Between Knowledge and Skills

In the EQF model, **Skill** is defined as the ability to apply knowledge and use know-how to complete tasks and solve problems. It may be cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of

methods, materials, tools and instruments). According to Proctor and Dutta (1995), there are different types of skills:

- perceptual skill (that is, ability to make distinctions and judgements);
- response selection skill (that is, ability to select the appropriate response);
- motor skill (related to manual aspects of performance); and
- problem-solving skill (that is, ability to control and modulate skills towards a goal).

However, the fundamental feature that needs to be highlighted here is that even very practical skills "depend upon understanding of results and verbalised knowledge" (Winterton, Delamaire-Le Deist and Stringfellow 2006, 28): broad cognitive skills (such as problem solving and decision making) affect skilled performance. As highlighted above, there is a thin line between knowledge and skills: it is difficult to regard "cognitive competences as knowledge rather than skill. Indeed, there is substantial evidence that acquiring skill and demonstrating skilled performance involve a combination of underlying perceptual, cognitive and motor skills" (Winterton, Delamaire-Le Deist and Stringfellow 2006, 28). This was particularly evident when we turned to the archival domain, since we could not establish clear boundaries between these two categories—the archival profession is really a complex mix of practical skills and theoretical competences.

Finally, as it regards the concept of **Competence**, there is an ongoing debate: it is impossible to identify a coherent theory or establish a definition capable of accommodating and reconciling all the different perspectives of such a complex and multiform concept (Elleström 1997; Robotham and Jubb 1996; quoted in Winterton, Delamaire-Le Deist and Stringfellow 2006). The EQF model assumes that Competence is the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. Competence is described in terms of responsibility and autonomy.

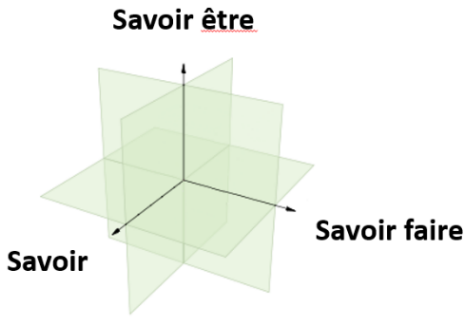

FIGURE 3.
The EQF Model: Intersection of Competences

Call it Knowledge, Skill, and Competence; or Savoir, Savoir faire, and Savoir être: in the end, the European model defines a 3-dimensional space, where archivists can find their own place at the intersection of cognitive, functional and social competences.

Finally, the EQF defines **Levels** in order to identify different degrees of qualifications in relation to knowledge, skills and competences. Levels allow the design of a range of triads increasing in complexity from Level 1 to Level 8.

TABLE 1.
The EQF Model[2]

Level	Knowledge	Skill	Competence
1	Basic general knowledge	Basic skills required to carry out simple tasks	Work or study under direct supervision in a structured context
2	Basic factual knowledge of a field of work or study	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	Work or study under supervision with some autonomy
3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	Range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Take responsibility for completion of tasks in work or study Adapt own behaviour to circumstances in solving problems
4	Factual and theoretical knowledge in broad contexts within a field of work or study	Range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Exercise self-management within the guidelines of work or study contexts that are usually predictable but are subject to change Supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities
5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	Comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change Review and develop performance of self and others
6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts Take responsibility for managing professional development of individuals and groups
7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields	Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches Take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	Most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

[2] European Parliament and Council 2008

As a consequence, we have a full range of Knowledge levels, ranging from "Basic general knowledge" to "Knowledge at the most advanced frontier of a field of work or study and at the interface between fields". Similarly, Skills range from "Basic skills required to carry out simple tasks" to "Most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice". Competences go from "Work or study under direct supervision in a structured context" to very high and qualified level of commitment in the area of work or study. The overall result is a matrix where Knowledge, Skills and Competences are related and defined according to the different levels (see Table 1).

Such a matrix can be a useful tool to reconsider archival activities in a different light: this consideration was one of the fundamental drivers of the Italian initiative, based on this model and promoted by the Italian Standards Organization (UNI – Ente nazionale italiano di unificazione). UNI was established in 1921 and later recognized by the Italian government and the European Union as the official Italian standardization body. It is responsible for the creation, publication and promotion of standards and technical reports in all areas of social, commercial and industrial activity[3].

The standardization activities eventually led to the formal publication of UNI 11536:2014, the first Italian standard on the "Professional archivist's profile. Defining requirements for knowledge, skills and competences".

We believe that such a standard may improve the social and professional identification of archivists as proactive agents not only within their specific domain – as specialists of information and documentation processes – but also in the broader societal context, in their fundamental role as managers and preservers of cultural heritage, hence supporting local communities and societies at large in their ongoing action of self-definition. In other words, on the one hand the standard may be used as a technical document, to clarify what archivists can do, so that stakeholders know that there is a well-identified professional figure with specific skills to address their needs. On the other hand, standards are social tools too, and as such they are admittedly a valuable expression of power. Archivists struggle to reach the larger audience, and their voice can hardly be heard in the public discourse among the voices of stronger and more appealing actors. Standards speak the exotic technical language, and they tell us about the existence of a community, a lobbying action, an economic power—that is why standards somehow confer an aura of prestige to the supporting community. Therefore, the national standard on the professional figure may help positioning the archivists in the public arena and enhancing their capacity of action.

The standard may also improve education processes at graduate and post-graduate level: knowledge, skills and competences defined in the standard may be adopted as a criterion or a guide to design a coherent and comprehensive educational program. The training processes may benefit as well from the standard, since it may help identifying specific areas and skills that need to be covered in training courses in order to enhance the qualification of the archivists.

The core of the standard is a **scheme** where functions, activities, competences, skills and knowledge are organized in a systematic way. It is impossible to present the whole scheme in detail here, so we will provide an overview, focusing on some specific parts in order illustrate how the document has been designed. The philosophy that drove the

[3] Except for electrical, electronic and related technologies, collectively known as electrotechnology, which are covered by Comitato elettrotecnico italiano (CEI).

development of the standard can be expressed well borrowing words from Richard Pearce-Moses:

"*What* information professionals do in the digital era remains the same. They must still work with record creators and publishers to build the collection; manage the organization of the materials, their preparation for use, and their preservation; and they must work with the public and other users to provide access to the collections. None of that changes in the digital era. However, […] *how* information professionals do their jobs will change" (Pearce-Moses and Davis 2008, ix).

In other words, the standard has been developed assuming that the fundamental functions and activities of the archival profession have not changed. The working group believes that archivists – rather, archival activities – can be identified and described using categories that are largely independent from the specific context, and avoiding any reference to technologies, environments, media. The objective was to create a general-purpose standard that may be used in different contexts and does not become obsolete in a short time. On the other hand, these features may be interpreted as disadvantages in a different perspective: the standard is too generic, hence needs for some customization in order to be implemented in a specific context; and its longevity may hinder the review and update processes. Therefore, a two-step approach can probably combine the best of the two options: the creation of the standard may be followed – if needed – by refinements designed to take into account specific needs.

The very first level of the scheme identifies the threefold **mission** of the archivist:

- manage archives through their life;
- provide access to archives; and
- manage and run archival services.

Each mission is then organized into **functions**, as depicted in Table 2.

TABLE 2.
Qualifying Archivists: Mission and Functions

Mission	Function
Manage archives through their life, from design, creation and accumulation to preservation stage	1. Records management 2. Protection 3. Appraisal and disposition 4. Arrangement and description 5. Preservation 6. Design and appraisal of information systems and applications
Provide access to archives, setting up and running services for users, promoting knowledge of archival resources and encouraging skilled training and education	7. User services 8. Promotion, training and education 9. Research
Manage and run archival services, planning their development and governing their resources	10. Management and administration

The standard provides a brief description of each function, as showed below.

1. Records management	All of the activities aimed at governing creation, maintenance, handling, use and disposition of records.
2. Protection	All of the activities aimed at monitoring and safeguarding non-State archives, carried out through a widespread auditing action performed by Archival Superintendencies. This function includes all the activities carried on by Vigilance Commissions[4]. In brief, this function refers to activities that entail decision-making responsibilities that fall in the exclusive competence of State archivists. However, freelance archivists may support such activities.
3. Appraisal and disposition	All of the activities aimed at evaluating the historical and legal value of records, in order to identify those records that need to be preserved forever, and those that may be destroyed. This function may be carried out by officers working for the records creator.
4. Arrangement and description	All of the intellectual and practical activities aimed at analyzing, organizing and describing archival materials on the basis of archival principles.
5. Preservation	All of the activities aimed at preserving documentary systems and objects along with their relationships, in such a way that their significant properties are not altered. This objective is achieved by implementing adequate environmental conditions, ongoing control of objects, and designing proper strategies for their safety and preventing damage to them.
6. Design and appraisal of systems and applications	All of the activities aimed at designing or assessing information systems or software in the archival domain.
7. User services	All of the activities aimed at supporting users in archival research.
8. Promotion, training and education	All of the activities aimed at promoting knowledge of archival resources and delivering training and education initiatives in the archival field.

[4] The Vigilance Commissions are established – with some approximation – in every office belonging to the State administration with a jurisdiction no narrower than the province. These Commissions are responsible for invigilating on the recordkeeping activities of the office, collaborating in the definition of the recordkeeping and preservation criteria, selecting the records for disposal, coordinating the disposal activities, and identifying sensitive records.

9. Research	Archivists use their knowledge in the service of scientific research. Archivists also have a specific, autonomous role with reference to research in history, historiography, institutions, archives, and more generally any information science topic. Hence, archivists' curriculum vitae may include publication of essays and books, organization of, and/or participation in conferences and research projects, as well as editorial activities.
10. Management and administration	The management of documentary heritage, human and financial resources, facilities and tools requires mastery of a complex body of laws and regulations, as well as a wealth of administrative and organizational skills in order to govern institutions or services committed to the preservation of documentary heritage, ensuring the safety of people, property and places. Knowledge of the market and the current legislation, as well as the ability to develop and evaluate projects and contract specifications, is critical in supply and demand for archives services.

According to the standard, not every archivist has to perform all these functions: the functions listed above are those that are considered pertinent to the archival profile. Altogether they shape the professional identity of the archivist, but it is not mandatory for every archivist to perform them all in their daily activity: specialization is encouraged as in any other field. However, any specialist still belongs to a broader professional community. Records managers and description specialists are essentially archivists; rather, in the first instance they are archivists, like a cardiologist is essentially a physician.

Each archival function is articulated as **activities**. For example, Records management encompasses the design of records management systems and recordkeeping. Preservation encompasses the management of environment and curation and preservation of archival materials (see Table 3).

The triad of Knowledge, Skills, and Competences proposed by the European model is implemented at this level, applied to each of the archival activities identified in Table 3.

TABLE 3.
Qualifying Archivists: Functions and Activities

Function	Activity
1. Records management	1.1 Designing the records management system 1.2 Recordkeeping
2. Protection	2.1 Monitoring and safeguard 2.2 Inspection
3. Appraisal and disposition	3.1 Appraisal 3.2 Disposition
4. Arrangement and description	4.1 Arrangement 4.2 Description
5. Preservation	5.1 Managing the environment 5.2 Curating and preserving archival resources
6. Design and appraisal of information systems and applications	6.1 Design 6.2 Appraisal
7. User services	7.1 Definition of terms for user services 7.2 Reference service 7.3 Distance service 7.4 Reproduction services 7.5 Dissemination of information about archival holdings
8. Promotion, training and education	8.1 Promotion 8.2 Training and education
9. Research	9.1 Scientific research 9.2 Editorial activity
10. Management and administration	10.1 Management of archival holdings 10.2 Management of human resources 10.3 Management of union relations 10.4 Management of financial resources 10.5 Management of facilities 10.6 Management of contracts for supply of archival services

We will present here only a few such activities, in order to illustrate how the activities could be modeled on the basis of the European model.

"**Designing the records management system**" (1.1) is an activity aimed at identifying and organizing in a systematic way criteria, tools, agents, processes and – more generally – all the relevant aspects of a records management system (see Table 4). When designing a records management system, archivists cooperate with information technologists in order to a) implement records management principles, methods and tools within the information system; b) integrate the records processes and workflow within the broader organization's information system; and c) identify hardware and software solutions that best meet the specific organization's needs.

The archivist's expertise can be exerted at any stage in the design process, because they provide specialized knowledge and abilities required to interpret and translate the organization's needs according to the archival methodologies, through the creation of classification and preservation plans, records management guidelines, indexes, thesauri, and any tool for records management. All solutions (e.g., classification plan, preservation plan, procedures) are driven by principles and methodologies having general validity, but

they need to be put in the specific context and harmonized in order to create a consistent records system.

TABLE 4.
Designing the Records Management System

Competence	Skill	Knowledge
Organizing records flow	• Define records flow, identifying actors, objects and functions of records system • Define procedures, identifying criteria, methods and responsibilities related to each function of the records system • Define the metadata needed to perform records management functions • Define security and access levels to functions and objects of records system • Define roles and responsibilities associated with records management processes • Identify creators' business processes and organize records flows accordingly • Optimize creators' business processes • Interpret and make use of laws and regulations, archival principles, and national and international standards to design the records system	• Archival theory • Foundations of diplomatics • Elements of physical organization and storage of archives • Principles, methods and techniques of records management • Principles of organizational theory • Elements of informatics • Elements of data modeling • Elements of knowledge organization and representation • National and international standards on records management • Basic law • Elements of administrative law • Laws and regulations on records creation, management and preservation • Laws and regulations on electronic records creation, management and preservation • Laws and regulations on classified records, privacy, secrecy, and administrative process transparency
Defining classification plans	• Identify creators' functions, activities and subjects • Organize the whole system of creator's functions, activities and subjects into a classification plan	
Defining aggregation criteria	• Identify creators' functional requirements with regards to series, files, subfiles and other aggregations • Define criteria to organize documentation into series, files, subfiles and other aggregations, integrating the resulting criteria into the classification plan	
Creating lists, indexes and thesauri	• Identify criteria to create lists • Identify terms for a controlled vocabulary, according to some criteria • Organize controlled vocabulary terms	
Creating preservation plans	• Analyze and interpret a classification plan • Analyze the ways in which documentation sedimented • Verify the existence of specific document types that need specific preservation strategies • Schedule records (i.e., determine their retention period and describe disposition actions)	
Creating record management guidelines and tools	• Analyze the creators' complete records management system, in order to identify its features and criticalities • Create a manual where information about functional and operational aspects, terms, laws and regulations, and any other relevant information about the records management system is provided in a systematic and consistent fashion, so to give a complete and detailed representation of the records management system • Design specific records management tools according to the creator's specific functional requirements	

"**Recordkeeping**" (1.2) refers to all activities of creation, maintenance, treatment, use and disposition of records (see Table 5). Recordkeeping requires a professional archivist for the organization, direction and control of all operations needed to manage records in their active and semi-active stages (current and semi-current archives). Recordkeping activities are performed by archivists with diverse yet specialized levels of expertise and responsibility.

TABLE 5.
Recordkeeping

Competence	Skill	Knowledge
Registering	• Analyse and interpret records in order to identify and register relevant records metadata needed through different stages of records' life • Register relevant metadata needed to handle and manage records into the relevant system	• Archival theory • Foundations of diplomatics • Elements of physical organization and storage of archives • Principles, methods and techniques of records management • Elements of informatics • Elements of knowledge organization • Relevant requirements of a records management application • National and international standards on records management • Laws and regulations on records creation, management and preservation
Assigning a classification code	• Analyse and interpret a classification plan • Analyse and interpret records in order to associate them with their pertinent classification code • Identify and register the classification code associated with a record	
Aggregating	• Interpret aggregation criteria • Interpret records in order to associate them with their pertinent aggregation • Assign a title to a new archival unit • Update a file list and other records management tools	
Handling	• Interpret a map of the archival holdings • Retrieve an archival unit from the archives or place it in the archives in its correct location • Record information about charge and discharge of an archival unit	
Monitoring and updating records management tools	• Monitor records management tools over time to ensure they meet the requirements of the juridical, institutional and operational context • Identify the issues related to records management tools and their implementation • Define improvement strategies for records management tools	
Organizing and managing semi-current archives	• Plan and coordinate documentation transfers from current archives to semi-current archives • Interpret a map of the archival holdings and organize transferred documentation, linking it to related materials already acquired by the semi-current archives • Organize charge and discharge of documentation • Plan and manage documentation transfer from the semi-current archives to the non-current archives • Plan and manage appraisal and disposition activities	
Auditing records management system	• Identify criteria and/or metrics to assess the performance of a records management systems, or some of its functionalities • Verify the performance of a records management system on the basis of some predefined criteria • Evaluate the results of a performance assessment	

"**Arrangement**" (4.1) is the whole of the activities aimed at studying records creators in their historical, political, administrative and social context, with particular attention to their functions and powers; use and reuse of records over time; and processes of sedimentation and transmission of documentary sources (see Table 6). Such study aims to identify the original structure of the body of records that is under investigation, highlighting the internal relations and arranging – at least virtually – the archival units on the basis of such structure. In other words, arrangement requires understanding of the underlying logics of a body of records. Archivists should be able to arrange documentation of any age – from the Middle Ages to the present day – and any format.

TABLE 6.
Arrangement

Competence	Skill	Knowledge
Investigating documentation and its historical/institutional context	• Analyze transfer lists, disposition minutes and any previous finding aids • Investigate the sedimentation process of the body of materials in order to reconstruct its history • Analyze documentation from a diplomatistic point of view in order to get useful elements to reconstruct the original order • Make a deep historical-juridical investigation of records creators • Make a historical investigation aimed at contextualizing records creators activities	• Archival theory • Palaeography and diplomatics • Principles, methods and techniques of archival arrangement • Medieval, modern and contemporary history • History of medieval, modern and contemporary institutions • History of ecclesiastic institutions • Foundations of private and public law
Arranging documentation logically and/or physically	• Identify the structure of the body of archival materials on the basis of archival principles, pointing out its internal structure • Arrange archival units logically, on the basis of the structure identified • Arrange archival units physically, on the basis of the logical structure identified	
Physical maintenance	• Change folders or coordinate change operations • Record relevant data on the folder label or the registry	

"**Description**" (4.2.) refers to all activities aimed at collecting, analyzing, organizing and recording information that supports identification, management, location and illustration of archival material along with its context of creation, use, transmission and preservation (see Table 7). Traditionally, the outcome of the description activities is a finding aid. There are different types of finding aids, based on the reasons for their creation (guides, inventories, lists, etc.).

The creation and maintenance of a records management system or a long term preservation system require activities aimed at collecting, organizing and recording information on the records as well as on their context. Therefore, description activities are carried out in the course of records management and preservation processes, in a dynamic manner.

Similarly, archival information systems bring the functionalities of traditional finding aids to the digital environment, allowing for new and more granular access to records: as a matter of fact, archival information systems are the outcome of description activities.

Description can be carried out at different levels, with different degrees of detail and accuracy, with different purposes. Each body of records, at any time created, requires a specific treatment as it regards arrangement and description, which is in itself an autonomous scientific project.

TABLE 7.
Description

Competence	Skill	Knowledge
Planning a systematic and comprehensive description of the body of materials	• Identify objectives and methodology of the description project • Identify criteria to select body of materials • Identify the structure and the features of the description project	• Archival theory • Palaeography and diplomatics • Principles, methods and techniques of archival description • National and international standards on archival description • Medieval, modern and contemporary history • History of medieval, modern and contemporary institutions • History of ecclesiastic institutions • Foundations of private and public law • Elements of knowledge organization and representation • Elements of data modelling • Relevant requirements of an application program for archival description
Identifying description elements	• Evaluate objectives of the description project • Evaluate characteristics of documentation • Evaluate pertinent national and international standards • Evaluate user needs • Define level and granularity of description • Define description elements	
Describing the methodology	• Describe objectives and methodology of the description project • Describe results of the implementation of the methodology • Describe creators and duration of the description project	
Describing the body of materials	• Describe the body of materials and the related context of creation, use, sedimentation, custody and preservation, on the basis of archival principles and description elements identified • Describe the body of materials according to their physical location	
Reviewing descriptions	• Check completeness, and semantic and syntactic correctness of descriptive data • Supplement descriptive data as necessary • Convert descriptive data from one description system to another	
Creating auxiliary tools	• Create indexes • Create glossaries • Create calendars • Create lists • Create bibliographies	

"**Managing environment**" (5.1) is nested within the preservation function. It is the whole of activities aimed to design and implement appropriate solutions – with relation to building, plant engineering and instrumentation – for the preservation of records (see Table 8). The management of environmental conditions requires the archivist to collaborate with other professionals with specialized skills in different areas, to both design and implement protective and safety measures.

Archivists are critical in the design phase, when they can identify the best solutions for the location of the premises (reference room, back office, storage facilities, etc.), for the

furniture and equipment, and for any requirements to ensure compliance with the implementation of existing legislation. The implementation of environmental conditions requires the constant presence of the archivist, whose task is to organize the maintenance, monitoring and updating of environmental conditions.

TABLE 8.
Managing Environment

Competence	Skill	Knowledge
Designing the environment	• Identify appropriate locations for work and user service • Identify measures and strategies to eliminate architectural barriers for the handicapped • Identify measures and strategies to implement proper climate and environmental conditions for preservation • Planning the implementation of fire suppression systems, fire alarms, smoke alarms and similar devices • Identify measures against breaking and entering • Identify measures for energy saving • Identify safety measures • Select proper shelves, facilities and containers for preserving documentation • Identify measures for monitoring environmental conditions	• Archival theory • Principles, methods and techniques of preservation • Laws and regulation on archives, preservation and digital records • Laws and regulation on energy saving • Laws and regulation on safety in work environments • National and international standards on preservation
Implementing environmental conditions	• Provide directions to technicians when implementing building and plant-engineering solutions aimed at supporting preservation • Supervise implementation of measures aimed at guaranteeing proper environmental conditions • Supervise the construction of facilities and the implementation of equipment, systems and tools aimed at preservation • Organize maintenance, monitoring and updating activities	

"**Curating and preserving archival resources**" (5.2) refers to the preservation function. It is all the procedures, policies and strategies aimed at ensuring the curation and preservation of records on whatever media as well as preventing damage and ensuring safety (see Table 9). Preservation is a core mission for archivists, and as such exemplifies their identity. However, the complexity of this activity may determine the need for specialization in specific types of records (e.g., photographs, audiovisual material, financial records, health records).

Archivists need to cooperate with other professionals for the management of safety measures and emergency plans, without prejudice to their responsibility as those who run the archival service and the need for training of personnel on these topics.

TABLE 9.
Curating and Preserving Archival Resources

Competence	Skill	Knowledge
Managing space	• Plan and monitor use of space • Plan cleaning and maintenance of spaces	• Archival theory • Principles, methods and techniques of preservation • Elements of Chemistry • Elements of theory and practice of restoration • Elements of Informatics • Elements of operational planning • Laws and regulation on archives, preservation and digital records • Elements of administrative law • Laws and regulations on archives • Laws and regulations on digital records • Laws and regulations on transparency, privacy, classified records, secrecy, copyright • Laws and regulations on safety on work environments • National and international standards on preservation
Managing containers	• Plan requirements for various types of containers • Plan maintenance and monitoring of containers • Plan substitution of obsolete or damaged containers, along with updating any attached labels	
Managing preservation processes	• Plan cleaning and decontamination of documentation • Plan restoration of documentation • Plan operations aimed at identifying and cataloging materials needing for restoration • Select bids and external operators for restoration activities • Evaluate the restoration activities • Plan and implement copying activities • Identify diverse preservation actions, based on support, format and type of documentation, objectives, use and other relevant features • Plan and implement maintenance and migration of digital records • Create a preservation manual to describe strategies and procedures on preservation in a systematic way • Implement the preservation manual • Manage movement of rare and ancient materials • Plan monitoring of materials aimed at evaluating preservation conditions • Plan maintenance of the preservation system • Plan and/or implement audit of preservation system	
Managing emergency plans	• Provide directions to technicians when designing the disaster recovery plan • Provide directions to technicians when designing the emergency plans • Plan and organize emergency training courses • Supervise emergency actions • Create disaster reports • Review the disaster recovery and emergency plans	

As stated above, the standardization process has been completed: the whole scheme, accompanied by the explanatory notes, has been issued in July 2014 as the Italian standard UNI 11536:2014. Far from being just the end of the development process, the formal issue has moved the standardization initiative to the next stages. The scheme presented here needs ongoing refinement: no standard is perfect, and this too needs to be refined and amended in order not only to make it better but also to keep it updated with the ongoing evolution of archivist's identity, which is shaped by the unceasing change of objects, tools and users[5].

[5] Technical standards are continuously monitored. They must be reviewed every five years at most, as part of the standardization process. In particular, UNI 11536 must be reviewed every three years, as established by UNI for any standard defining a professional profile.

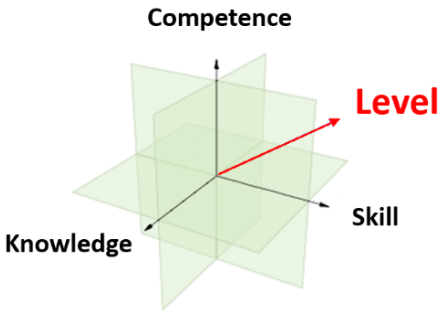

FIGURE 4.
The EQF Model: Level As a Further Dimension

In particular, the levels need to be refined. For practical reasons, archival activities have been qualified as being at the 6th and 7th level, i.e., the highest levels of the European Qualifications Framework. However, such a general statement needs for further refinement: all the different activities identified in the scheme may be associated to either level; rather, a wider range of levels may be adopted, so that a specific activity – thought as a combination of proper knowledge, skills and competences – may be assigned to a level ranging from the lowest to highest levels of the European model. This may help identifying different levels of responsibility, and different roles in the archival domain, which in turn may support a richer eco-system of agents performing archival activities, providing the basis for a more dynamic market of cultural professions.

The scheme may also be refined through cooperation with different actors in the same arena (for example, librarians, museum curators, information technologists, communication experts) in order to create a consistent and integrated framework where different professional figures may act being aware of each one's competences.

Finally, the Standard needs a solid and well-organized publicity campaign aimed at promoting it throughout the national community as a relevant tool which supports the shaping of the archivist's identity: the Standard can be used not only by professionals, to raise awareness and facilitate communication between archivists and customers, but also in the educational domain, where it may be used to redesign scopes, objectives and curricula of archival courses and programs.

Standards are indeed valuable as technical tools *per se*, but their fundamental value lies rather in their capacity to raise awareness and issues, and bring the community to discussion. Standards are a way by which a community – the archival community – identifies itself. As pointed out by Susan Davies (2003), codification of professional knowledge and development of standards through which that knowledge is applied, is a fundamental step in the professionalization process that leads an occupation to develop coherency as a group. However, we should be aware of the political nature of standards: to borrow words from Jeris and Johnson (2004), "standards, once developed, find their way into practice through certification of people and processes, through accrediting agencies (public and private) for all sorts of educational programs, and through qualification examinations and licensure requirements. The commodification of competences privileges the KSA (knowledge, skills and attitudes) worldview, and turns

[..] somewhat flexible concept[s] into a rigid sorting mechanism that may have grave consequences for marginalised groups."

Therefore, caution should always be used when handling standards and trying to implement them. This holds true for the standard illustrated in these pages too: the model should be implemented *cum grano salis*. Everything looks like a nail to the man with a hammer: do not take this model as a hammer.

ABOUT THE AUTHOR

Giovanni Michetti is Assistant Professor in Archival Science at Sapienza University of Rome. He was Assistant Professor at the School of Library Archival and Information Studies, University of British Columbia, until July 2014. He has also taught for some years at the University of Urbino.

His research area is focused on contemporary and digital archives, and his main research interests are records management, archival description and digital preservation. He has been involved in international initiatives on digital preservation, such as ERPANET, InterPARES, and CASPAR. He is currently involved in the ITrust project (also known as InterPARES 4) as the Chair of the Control Research Domain of the North America's Team, and a member of the Research Group on "Policy and Plurality."

He works actively in the standardization area: in the Italian Standards Organization (UNI), he is the Chair of the Subcommittee "Archives and Records Management," Vice-Chair of the Technical Committee "Documentation and Information," and Coordinator of the Working Group on the Professional Archivist's Profile. He is also the Italian representative in a few ISO Working Groups on Records Management.

He has authored articles and essays on scholarly journals, as well as the Italian translations of EAD (Encoded Archival Description) and OAIS (Open Archival Information System).

REFERENCES

Cencetti, Giorgio. 1939. "Il fondamento teorico della dottrina archivistica." *Archivi* 6: 7-13.

Davies, Susan. 2003. "Descriptive Standards and the Archival Profession." *Cataloguing and Classification Quarterly* 35 (3/4): 291-308.

Elleström, Per-Erik. 1997. "The many meanings of occupational competence and qualification." *Journal of European Industrial Training* 21 (6-7): 266-273.

European Parliament and Council. 2008. *Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning*. 2008/C 111/01.

Jeris, Laurel, and Kathleen Johnson. 2004. "Speaking of competence: toward a cross-translation for human resource development (HRD) and continuing professional education (CPE)." In *Academy of Human Resource Development International Research Conference Proceedings (Austin, Texas, March 3-7, 2004). Volume 2*, edited by Toby Marshall Egan, Michael Lane Morris, and Vinod Inbakumar, 1103-1104. Austin, TX: Academy of Human Resource Development.

Juznic, Primoz, and Branka Badovinac. 2005. "Toward library and information science education in the European Union. A comparative analysis of library and information

science programmes of study for new members and other applicant countries to the European Union." *New Library World* 106 (1210-1211): 173-186.

Kajberg, Leif. 2008. "The European LIS Curriculum Project: Findings and Further Perspectives." *Zeitschrift für Bibliothekswesen und Bibliographie* 55 (3-4): 184-189.

Kajberg, Leif, and Leif Lørring, eds. 2005. *European Curriculum Reflections on Library and Information Science Education.* Copenhagen: The Royal School of Library and Information Science.

Kawalec, Anna. 2014. "Education, competencies, skills in the field of Information and Library Science in selected European centres." In *Library (R)evolution: Promoting Sustainable Information Practices: Proceedings of the 22nd International BOBCATSSS symposium, 29-31 January 2014, Barcelona.*

Klieme, Eckhard, et al. 2004. *The Development of National Educational Standards. An Expertise*. Berlin: Federal Ministry of Education and Research (BMBF).

Lørring, Leif. 2006. "Content, Reflections and Curricular Questions." *Bulletin of the American Society for Information Science and Technology* 33 (2): 16-20.

Pearce-Moses, Richard, and Susan E. Davis. 2008. *New skills for a digital era. A Colloquium sponsored by National Archives and Records Administration, Society of American Archivists, Arizona State Library, Archives and Public Records. 31 May – 2 June 2006. Washington, DC. Proceedings.* Chicago: Society of American Archivists.

Proctor, Robert W., and Addie Dutta. 1995. *Skill acquisition and human performance*. London: Sage.

Robotham, David, and Richard Jubb. 1996. "Competences: measuring the unmeasurable." *Management Development Review* 9 (5): 25-29.

Shapiro, Hanne, John R. Keller Lauritzen, and Pat Irving. 2011. *Emerging Skills and Competences. A transatlantic study. EU-US Study for the European Commission*. Danish technological Institute.

Spink, Amanda, and Jannica Heinstrom, eds. 2012. *Library and Information Science Trends and Research: Europe*. Bingley, UK: Emerald Group Publishing Limited.

Tammaro, Anna Maria. 2012. "The Bologna Process Impact on Library and Information Science Education: Towards Europeisation of the Curriculum." In *Library and Information Science Trends and Research: Europe*, edited by Amanda Spink and Jannica Heinstrom, 195-215. Bingley, UK: Emerald Group Publishing Limited.

UNI 11536:2014. Qualificazione delle professioni per il trattamento di dati e documenti – Figura professionale dell'archivista – Requisiti di conoscenza, abilità e competenza. Roma: Ente nazionale italiano di unificazione.

Vercruysse, Noël, ed. 2010. *Bologna beyond 2010. Report on the development of the European Higher Education Area. Background paper for the Bologna Follow-up Group prepared by the Benelux Bologna Secretariat, Leuven/Louvain-la-Neuve Ministerial Conference, 28-29 April 2009.* Bruxelles: Benelux Bologna Secretariat.

Winterton, Jonathan, Françoise Delamaire-Le Deist, and Emma Stringfellow. 2006. *Typology of knowledge, skills and competences: clarification of the concept and prototype*. Luxembourg: Office for Official Publications of the European Communities.

Zins, Chaim. 2007. "Knowledge map of information science." *Journal of the American Society for Information Science and Technology* 58 (4): 526–535.

Physicists, physicians, and geneticists all learn in laboratories, and why not archivists?

Anna Sobczak*

ABSTRACT

This paper presents an idea of developing electronic and hybrid laboratories for archivists, not just to teach them but with the main goal to help them understand the most recent issues, such as electronic document management, business process modeling and digital preservation. The idea will be illustrated with the example of a proposed path for developing the Electronic Document Laboratory (EDL) at the History & International Relations Institute of Szczecin University (Poland).

The EDL project started in mid-2011 and intended to advance teaching and research in the field of electronic records management and archival science (especially in the fields of metadata descriptions, digital preservation and digital archives) for archival science students. It covered a lifecycle of an electronic or digitized document in the environment of public administration. Further extension to include private business and public administration was expected in the future.

Keywords Archival education • Digitization • Electronic records management • Business process modeling • Digital preservation

"(…) the more archivists know about technology, the better." (Pearce-Moses 2013b)

This paper presents an idea of developing electronic and hybrid laboratories for archivists to help them understand the newest issues, such as electronic document management, business process modeling and digital preservation. This idea will be illustrated with the example of a proposed path for developing the Electronic Document Laboratory (EDL) at the History & International Relations Institute of Szczecin University. This paper also covers some technological problems related to education.

The archives profession has been constantly transformed since the first computers were introduced in public agencies and archives. They changed their work and interactions within and between ecosystems. In archives, PCs were first used as electronic typewriters,

* Szczecin University, Poland
Email: amsobczak@gmail.com

ICA-SAE Conference Papers, vol. 1, no. 1, pp. 38-45
Published Online: 12 October 2014

then to create and store databases of analogue records descriptions and finally they became warehouses and online access points to born-digital and digitized records and their metadata. The case of administration was similar. The main difference in the profession caused by those changes is that archives have to be active co-partners for administration through the whole document lifecycle.[1] Contemporary archivists need three types of skills: managerial, technical and soft, to be able to fulfill their tasks and responsibilities to the community to which the records they preserve originally belong (Pearce-Moses and Davis 2008).

Technology changes the way human beings understand, learn and process information. It also facilitates students' involvement in the personalized and interacting learning experience. The incorporation of new technology in learning started in the 1970s, but recent decades brought important changes in the way of how people are being educated. Consequently, archival science can no longer be taught in a traditional way based on 19th century practice (Brown-Martin 2013). Moreover, observing how IT influences document lifecycle, archival science cannot be treated as a science with mainly analogue materials in consideration. This also concerns teaching. Not only because someone thinks it is important but for the reason that students want changes in the way they are taught. The title of this paper was a direct quote from a student who posed the question in my digitization class in the winter semester of academic year 2012/2013. Students are very much aware of technological developments in many areas of human existence.

In Poland archival science is generally regarded as a sub-discipline of history. In addition, only at two out of twenty[2] universities focusing in that area that it is being taught as an independent subject.[3] Furthermore, only one university offers PhD studies. It means that majority of future archivists study history as their major with archival science as a specialization. In his research, based on surveys conducted in academic year 2006/2007, Jacek Krochmal (2008) analyzed curricula offered to students at high education institutions. Generally they consist of "traditional" subjects such as: introduction to archival science, introduction to archives, public office systems, history of administrative systems, Latin paleography, archival methodology, gothic or Russian neographics, archival theory, publishing historical sources. They also include "new" subjects that appeared only in recent years: elements of archive law, IT for archivists, management of information and present-day documentation.

As an example it is worth analyzing a curriculum from the History & International Relations Institute of Szczecin University. The academic course consists of only 390 contact hours placed in the second and third year of the bachelor's program in history.[4] It means that archival science covers around 21% of the whole curriculum. In four semesters, students obtain theoretical knowledge and are obligated to take two four-week internships at state archives, current archives of public agencies, companies or cultural institutions.[5]

Generally the course is orientated at the profile of state archives, hence at managing analogue records, especially 20th century paper documentation. Classes on IT form only around 11% of all subjects.[6] Therefore, the current curriculum is organized very

[1] In Poland there are no records/documents managers in the public sector, there are archivists responsible for historic documents and those, which are not any more in current use by the public agencies and have no archival value but have to be kept for certain time according to the archival law.
[2] Nicolaus Copernicus University in Toruń (Bachelor, Master and PhD studies) and Maria Curie-Skłodowska University in Lublin (Bachelor studies).
[3] Based on website examination of institutions teaching archival science known to the author as of 13 August 2013.
[4] Bachelor's degree in history covers 1865 contact hours in 6 semesters (three academic years).
[5] See: http://hist.us.szn.pl/images/stories/zasoby/PlanIH2010_2011.doc (Accessed: 15 August 2013)
[6] See: http://hist.us.szn.pl/images/stories/zasoby/PlanIH2010_2011.doc (Accessed: 15 August 2013)

traditionally and does not match the model of an archivist profile developed in 2010 by the Archival Education Section of the Association of Polish Archivists. The outline emphasized issues concerning information management and information technology. According to this, an academic course at bachelor's level (called 'basic' by the authors of the model) shall offer knowledge on: modern IT and communication technologies, websites and databases management and creation, document life cycle management and optimization methods, creation, description (especially on metadata standards), management, storage, preservation, online accessibility of electronic and digitized records in dedicated IT systems and digitization (Chorążyczewski and Kwiatkowska 2009). It shows that there is an urgent need to change the curriculum.

TABLE 1.
History and International Relations Institute, Szczecin University Archival Science Curriculum[7]

	Subject	Semester	Contact Hours			
			Total	Lecture	Class	ECTS
1	Introduction to archival science	III	**15**	15	0	1
2	Introduction to archives	III	**30**	30	0	3
3	Public office systems in Poland	III	**45**	30	15	4
4	History of administrative system	III	**30**	30	0	3
5	Latin palaeography	IV V	**45**	0	45	5
6	**IT for archivists**	**IV V**	**45**	**0**	**45**	**5**
7	Archival methodology	IV	**60**	30	30	5
8	Gothic neographics	V VI	**45**	0	45	5
9	Documentation management	VI	**30**	30	0	3
10	Archival theory	VI	**15**	15	0	2
11	Elements of archive law	VI	**30**	30	0	3
12	Internships	IV-VI	**0**	0	0	4
	Total Hours		**390**	**210**	**180**	**43**

The idea to build a laboratory devoted to electronic document originated from a wish to somehow solve the above-mentioned educational problem and to create some basis for the future development of archival science specialization.

At the beginning of creating a new educational tool very important questions need to be answered: How do we want to teach students? What do we want to teach them, and what should be the outcome? Answers for such questions seem to be very simple, but in reality they need very serious consideration because they will form the foundation for the solution as well as rationale to get involved for possible sponsors, contributors or other

[7] http://www.hist.us.szn.pl/images/stories/zasoby/IH2010_2011.xls

stakeholders (Pearce-Moses 2013a; Wiggins 2013; Digital Media and Learning Research Hub).

The first concept of the laboratory was defined very generally and based on the fundamental assumption that it has to cover the need for teaching about electronic document lifecycle at public agencies and state archives without giving any hard IT classes. The most important was that a future archivist could understand records management, metadata description and digital preservation and how it worked from the different points of view: computer science, archival science and administration. Second main concern was how to match the legal regulations for public administration and archives even if some changes occur in the future. This statement was very important for research and especially for teaching. Nowadays, there are six acts and fifteen regulations that determine the functioning of electronic administration[8] and its preservation in Poland. They deal with: administrative proceedings, electronic documents and their life cycle, requirements for IT systems, interoperability of public registers (e. g. Universal Electronic System for Registration of the Population), informatization of public administration, archival material, office instruction, data protection and secret data proceedings. They can be amended at any time.[9]

[8] Electronic administration is a term describing public administration using information and communication technologies (e. g. electronic documents and signatures, IT systems to manage them) for everyday proceedings.

[9] Full list of legal regulations:

1. Ustawa z dnia 14 czerwca 1960 r. Kodeks postępowania administracyjnego
   - Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 27 listopada 2006 r. w sprawie sporządzania i doręczania pism w formie dokumentów elektronicznych
2. Ustawa z dnia 17 lutego 2005 r. o informatyzacji działalności podmiotów realizujących zadania publiczne
   - Rozporządzenie Rady Ministrów z dnia 12 kwietnia 2012 r. w sprawie Krajowych Ram Interoperacyjności, minimalnych wymagań dla rejestrów publicznych i wymiany informacji w postaci elektronicznej oraz minimalnych wymagań dla systemów teleinformatycznych
     - Rozporządzenie Prezesa Rady Ministrów z dnia 29 września 2005 r. w sprawie warunków organizacyjno-technicznych doręczania dokumentów elektronicznych podmiotom publicznym
     - Rozporządzenie Ministra Nauki i Informatyzacji z dnia 19 października 2005 r. w sprawie testów akceptacyjnych oraz badania oprogramowania interfejsowego i weryfikacji tego badania
3. Ustawa z dnia 18 września 2001 r. o podpisie elektronicznym
   - Rozporządzenie Rady Ministrów z dnia 7 sierpnia 2002 r. w sprawie określenia warunków technicznych i organizacyjnych dla kwalifikowanych podmiotów świadczących usługi certyfikacyjne, polityk certyfikacji dla kwalifikowanych certyfikatów wydawanych przez te podmioty oraz warunków technicznych dla bezpiecznych urządzeń służących do składania i weryfikacji podpisu elektronicznego.
4. Ustawa z dnia 14 lipca 1983 r. o narodowym zasobie archiwalnym i archiwach
   - Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 30 października 2006 r. w sprawie niezbędnych elementów struktury dokumentów elektronicznych
   - Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 30 października 2006 r. w sprawie szczegółowego sposobu postępowania z dokumentami elektronicznymi
   - Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 2 listopada 2006 r. w sprawie wymagań technicznych formatów zapisu i informatycznych nośników danych, na których utrwalono materiały archiwalne przekazywane do archiwów państwowych
   - Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 18 stycznia 2007 r. w sprawie Biuletynu Informacji Publicznej
   - Rozporządzenie Prezesa Rady Ministrów w sprawie instrukcji kancelaryjnej, jednolitych rzeczowych wykazów akt oraz instrukcji w sprawie organizacji i zakresu działania archiwów zakładowych z dnia 18 stycznia 2011 r.
5. Ustawa z dnia 29 sierpnia 1997 r. o ochronie danych osobowych
   - Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 29 kwietnia 2004 r. w sprawie dokumentacji przetwarzania danych osobowych oraz warunków technicznych i organizacyjnych, jakim powinny odpowiadać urządzenia i systemy informatyczne służące do przetwarzania danych osobowych
   - Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 11 grudnia 2008 r. w sprawie wzoru zgłoszenia zbioru danych do rejestracji Generalnemu Inspektorowi Ochrony Danych Osobowych

The laboratory shall give an opportunity to understand, explore and experience what an electronic administration is and how it works. It was planned to simulate the lifecycle of electronic documents based on a model electronic public agency office[10] by including several modules covering the whole process from record creation to transfer to archives. Other goals included making students more fluent in digital problems (generally in archival science) and protecting them from exclusion from the archive labor market and information society giving them theory and practice helping to understand meaning of information era and transparent as well as open government. It was also foreseen for further education of archivists or public agencies' employees in accordance with the concept of long life learning.

The idea was to teach about solutions used in institutions such as public administration and archives. The first model of the Electronic Document Laboratory comprises the following modules: electronic inbox[11] with predefined forms dedicated to different services offered by an agency[12], document management software (DMS),[13] current and state electronic archives. The first module is designed as public administration online contact point for citizens, where they can start administrative proceedings such as an application for a building permit.[14] The second is a platform to pick up correspondences from the electronic inbox and it is responsible for management of all documents created by citizens and clerks and all additional data collected during administrative work by an agency. It is connected with a current archives, which manages records no longer in use before they will be delivered to electronic State Archives as a SIP (Submission Information Package) (Consultative Committee for Space Data Systems 2012). The latter preserves materials for the long-term and is the final stage in a document lifecycle.[15]

---

6. Ustawa z dnia 5 sierpnia 2010 o ochronie informacji niejawnych
   - Rozporządzenie Rady Ministrów z dnia 25 sierpnia 2005 r. w sprawie podstawowych wymagań bezpieczeństwa teleinformatycznego
   - Rozporządzenie Prezesa Rady Ministrów w sprawie instrukcji kancelaryjnej, jednolitych rzeczowych wykazów akt oraz instrukcji w sprawie organizacji i zakresu działania archiwów zakładowych z dnia 18 stycznia 2011 r.
   - Rozporządzenie Rady Ministrów z dnia 7 grudnia 2011 r. w sprawie organizacji i funkcjonowania kancelarii tajnych oraz sposobu i trybu przetwarzania informacji niejawnych

[10] Electronic office is a term describing an office where information technology is used for everyday proceedings. Sometimes this term is used as a synonym for electronic administration or in a narrow meaning as an online service allowing citizens to contact a public agency.

[11] An electronic inbox is a mean of electronic communication with a public agency by global teleinformation network. Elektroniczna Skrzynka Podawcza: http://www.cpi.gov.pl/elektroniczna_skrzynka_podawcza,51.html, 31 July 2014.

[12] Electronic inboxes of public offices are accessible on the Electronic Platform of Public Administration Services (ePUAP). Electronic Platform of Public Administration Services is a virtual interface targeted at all public institutions to provide information about all services for citizens in one place, some of them can be conducted online (the amount is constantly growing). More can be found here: http://epuap.gov.pl/wps/portal/!ut/p/a1/jZBPb4JAEMU_Db2VHRZKsYlpqH8S8GDSKsW5mKUsuMnKbpZVYj99wZMxrXZub_J7M2-GIMkJNuwoamaFapgcNIZbb0QDj35AGmXTN0iy1ftqMc8oUK8HNpfAchY8DUBKo-eQwtL_nx_-qBju-T8J3kQm4TVwFTGgd4DhhjNwI2RKsJaqOD9sEzeFH9UEDa-44cY9mL69s1a_OOAA1wem3VodXS0d6HTrgFbGsl7M6BZLZr55IxievoTq-KvkSTn2vdFDpUxc7scVky3_bctOtZbkl9OJ3q9zEMkjFqfuB5DN3i8!/dl5/d5/L2dJQSEvUUt3QS80SmlFL1o2XzE5MjQxMlMwSk9FNDUwSVZUSjI4NzYyMFMx/?lang=en, 31 July 2014.

[13] A document management system (DMS) is an electronic system to create, manage, store, and archive records for a certain period of time according to the archival law.

[14] Building permit form can be accessed here: http://epuap.gov.pl/wps/portal/!ut/p/a1/04_Sj9CPykssy0xPLMnMz0vMAfGjzOINLY1MDI2CDbwswlycDDzDQoJCvN3CjAyMDPULsh0VAa_Q2Tw!/, 31 July 2014.

[15] For more detailed description on all modules of the Electronic Document Laboratory see: Anna Sobczak 2012, "The Climate of Changes in Educating Archivists – Electronic Document Laboratory," http://ica2012.ica.org/files/pdf/Full%20papers%20upload/ica12Final00118.pdf (Accessed: 21 September 2014).

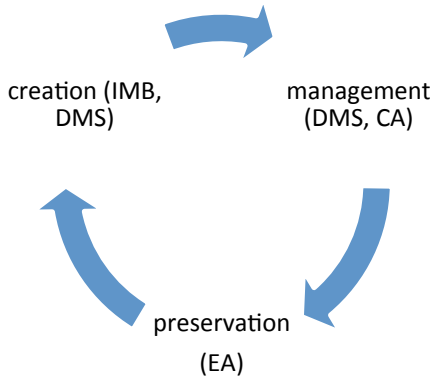

FIGURE 1.
Model of the Electronic Document Laboratory

At first there was an idea to buy proprietary software and hardware (computers, servers, etc.). The Department of Humanities, to which the History & International Relations Institute is under, applied for a grant to the Ministry of Science and Higher Education. Meanwhile, a pilot phase of the Laboratory was introduced in the summer semester 2011/2012 in cooperation with an IT company from Szczecin. In this period a basic laboratory was established. It consisted of a module of document management software in an exemplary public agency connected to the Electronic Platform of Public Administration Services[16] and to an electronic inbox developed by the IT company[17] and two more separate software applications were in use: a SIP viewer[18] and a prototype of Archives of Electronic Documents[19] of the Polish State Archives. Students attending IT classes for archivists had an opportunity to get a glimpse of a public administration employees' job when dealing with an individual case. They very easily mastered how to use software and idea of the document lifecycle. However, after the test phase was over, the project encountered problems with receiving a grant and was therefore discontinued. Only some of its elements delivered by the public services were used during classes in the next years. This stalemate was a first step towards modifying the concept of the laboratory.

[16] For the pilot phase of the EDL there was a basic form in the test platform of ePUAP allowing students to create an electronic document to start a case by the exemplary institution. The test form is available here (to see and fill in the form an account is needed): http://test.epuap.gov.pl/wps/portal/E2_OpisUslugi?searchEngine=true&opisId=3260&kartaId=6770&pE2SHHlWords=humanistyczny+wydzia%C5%82.

[17] This service of an electronic inbox is similar to the service provided by ePUAP because it allows citizens to contact an agency, except that it is a service only of a one institution not of all which are in Poland such as ePUAP.

[18] The software to view SIP is called Submission Information Package Virtualization it allows to view and read a content of SIP (documents with metadata files describing them and cases to which belong) in a visual form easy to interpret and understand by a human. The software is available here: http://mac.bip.gov.pl/wizualizacja-paczki-archiwalnej/wizualizacja-paczki-archiwalnej.html. Exemplary SIP here: http://epl.icm.edu.pl/download.php?id=263&sid=43b66c4094b55e396d79f6e77e2f8604.

[19] This prototype is available here: http://ade.ap.gov.pl/. For the pilot phase only the manual of the platform was used to explain the process of SIP transfer to electronic archives. Manual: "Archiwum dokumentów elektronicznych. Dokumentacja użytkownika. Wersja 0.3", www.ade.ap.gov.pl/ade.pdf.

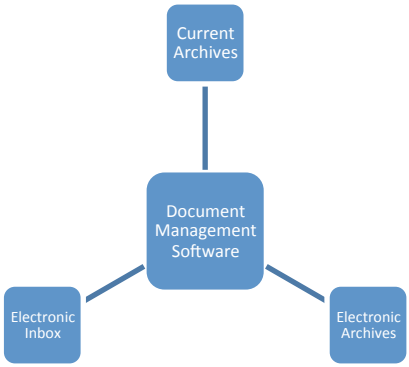

FIGURE 2.
Simplistic Document Life Cycle Modules of Electronic Document Laboratory

After two years some new ideas came from different specialists. Simultaneously similar projects worldwide and a rush development of electronic administration in Poland (as well as open source software) began and the new concept started to develop. Now, it is even possible to create an improved project covering more issues without spending a penny on software but just on some hardware infrastructure. For the first part of this statement to come into effect the cooperation with some institutions, such as for example Head of the Polish State Archives which owns a variety of self- or co-developed software, must be established. Just a good insight into the open source movement concerning digital archiving as well as cooperation with IT staff of the department is needed to achieve the second assumption. There could even be no additional costs related to university employees' salaries because the work on the project could be a part of their regular duties. So this concept would be based on cooperation between public bodies, which could be confederated in the future. This would make the EDL a unique solution in Poland, thanks to the fact that it covers whole life cycle of a document and financial business model.

Owning such a laboratory would provide an opportunity to create a completely new curriculum with classes on electronic document management, digital archives, etc., which would emphasize digital instead of traditional aspects of archivists' profession. For the time being the project has not started in its newest form.

Summarizing, it is hard to predict what changes and developments in education and public administration will be triggered by future technological improvements. It remains to be seen how both ecosystems have improved and absorbed IT very rapidly. Such projects as the Electronic Document Laboratory will have to develop continuously and probably it will never be possible to say: "It is finished!" because something new can occur the following day. *"However, [educational] institutions must continue to enhance what they offer and respond effectively to the diverse needs of their students."* ("Students raise concerns over quality of university courses").

ABOUT THE AUTHOR

Dr. **Anna Sobczak** wrote a PhD thesis on digitization and the use of IT in national archives in Germany. She had internships at a few archives in Poland and in Germany (e.g., Federal Archives of Germany) and libraries in the United Kingdom and Germany (e.g., State Library of Berlin). She presented several papers and posters at conferences on

history and archival science in Poland and in Switzerland, Germany, Australia, and Sweden. She took part in archival projects in Germany (e.g., "Joseph-Teusch-Werk"). She published dozen articles and reports relating to archival science and history in Polish, German and English (e.g., in: "Archiwista Polski," "Archeion," "Problemy archiwistyki," "Przegląd Zachodni," and "Archivar"). She teaches digitization and ERM.

REFERENCES

Brown-Martin, Graham. "We continue to use technology to reinforce 19th century teaching practice." Available: http://www.wise-qatar.org/technology-education> (Accessed: 28 August 2013).

Chorążyczewski, Waldemar. Kwiatkowska Wiesława, „Sylwetka i kompetencje absolwenta studiów archiwistyki i zarządzania dokumentacją.", Problemy archiwistyki 2/2009, 4—11. Available: http://www.archiwa.gov.pl/images/stories/Wydawnictwa/Problemy2_2.pdf (Accessed: 15 August 2013).

Consultative Committee for Space Data Systems. 2012. *Reference Model for an Open Archival Information System* (OAIS). CCSDS 650.0-M-2 Magenta Book.

Digital Media and Learning Research Hub. "Games, Learning & Literacy in the 21st Century: A Few Moments with James Paul Gee." Available: http://dmlhub.net/newsroom/expert-interviews/games-learning-literacy-21st-century (Accessed: 01 September 2013).

Kharbach, Med. 2013a. "8 Characteristics of the 21st Century Teacher." Available: http://www.educatorstechnology.com/2013/04/8-characteristics-of-21st-century.html (Accessed: 19 August 2013).

Krochmal, Jacek. 2008. "Kształcenie w zakresie archiwistyki i zarządzania dokumentacją współczesną w polskich uczelniach wyższych. Stan z roku akademickiego 2006/2007." In Archiwa w nowoczesnym społeczeństwie. Pamiętnik V Zjazdu Archiwistów Polskich Olsztyn 6-8 września 2007, edited by Jarosław Poraziński, Krzysztof Styjkowski. 367--394.Warsaw: ZPW POZKAL.

Pearce-Moses, Richard and Susan E. Davis, Eds. 2006. *New Skills for a Digital Era*, colloquium proceedings (Washington, DC: National Archives and Records Administration, Society of American Archivists, Arizona State Library).

Pearce-Moses, Richard. 2013a. "Engaging online education: Mastering Digital Archives." Available: http://archivesinthedigitalera.blogspot.it/2013/08/engaging-online-education-mastering.html (Accessed: 05 September 2013).

Pearce-Moses, Richard. 2013b. "Technical Knowledge Necessary for Archival Jobs." Available: http://archivesinthedigitalera.blogspot.it/2013/07/technical-knowledge-necessary-for.html (Accessed: 29 August 2013).

Pinantoan, Andrianes, "How Google Glass Can Be Used in Education." Available: http://www.opencolleges.edu.au/informed/features/how-google-glass-can-be-used-in-education-infographic/ (Accessed: 20 August 2013).

Wa, Tony, "Nine Questions for Evaluating Education Innovation: Defining a Rubric to Set Clear Expectations for Educators and Entrepreneurs Alike." Available: https://www.edsurge.com/n/2013-07-23-nine-questions-for-evaluating-education-innovation (Accessed: 07 September 2013).

Wiggins, Grant. "Critically Examining What You Teach." Available: http://www.teachthought.com/teaching/critically-examining-what-you-teach/?utm_source=buffer&utm_campaign=Buffer&utm_content=buffer47f08&utm_medium=twitter (Accessed: 08 September 2013).