# Sustainable LIS education in a global world

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## Abstract:

*LIS education takes place in an increasingly networked, global world. Yet library services are maintained through local practices. How can Library and Information Science (LIS) educators address the mutual interaction between practices on a local and a global scale, in particular in programmes devoted to digital libraries, the distributive Internet, and new media? In the presentation, we draw on examples from a master's programme in Digital services to illustrate how we have tried to integrate three levels of scale – macro, meso (interpreted as national), and micro – in the programme. In particular, we emphasize the importance of 1) integrating the global phenomena and theories commonly associated with digital environments with local practices, for instance through working with existing services, organizations and resources, and 2) finding educational models that help the students make connections between the global and the local.*

## Introduction

The ideals of standardization and collaboration are emblematic in the library world, whose history embraces such visionaries of standardization as Melvil Dewey (Wiegand 1996) and Paul Otlet (Rayward 1975). Classification systems have been standardized on a national scale, and can in some cases be considered global. Bibliographies have been compiled and distributed, and range from being locally to globally comprehensive. Library catalogues are increasingly subsumed into larger bibliographical supersystems. In their early days, digital libraries and services were often based on local, in-house solutions, but have since moved on to increasingly international and, to some extent, collaborative initiatives and standards (Besser 2002). Digital documents and their metadata are often compiled from many localities using standardized formats and markup, and can be simultaneously displayed and retrieved as part of various digital collections. Moving

between contexts, the documents and their metadata are repeatedly de- and re-contextualized (Kjellman, Hansson & Dahlström 2009).

But the movement between the local and the global levels does not only comprise standards, formats, documents, and technology. It is also about institutions and people. The globalization of standards commented on above brings an intensified collaboration between different memory institutions to the agenda, and several LIS schools have felt the need to accommodate this by launching programmes explicitly overarching the archives, libraries, and museums sectors. Further, the patron base for many libraries has extended globally to include, at least in principle, anyone with an access to the web and an interest in library services. In parallel, LIS educators are faced with a general higher education trend where web-based education and increased student mobility extend the student base from the local to the national, and often to the international scale.

Notwithstanding these changing conditions, most public and academic libraries still have a local mission and agenda to fulfil, and they often need to adapt global resources to local communities, and to tweak general tools and standardized formats to meet local needs. How do we address such mutual influences between practices on a local and a global scale in LIS education, in particular in programmes devoted to digital libraries, the distributive Internet, and new media? In this paper, we discuss how we have tried to integrate three levels of scale – macro, meso (interpreted as national), and micro – in a master's programme in Digital services run by the Swedish School of Library and Information Science (SSLIS) at the University of Borås. An important task has been to collaborate closely with partners from libraries and companies with varying local and national agendas.

## The programme: Digital services

The programme, *Digital services – culture, information& communication*, is a two-year distance-mode master's programme for the culture and information sectors. It aims to reach students all over Sweden. The present students are mainly professional librarians, but there are also a few students from other areas, such as archives. The programme is run as a part-time programme so as to facilitate participation by professionals. In the programme, a number of digital library services, including e-publishing, digitization, social media, and virtual reference services, not only form the core learning objects but are integrated as pedagogical tools and are subjected to critical inquiry by the students. Several of the areas combine standards and audiences on a global scale with production, decisions, and audiences on a local scale.

In the area of digital services, discussing technologies and services mainly on a global scale is tempting. In developing and running the programme, however, SSLIS has worked in close collaboration with libraries and companies in the library sector representing both a national and local level. Our approach has been that the way the students work with 'global' technologies, including publishing open access journals through widespread journal management systems and digitizing local cultural heritage using standardized open source tools such as XML and TEI, needs to reflect local practices in order to be sustainable and to provide the type of services the local community needs. For this reason, collaboration was initiated with three libraries and a company in the library sector in 2007, supported by a grant from the Swedish Knowledge Foundation. An important reason for this support was the close collaboration between the

partners, as this is so far not particularly common in the humanities and social sciences in Sweden. The programme started in the autumn of 2009. It was in part based on previous courses, for instance in digitizing the cultural heritage (Dahlström & Doracic 2009), but many of the courses have been and are developed from scratch by the partners.

In the following, we will provide examples from two courses on how we have tried to integrate the local level with the national and global levels. Although the examples are limited, they illustrate how we work in all the courses in the programme. Since the programme is very new, only one of the courses has been offered so far, whereas the two courses in the other example are at a planning stage. However, it they based on experiences from previous courses on similar topics.

## Course example 1: Digital media in the culture and information sectors

This introductory course in the programme prepares the students for analyzing and theorizing digital media and addresses the various roles they play in society. The students are introduced to a theoretical understanding of media from a socio-technical viewpoint, thus laying a foundation for a view of media and its users that the students will come across in many of the subsequent courses in the programme. The reading assignments include both authors working primarily with issues on a global scale (e.g. Castells) and authors exemplifying global issues through local activities (e.g. Bishop *et al*'s *Digital Library Use*). However, the theories are easily perceived as abstract, and we feel it is important to also provide local and specific examples for the students to work with. The course was planned so that the students will have to apply the theories they encounter to a number of Swedish digital services, many of which in some way use tools associated with social media or web 2.0. Some of these services, but not all, are provided by our partners.

When the course was offered in the autumn of 2009, an analysis of a service was performed as a group assignment. The students analyzed the services from the following perspectives: use of the digital medium; remediation; web 2.0; social roles; user groups; and interface. Each group was assigned a specific digital service to analyse. The services targeted different user groups. For instance, Wikipedia has a very extensive target and user group, and in particular the English language version could be said to function on a global scale, although always through local practices. The search engine *Sondera* provides simultaneous searching of the national library catalogue, the Swedish archives database, and the Swedish Media Database, and works on a national scale, covering different kinds of cultural institutions and sectors. However, there were also services mainly active locally, such as public library websites influenced by ideas about library 2.0.

To facilitate for the students to gain an understanding of the local practices and audiences influencing the services, and the interaction between practices on a local and a global scale, the groups were provided with a contact person at each of the services. Not surprisingly, the groups who were working with the services that primarily have a local target group were the groups most prone to pose questions to the contact persons. In many of the other cases, such as Swedish Wikipedia and the national reference service *Ask the library*, the groups felt there was enough information available through other channels. In these cases, the students closely analyzed the service websites and surrounding documentation in order to learn more about the

specific services and to make connections between the local artefacts and practices on the one hand and the generalizing theories on the other.

There was a similarity between the services with local and global target groups in that they all made use of globally available technology and applications to a greater or lesser extent. For instance, an institutional repository that one group analysed was built on DSpace, a digital library of Swedish literary classics that another group worked with is built on TEI, and so on. The analyses of these specific services provided a tool to re-contextualize the technologies, but also to discuss the course literature in a more concrete manner, to re-contextualize the theories. Thus, existing and sometimes familiar services were used to exemplify and re-contextualize the technologies and media that were studied in the course. This was, by no means, a trivial task, and our experiences indicate that it is something that needs to be not only practised further but also discussed more within the course. The analytical procedure was later in the course implemented in a second analysis where the students worked individually with a digital service of their own choice, for instance a service they used a great deal or came into contact with in their work place. By using a service whose technology and use they were familiar with, the students could also connect the assignment to an existing organization. We encouraged the students to share their final analyses and feedback with the contact persons of each service, thus strengthening the bonds between the programme and local practices.

## Course example 2: Digitizing and encoding cultural heritage material

Two consecutive and interdependent elective courses are currently being designed on digitization and text encoding of cultural heritage material. They both build on and develop ideas and experiences from four previous (2004–2008) instances of a course on cultural heritage digitization at SSLIS (the outcomes of the course are presented and critically discussed by Dahlström & Doracic 2009). In the two courses, the students will be thoroughly trained, hands-on, in high-quality digitization and its whole set of actions: planning, design, selection, image and text capture, conversion, XML encoding and XSLT transformation, web design, publishing, and evaluation. This strategy is based on the assumption that digitization education is more sustainable if the students are, firstly, bereft of the idea that digitization as a chain of activities can be de-contextualized and reduced into a single isolated activity, such as making a digital scan of a physical document. The many activity links in a digitization project are interdependent and mutually affect each other. Secondly, we believe that digitization education might easily be tempted to merely manage generalized principles, standards and document models, and have the students familiarize themselves with projects already performed by others, often through national or international endeavours. Instead, our students will perform digitization hands-on projects themselves, using live archival material, preferably from their local home institutions and workplaces, exhibiting particular local needs and problems.

The courses actively enrol professional cultural institutions. In particular, the National Library of Sweden is co-working with SSLIS in both planning and running the course, as well as offering the students live archival material to be digitized and edited – in cases where the students do not bring their own material to digitize. Thus, the students can perform their project as part of an existing larger project at either their workplace or one of SSLIS's collaborative partners. We also plan to engage digitizing institutions from the archival and museum sectors, as well as local and national agents from the enterprise sector, such as commercial digitizing agents.

It is important for the course to cover the mutual influences between the micro, meso, and macro levels. Agreed, it is essential that the course is centred around long-term goals and principles, around using platform independent standards and formats, and around open source solutions. Such an approach supports the portability, sustainability, and re-usability of the digitized material in years to come and in new contexts. For instance, not only do we teach the students open access and open source approaches, we indeed require the students to work with and to deliver their project materials on an open access and open source basis. But this needs to be combined, we believe, with having the students engage in digitizing material of local provenance and significance, and in tweaking the global and generalized technologies and practices to the particular local level at hand. This means creating a balance between, on the one hand, project specific, local and short-term solutions, and, on the other hand, project general, global, platform-independent, and long-term standards. In practice, this balance comes into play and can be discussed strategically and analytically by the students at practically every step in the digitization phase:

- selection (students e.g. learn that material can be differently 'significant' in local, national or global contexts, and have the opportunity to discuss how memory institutions at different levels can select material to digitize, considering what major international actors such as Google BS or The European Library are already doing anyway),

- editing (what particular and local information needs to be added to the digitized material, and how do the generalized and open source tools serve material and projects that are particular and local?),

- resources (is it worth the effort to acquire, learn and locally adjust programs and systems that are generalized, international and often with a steep learning curve?),

- law (many tools and principles within digitization are founded on international law, but local needs and national legal systems often differ),

- adding metadata (making the students understand how metadata serve the purpose of re-contextualizing material that has been de-contextualized in the digitization process), and

- publishing (using technology to enable the digitized material to be dynamically presented and tailored to different local or even individual needs).

## Discussion

The particular aspects of the three courses that we have emphasized above could be said to be based on how they engage existing services (analysing digital services), existing organizations (analyzing digital services or digitizing resources from one's own organization), and existing resources (digitizing resources from one's workplace or within an ongoing project) as part of the courses. The engagement of existing services, organizations, and resources is, however, present in most of the courses in the programme to varying degrees. The examples illustrate two issues that we think are important in offering programmes on digital libraries and other types of digital services, namely how to integrate the global phenomena and theories commonly associated with digital environments with local practices, and finding educational models that help the students make those connections.

In the paper, we have used 'local' and 'global' in a number of different ways. 'Local' concerns local practices targeted at a local (possibly quite heterogeneous) user group. Local has also been equated with specific tools, software or practice-sharing sectors, and with documents and their contexts. 'Global', on the other hand, has been understood as the result of local practices that are adopted on a global scale, such as standards, agreements, or services with a global target group. An important task for programmes such as ours is, we believe, to move repeatedly between these various levels of scale: from the general to the specific, from the geographically global to the local, from standards to their implementations in local practices, and back.

A similar perspective applies to (collections of) documents and their contexts. Current digital practices, not least combined with the principles of open access and open source, seem to increase the velocity with which documents are de-contextualized. Digitization might for example move the documents from a local context to the global web, or modularize them by removing them from their contexts of local provenance, cutting them up into modular fragments and pouring them into databases from which the fragments can be exported to new contexts. Simultaneously, digitized documents (fragments and collections) and resources are constantly accessed, shared, and re-used in new contexts that might quite well be of a local nature. Both the digitization and the modularization activities thus result in not only de-contextualizing documents, but also re-contextualizing them, and enhancing new and complex interplays between local and global contexts. How might these movements between contexts and technologies affect our understanding of the meaning and significance of documents and collections? Do various digital library systems and practices seem to cause, propagate or reflect changes in such notions and understandings? A LIS programme on digital services is, we think, well suited to address such issues, critically reflect and discuss them, using for instance a framework from socio-technical theories.

This broad interpretation of the relation between local and global, which emphasizes constant interaction between the levels, is partly inspired by work in sociology and urban studies, which has shown that the global (in terms of globalization) and the local have often been positioned as opposites. Globalization discourses tend to address globalization in terms of economic flows whereas the local level has been associated with specific cultures. The global level has been the privileged one, the universal one, whereas the local cultures and communities have been regarded as particular and scattered. (Smith 2001) In contrast, Michael Peter Smith suggests that there is a "criss-crossing of scales of social practices" (2001, 106) and that local practices are not without power in a globalized world, nor merely constrained to the local. Rather, he claims, there is a complex interaction between local and global scales, as well as with the national (meso) scale. Many local practices conjoin to create global practices, of politics and culture as well as economy. There are distributed communities working locally but also interacting across space. The various levels of scale co-construct each other (Johannisson 2006, 71). This needs to be reflected when we discuss and, indeed, teach digital services.

Another challenge, by no means unique to education in digital libraries and services, is to facilitate for students to make the connection between various local practices in which they engage. Research on learning, in particular the socio-cultural theory of situated learning (Lave & Wenger 1991) argues that learning takes place in situated practices. Students are, or will be, part of different practices as students and as professionals, and the education needs to facilitate for them to make connections between the two. Meeting examples of existing services and resources

and working with existing organizations can, we believe, provide a fruitful exchange between education and professional practice. There should also be an exchange between learning about universal principles and applying these principles in specific, historically and spatially situated, practices. As can be deduced from the two examples above, it is our intention to meet these needs through our programme design and pedagogy.

In the Digital services programme, we have aimed at a progression when it comes to how the students encounter professional activities, introducing increasing interaction with existing projects and organizations in the latter part of the programme. Most of the students are already practicing professionals, although their local practices do not always concern digital services. In one sense, the introductory courses serve to teach them how to be students at an advanced level because, as we see it, university education also provides critical thinking and theoretical awareness that can enrich professional practice, but which also differs from professional practice.

Speaking of the local (in terms of communities of practice) as an analytical level, Wenger (1998, 133) notes that:

> Focusing on the level of communities of practice is not to glorify the local, but to see these processes – negotiation of meaning, learning, the development of practices, and the formation of identities and social configurations – as involving complex interactions between the local and the global.

We believe that an important task for educators is to find ways to engage practices on both global, national, and local scales when preparing students for the labour-market or when offering further education to professionals. The educational design needs to reflect the interaction between the three levels in a pedagogically constructive, engaging and meaningful way. Balancing these levels and having the students encounter, appreciate and actively engage with all of them is, we believe, a core ingredient in an education on digital libraries and services that hopes to be long-term, meaning-making, and sustainable.

## Acknowledgements

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