



Information Technology

SECTION

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Extra

Les Besoins en formation en Technologie de l'Information dans les pays de l'Afrique du Nord

28-20 March 2007 in Rabat, Morocco

Report by Diann Pelz-Rusch

Introduction and Background of this Seminar

Building on the Information Technology (IT) Training Needs Assessment Survey carried out by the author of this report from 1999-2001 partial funding through a small projects grant to the Section of Information Technology, this seminar focused on continuing education and training for librarians and information specialists in the countries of North Africa. This was particularly significant, as there was only minimal participation from the North African countries in the original survey and this seminar provided an important opportunity to target this region and reach many of the major multipliers of continuing education for librarians. The Seminar was graciously sponsored and hosted by the École des Sciences de l'Information (ESI) in Rabat, Morocco, with additional support from the IFLA/ALP (Action for development through libraries program), the Goethe-Institute in Rabat-Casablanca and the UNDP Information and Communication Technology Direction for the Arab Region (ICTDAR). The Seminar was organized by Nazha Hachad, lecturer and faculty member responsible for cooperation and international relations at the ESI and member of the Standing Committee of the IFLA Section for Information Technology.

The Seminar extended from Wednesday, 28th March to Friday, 30th March, 2007, with two days devoted to the general theme and one day filled with three workshops focussing on:

- Digitization, practical and strategic experiences,
- Digital Repositories – new networks for universities and scientists,
- Library Management to meet information technology needs in the 21st century.

Focus on Information Technology Training Needs in the North African Countries

The Seminar was opened by Mr. Mohammed Bijaad, Secretary General of the High Commission of Planning, who spoke on the active role the High Commission was taking to reduce the digital gap. E-commerce and education on information handling can be used to publicize and improve information provision to the people. He also recognized the ESI's role in integrating information society research and consulting in addition to its educational role concerning information technologies. He was followed by Dr. Jürgen Woelke, Cultural Attaché of the German Embassy in Rabat, who also addressed the importance of information technology in view of globalization. Mr. Saad Azzahri, President of the Arab Federation for Libraries and Information (AFLI), made the audience aware of the activities of the Arab Federation. He reported on a survey similar to the IT Training Needs Assessment which was conducted in 1999 and the annual workshops since then concentrating on one or two subjects affected by the cultural paradigms. Mr. Azzahri emphasized the following personal competencies being much more important than the actual skills in enacting the information technology changes: 1. commitment to the cultural paradigm shift, 2. interpersonal and communication skills, and 3. high quality persons with good training in all areas. Unfortunately, a lack of such persons was noted, as many high quality candidates move to corporate positions.

Mr. Wolfgang Meissner, Director of the Goethe-Institute of Rabat-Casablanca, also spoke on the German interests in promoting technological innovation in the information fields, noting as well

the activities of the Goethe Institute in Northern Africa in such as Arabic translations of German works, and vice versa, contact and support of the Arabic Book Fairs, and continuous support of electronic resources used in promoting information about Germany, etc.

After this introduction to the Seminar, Diann Pelz-Rusch, member of the IFLA Standing Committee on Continuing Professional Development and Workplace Learning (CPDWL) and adjunct lecturer at the Department of Library Science at the Humboldt University of Berlin, gave a presentation on the results of the original IFLA "IT Training Needs Assessment in developing countries and countries in socio-political and economic transition" survey. She gave an overview on the background and motivation leading to the survey and on the procedure. The purpose of the IT Needs Assessment was

- To identify available competencies which could help multiply such skills and knowledge within the region,
- To identify the training needs felt by the individual librarians in the various countries,
- To stimulate development of appropriate continuing education training programs and workshops for these groups in the languages needed while also respecting cultural differences,
- To promote development in such a way that would support use of standards, freedom of access to information, etc.,
- To include not only „developing“ countries, but also post-Socialist countries and other countries in socio-political and economic transition.

In presenting the results, she offered analyses for the geographical distribution, age- or experience-related divergences, and also included the statistics from the questionnaires received during the years 2004-2006 after the electronic survey had been closed – many of which were from Arabic-speaking countries in North Africa and the Middle East. The survey evidenced some very strong areas of competencies, but also exposed glaring weaknesses still to be overcome in Africa, South American and the Asian countries. In some places, the survey showed, offerings in continuing education focused on information technology were quite good, but the participants were not able to participate in them for financial reasons, because they would not be allowed off from work for such education, or because the offerings were concentrated in urban centers which made participation by those outside the urban communities impossible. The major needs for information technology training could be summarized with the greatest needs being in the area of advanced databases and searching technologies, advanced Internet skills including evaluation and in the area of migrating library services to web-based services. In the meantime, some of these training needs have been met in larger, urban libraries, but certainly not in all countries and certainly not in less urban areas. It was noted that significant advances in some of the desired areas of IT training have been successfully achieved through the Open Society Institute-sponsored eIFL.Net efforts and consortia building in the Middle East, Eastern Europe and post-socialist countries, as well as in parts of Africa. Ms. Pelz-Rusch closed with remarks on the overall survey results, lessons learned and recommendations for further continuing education in the area of information technology to overcome the remaining gaps and deficiencies in these geographical areas.



Mrs. Najat Rochdi, Information and Communication Technology Director for the Arab Region of the PNUD, United Nations, spoke enthusiastically on the topic "Knowledge and development: an opportunity for libraries in the 21st century." She noted that development is about "advocating for change" and for a "mind-set shift" from information retention to information dissemination. She also reiterated Mr. Azzahri's focus on personal skills: it is not just skills, but librarians as persons are agents of change, making education and new knowledge possible. To a question about whether the Arab language presented problems in facilitating this change, she noted that many researchers in Arab countries do publish in English rather than in the Arab language and this should be overcome. There is no longer a deficit in the IT structure -- including Arabic characters,-- and there is no lack of materials in the Arab language: scanning projects are reducing problems in this area. Rather, a more major problem lies in information literacy, implementing more e-learning and information dissemination, and thereby reducing the "knowledge divide." In Mrs. Rochdi's view, the "knowledge divide" can be seen as identical to the "digital divide" and can lead to marginalization, poverty and exclusion from development even more quickly than past developments.

Country Reports from the North African Countries

In a second segment of the main conference, various reports on the state of information technology needs in library and information training in the various North African countries were presented. Ms Radia Bernaoui, lecturer and researcher at the Library School in Algeria described the situation in Algeria in her lecture "La formation en sciences de l'information aux nouvelles TIC. Cas du département de bibliothéconomie et des sciences documentaires d'Alger." She discussed the information technology components of research courses at the Library School, and their importance for the graduates in finding appropriate jobs.

The Egyptian perspective was given by Mr. Shawky Salem, Professor at the University of Alexandria, Chairman of the Alex Center for Multimedia and Libraries (ACML), in Alexandria, Egypt, and member of the Professional Board of IFLA. He spoke on "The role of information literacy in developing the information technology infrastructure" in terms of the case study Egypt. In countries where the secrecy of government documents and other legal decisions was traditional for many years, IT is creating new aspects of information literacy and openness to the governing processes. The newly created Egyptian Ministry of Communication and Information Technology has worked to make Internet services free to everyone in Egypt. As of the beginning of 2007, a new educational program has begun to increase "productivity" of information. Mr. Salem noted that in Egyptian universities, the number of dissertations on information technology has risen from 1986 to 1996 from 8% to 43 % with a clustering of themes around the communication process and the conceptual field.

Mrs. Hanane El Yousfi, Assistant Professor and Rechercheur at the ESI in Rabat discussed the topic "L'intégration de la composante « Technologies de l'Information » dans le cursus de la recherche en science de l'information à travers l'exemple de L'ÉSI." Her presentation emphasized the necessary philosophy, theoretical aspects and operational aspects of using IT skills for finding, assessing, processing and using information resources. She gave examples from her searching courses at the ESI.

This was followed by an insight into the national strategy for information technology in Mauritania: "Importance accordée à l'enseignement des technologies de l'information dans le domaine de la bibliothéconomie et des technologies de l'information en Mauritanie" by Mr. Mohammed Ould N'tilitt, Director of Informatics and Statistics of the Ministry of Interior, Posts, and Telecommunications, Noukchott, Maritania. Mr. N'tilitt described the new national strategy for integrating information technology in all walks of life. Although one third of the population of Mauritania is illiterate, IT is used to contact and inspire people to improve their reading skills. Following that, there is a systematic training program to show them how to use the library. For this purpose, 214 libraries were created and 50 "maisons des livres". Furthermore, additional training in using information technology to fight against school dropouts is being developed. Since Mauritania does not have a librarian training institution, he looks to a Magreb cooperation to set up connections and promote distance learning. Within the national plan for education, videoconferencing centers are being set up and a move to distance learning and improvement of infrastructures are being focused upon.

Last but not least, Mr. Mohammed Ben Romdhane and Mr. Abderrazzak Mkadmi, both assistant professors at the Institut Supérieur de Documentation (ISD) in Tunis, Tunisia, spoke on "L'Institut Supérieur de Documentation (ISD) entre les défis des TICs et les besoins de la formation à l'ère du numérique." Since the World Summit on the Information Society in 2005 in Tunis, reform of the school and university curriculum is taking place to adapt to the new information technology approaches. The Virtual University of Tunisia was created already in 2002, a network of university libraries formed years ago will now be computerized, Hence, the library school in Tunisia is striving to improve the curriculum to include more information technology content, improve opportunities for continuing professional education – for which very little is currently offered – and use distance learning via the Internet much more widely.

Discussion following the first day's sessions displayed how the training institutions were giving solid training in information technology skills, and their graduates were well-prepared to enter the fast-paced technological world. However, there is little offered to the practicing librarian to build up skills in this area, except on their own initiative. And it was often expressed that not enough was being done to integrate the Arabic language world – that the digital divide due to language and cultural influences was producing greater marginalization. However, Mr. Salem also mentioned that Information is the most expensive industry in the world, more than for armies or drugs. He emphatically suggested that library schools update their curriculum each year. He also noted that the UNISIST INCLASS project is very important – this project focuses on augmenting the curriculum of secondary schools to include instruction on filtering information, determining the quality and verifying the accuracy of information. Other participants of the session still insisted on the aspect of finding more funding to engage in research on the digital divide and in digitizing important Arabic works.

The Director of the Library School in Senegal, Ibrahim Lo, noted that he had heard the same themes in sub-Saharan Africa about 10 years ago. However, as a result of those discussions, LIS schools in Eastern Africa (Ethiopia, Namibia, Botswana, Senegal etc.) have joined together and pooled their resources. They also received support for connectivity

and information work from the African Development Bank. Today, some headway has been made, but it is still not enough. He also noted that no LIS school in North Africa is a member of ATHLI: there are experiences which can be shared and perhaps the situation can be improved with greater cooperation between the library and information schools, both in distance learning offerings and in exchange of students and faculty.

The Digital Divide, Visibility and Training in the Field of Information Technology and Communication

The second day of the main conference was devoted to the digital divide, visibility and training in the field of information technology and communication. Mr. Khalyd Chellouli, a Moroccan doctoral student at the Université Paul Cezanne in Aix-Marseille III, France, gave an overview of web visibility and presence of the North African countries "Présence et visibilité sur le web des pays de l'Afrique du Nord: und fracture en ligne." Applying various types of bibliometric methods to web resources ("webométrie") it has been determined that the number of links to a work is indicative of the visibility of an object in the same manner as a citation. Also analysed were changes in website names and domain levels – including aspects of whether a name had a generic top-level domain or a country or geographic code. In looking at the statistics for the number of sites in the North African countries, French and English dominated the website languages, only 30 % of the websites were in Arabic. Egypt had the most websites (1,260,000 web pages) followed by Morocco (1,070,000), Algeria, Tunisia, Mauritania and Libya—although the study was limited to those websites with a geographical domain. Mr. Chellouli also analysed the correlation between population of the individual North African countries and the number of recorded users of these pages.

Dr. Nouredine Elmquaddem, Assistant Professor at ESI in Rabat, challenged the virtually impossible question in his talk "la fracture numérique : mythe ou réalité!" He spoke of new inequalities in terms of access to telephones, computers and access to technology in general. Inside each of these countries is an individual digital divide, he noted. An ISESCO report covers the situation of information and communication in the Arab countries. Mr. Elmquaddem also noted the Digital Access Index: <http://www.iitu.int/ITU-D/ict/dai/index.html>. The number of subscribed users to the Internet does not indicate the actual use. It also does not cover the high number of users of cybercafés. There is also a radical difference in how individuals are using the Internet. He distinguished that the "information society" stresses IT as a tool, as a facility to use whereas the knowledge-based society stresses innovation and how to develop the know-how. Especially with cybercafés, wireless access and new aspects of distance learning, teachers need to be sensitized to instructing children how to use the information and turn it into knowledge. He, too, emphasized the need to work collaboratively with other LIS schools in librarian training and with other educational institutions within the individual countries.

Mr. Abderrahim Aneur, former graduate of the ESI and now assistant to the Deputy Director and Coordinator of the National Library of Morocco, Mr. Abdelati Lahlou, gave an in depth presentation on the "Integration des TIC et besoins en formation et en formation continue" at the National Library of Morocco. The new concept of the National Library, in addition to moving its collection to the new National Library building at the end of 2007, is to provide greater services to the community. The new philosophy is – despite the new edifice and its physical offerings – to present the National Library as "more than just the building." To do this requires a great deal of systematic continued professional education for the library staff. In order to convey this to the populace expected to visit this "community center," staff members must be well-versed in communicating how to use the available information systems and services. Because the new National Library is to be more of a community information center than the former building which viewed the Library's tasks in a more traditional sense, Mr. Aneur noted that this cannot be achieved only in the French language. The need for all services to be available in French and Arabic is ultimately recognized, and efforts will be made to fulfil this need.

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Morocco's new National Library!

(Midday Excursion for the German participants:) Mr. Lahlou graciously sacrificed his noon break to give Dr. Lux and Dr. Pelz-Rusch the opportunity to visit the construction site of the new National Library (see accompanying pictures). The Director of the National Library of the Ivory Coast also joined this visit. The huge complex of the new National Library will house not only a 6-story storage center for physical items, but also a large multimedia center, public computer room with numerous access possibilities to external data providers, a lecture hall, a rare books and manuscripts room and a café. The new National Library can be viewed from the old National Library on the hill above where administrative operations, book restoration and other activities will be continued. However, the public focal point will be the new information complex below on a hillside near the Rabat stadium and central for all to come and enjoy the view, a coffee or tea and indulge in accessing the information he or she desires. The new National Library belongs to the royal strategic plan for improving information access and information literacy among the people of Morocco. Although it focuses in its offerings on the Rabat community, it is open to all adults and will be integrated into a new network of university and research libraries within Morocco, as well as already being in a loose network of national libraries in North and Central Africa.

Later that evening, Mr. Lahlou, with Mr. Ameur and the Head of Acquisitions, met with the German participants: Dr. Claudia Lux, Dr. Reinhard Altenhöner, and Dr. Diann Pelz-Rusch to discuss the strategic plan for the new National Library. Three years ago, the National Library of Morocco received a new Director. Prior to that time, people did not know what the national library had. It had developed from the General Library and Archive of the French Protectorate in Morocco, and had no acquisitions budget per se. It was not meant to be a national library and served at that time primarily as a library for the legal deposit acquisitions (1932). In 2003/2004, it was renamed the National Library, dropped the name "Archives" and was given a new logo (see picture). A web portal was also set up. The Bibliothèque Nationale de France has acted as a partner to the National Library of Morocco, supporting it with techniques for planning, the building conception, and assistance in revising the processes. Beyond collecting all materials published in Morocco, the acquisition policy is to meet the needs expressed by the users while not taking on the tasks of other libraries. The legal deposit law includes 4 copies, so that the Library has materials for exchange. The collection scope includes all areas of politics, economics, social sciences and the humanities and many of the sciences, though in cooperation with the university and special libraries. Retrospective collection of items is now being undertaken for all



books and periodicals and newspapers concerning Morocco. For this, contracts with Spain and France – whose countries were often in Northern Morocco – have been made. A UNESCO project is supporting digitization of materials of the Magreb manuscripts with some of the manuscripts being sent to Belgium for digitization. However, a new laboratory for digitization and restoration will be part of the new National Library building. The National Library provides the national bibliographic services, and includes audiovisual materials, though no digital media at this time. A unique exchange program for enhancing training of other librarians is in place: 100 librarians come from other libraries to work at the National Library and then after a certain agreed period of time, return to their home libraries. There is also mobility within the library with librarians and staff changing positions to learn other aspects of the library work.

The National Library has just set up a new integrated library system at the end of April 2007 and will be integrating catalogs of other libraries within Morocco within the collective catalog. The new National Library has taken on the challenge, says Mr. Lahlou, to serve the potential diversity in being a new type of public library. He explained that there is a lack of public and academic libraries in Morocco, but the services and availability of the resources at the new National Library will try to fill that gap. The funding for the building and equipment of the new National Library is solely from King Saud, who supports this important library and information access development in Morocco. In addition, there are gifts from Japan and Spain in the new building.

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Training in Tunisia, set in context of the needs of the profession, was presented in detail by Mrs. El-Khansa Mkada-Zghidi, Assistant Profession of the ISD, in Tunis, Tunisia. Mrs. Mkada-Zghidi also addressed the glaring needs in North Africa for social and institutional change to adapt to the technological changes. She noted that the gaps in education, marginalization and information access caused by the digital divide and privatization in Africa does not have the same status as the Europe 2010 program. There must be more done to deal with the expanding gaps. She mentioned the interuniversity cooperation, especially between the directors of universities in the Arab countries to implement policies. She also referred to the "Rencontre Magreb" EU (2004), and the new process of integrating the best aspects of the Bologna process- more reform of courses, etc., in the Magreb universities. With additional support from the World Bank, more and more emphasis is being made on building up private enterprises, hence the ISD in Tunis is now offering a special course to enable its students to be employable in private companies by teaching them various aspects of the business enterprise, developmental aspects, not only information for business. Mrs. Mkada-Zghidi also noted that in terms of scientific publications, the Arab world is represented by only 0.3 % of all scientific publications. She sees this as a problem of visibility for the Arab countries and encouraged the aspect of self-archiving and full availability (through open access) of the article. She encouraged using alternatives that are non-commercial, such as institutional repository software offered free of charge. In her opinion, the construction of an information society is collective responsibility – the social and economic environment affects how one uses IT. Therefore, it is extremely important to modernize pedagogical methods to education information professionals to train new users not only in information gathering but also content and source evaluation. There should, in her opinion, be more south-south cooperation, horizontal mobility and collaboration among the universities.

Development Projects, Open Access and Training Perspectives in ICT

Mrs. Najima Daoudi, assistant professor at the ESI in information resources and multimedia, spoke next on "Le e-learning pour généraliser les TIC au Maroc : besoins de formation dans le contexte du projet e-Maroc et l'INDH". She discussed the efforts of the Moroccan Institute for Human Development in making the citizen able to react adequately to the offering of electronic resources. She described the government strategy for "e-Maroc" including 32 pilot projects for the use of IT in administrative offices, concepts for community use, and overcoming problems of both rural and urban illiteracy. She noted that computers and the Internet were not being integrated sufficiently in the social sciences and humanities and there is a disparity among users of different generations. Ministries are well-equipped, but not regional offices and the general public. She also emphasized the problems hindering education in IT included that courses cannot be assured because of lack of competences of the teachers and an absence of instructional materials. Her suggestions included raising the competences of the library and information graduates to train others, more training



in data protection,, building a collaborative network, building a federated portal with application software, and assistance for handicapped and illiterate users. The goals and advantages of e-learning are 1) reduction of costs, 2) flexibility and 3) adaptability. Accessibility no longer presents a problem, even the most remote places in Morocco can be connected by wireless access. However, there must be a more concrete definition of the needs, content must be able to be transmitted and processed, if necessary, a dissemination center must be created. She suggested a study of the needs of each category of persons as potential users and also each category of data processing.

Next on the agenda was a library and information student of the ESI, Mrs. Houba Bachisse, who spoke on open source software under the title "Logiciels libres, outils et objets de formation en TICs dans les pays de L'Afrique du Nord". She appealed for special training as professional to use free software. Schools have a major handicap as there is no education for the teachers in this area. Most users of open source software must rely on their own trial and error testing and use. She emphasized that the philosophy behind using open source was conducive to the free access to information and opening of education for all. This, however, requires professional competencies, education in using models for organization, for promoting theoretical formulation and acquiring software despite restrictive

budgets. Standards are necessary (i.e., MARC, ISO 9000, XML, repository software, webserver construction, web editing, office software, open journals, etc.). Ms. Bachisse noted there is a panorama of software useful for LIS students, and recommended that training schools collaborate in educating their graduates in using this software.

Also a student at the ESI, Ms. Nadia Benaïssa, gave a presentation on "Les archives ouvertes : une nouvelle technologie et de nouvelles fonctions et formations pour l'informatiste." She discussed the history and use of the Open Archives Initiative (OAI) and the OAI-Protocol for Metadata Harvesting, as well as other aspects of Dublin Core metadata, METS and MODS. In addition, she mentioned the newest efforts to comment articles while in internal review within the software used in repositories, and illustrated the choice of software.

Mr. Mohammed Djemaa, Head of the Center for Information and Documentational Analysis (Group SONATRACH), as well as professor and doctoral candidate at the University of Algiers spoke on "Apport des logiciels open source dans la conception des collections numériques : application de Greenstone au niveau du CID du groupe SONATRACH." Sonatrach is a hydrocarbon company and Mr. Djemaa demonstrated how the Greenstone open source software for digital libraries was being utilized to not only organize the literature, but provide a collaborative community and promote open access.

Last speaker on this second day of the professional conference was Mr. Seddik Solbi from the Moroccan National Center for Documentaiton in Rabat. He spoke on the "Stratégie de l'enseignement des sciences de l'information à l'aide des technologies de l'information dans les écoles du Nord de L'Afrique." He emphasized the necessity for cooperation between training schools in Africa. Especially the countries in the Magreb region have similar political problems which concern public policy and national strategies for access to the Internet and to information in general, use of libraries and training of information professionals.

Professional Workshops by the German Experts

The last day of the conference was devoted to three professional workshops presented by the German participants supported by the Goethe Institute Rabat-Casablanca. The first of these was held by Dr. Reinhard Altenhöner, Chair of the IFLA Standing Committee of the Section for Information Technology, and Head of the Information Technology Department of the German National Library in Frankfurt, Germany. His topic was "Digitization – Practical and Strategic Experiences." Mr. Altenhöner began with an overview of the German National Library, the federalist policy in Germany,

and the distribution of responsibilities among libraries with diverse collections serving all of Germany. He noted there are 587 libraries in 92 universities in Germany, 256 libraries in applied sciences universities, and approximately 300 special libraries. There are about 18,000 public libraries and 6 regional libraries with a total of 400 million holdings. He spoke about the projects to catalogue all German imprints including the Bavarian State Library for the period of 1450-1600 and the collections dating from 1601. Since 1969 hand-held digital items produced in Germany have been collected at the German National Library and since June 2005, all born-digital items produced in Germany are collected and archived at the German National Library. Digitization Centers have been active in Göttingen and Munich since 1997, sponsored in part by the German Research Foundation. Mr. Altenhöner demonstrated various digitization techniques on different scanning machines with different resolution aspects. He discussed the advantages and disadvantages of mass digitization using fully automated scanners and the necessary post processing of the scans, as well as more detailed individual scanning techniques and machines. Using examples, he showed how effective automated extraction of data and words can be, detection of front pages, and how dictionaries are built using recognition databases, fonts, etc. The systematic recognition of dates, pictures, authors, indexes, titles, etc., is more widespread today, but not always detection of page-level aspects, such as segmentation of articles, layout analysis, and specific algorithms. For each type of material (rare materials, manuscripts, dissertations, etc.) there are differences in the workflow, which will also affect conversion and migration at a later date. Mr. Altenhöner closed his talk with an overview of larger European cooperation between libraries and private enterprise (including Google), and also The European Library (TEL) which proposes to have digitized over 5 million items by 2010. He also mentioned that the national strategies for libraries, archives and museums must be harmonized to include not only digitization, but cooperation among countries to avoid double digitization, share records and make these digitized items available for use to all.

Mrs. Diann Pelz-Rusch, initiator of the original IT Training Needs Survey, former member of the Standing Committee of the IFLA Section on Information Technology (IT) and current member of the Standing Committee of the IFLA Section on Continuing Professional Education and Workplace Learning (CPDWL) gave a presentation entitled "Digital repositories – new networks for universities and scientists." Mrs. Pelz-Rusch discussed the characteristics and types of digital repositories, and then focused primarily on institutional repositories. She first treated organizational issues, such as institutional policy for author submission to the institutional repository and mandates, other policy issues involved in setting up an institutional repository and "selling" the institutional repository including advocacy within the institution. The management of the institutional repository processes and the submission procedures including division of labor and workflow were treated next, and Mrs. Pelz-Rusch used an example of an institutional repository to suggest workflow methods for a library-based institutional repository. Some of the procedures she discussed in terms of policy and workflow procedure included:

- Determining the general parameters of the submission procedure
- Identifying the author(s) and obtaining permission for publication in the institutional repository
- Responsibility for submission
- Procedure for uploading the object
- Submission of metadata
- Authorization procedures
- Automated features within the submission procedure
- Additional manual adjustments or supplementary information

She then gave a demonstration of a sample workflow method including author processes, library processes, and administrative background processes including key software features. In addition, she suggested various author incentives, referenced major open source repository software, discussed sustainability issues, intellectual property rights, copyright and authors' rights, and how the institutional repository can assist the authors with contracts, knowledge of their rights, etc. Mrs. Pelz-Rusch devoted the final part of her talk to the future of institutional repositories, their role in national and international repository networks, integration of institutional repositories into institution-wide services (university archives, courseware and learning management systems, etc.). The role of the institutional repository in institutional assessment exercises was also discussed. In her closing remarks, Mrs. Pelz-Rusch emphasized the need for "selling" the idea of the institutional repository also in its support of open access and freedom of access to scientific information. She noted that with development of authoring tools and enhanced search tools, the institutional repository network could be of great importance in the development of the semantic web.

Mrs. Claudia Lux, General Director of the Central and State Library of Berlin, Germany, and President-Elect of the IFLA, gave the last workshop of the conference on the topic of "Library management to meet information technology needs in the 21st century." Demonstrating on the use of examples from her experiences in libraries, Mrs. Lux discussed various aspects of personnel management and organizational structures needed when making the transition to the use of computers and the further transition from use of print to digital resources and services. Meeting the challenges of new technology includes all aspects of the library work – none and no one person can be left out. This is a strategic and a pragmatic rule of thumb. Staff training and education takes on great importance and sufficient time and in house possibilities should be provided to meet this need. Without sufficient self-assessed competencies in the new technology, staff members may block, feel incompetent or lose motivation for their work completely. Mrs. Lux gave

several remedies for this through specific training segments, humor and human resources management techniques, etc. She also spoke on the importance of the librarians also training the users. This is especially important for those without access to computers and online resources outside of the library and for school students, who often have the tendency to believe they can find everything on a subject in the Internet. Mrs. Lux' theme for her term of presidency of the IFLA is "Libraries on the Agenda." She explained that this refers to producing greater awareness of libraries, their services and their needs on the agenda of the politicians world wide, but also on the agenda of every citizen, every school class, every home-maker, and every businessman in their daily work and leisure activities.

Summary by the Author

The conference was well-attended with ca. 120 participants from 10 different countries. The question and discussion periods after the presentations showed high concern with the topic and the topics evolving from aspects of fulfilling the needs for IT training in the library and information professionals. Many of the participants were invigorating and very critical of certain aspects of change, for instance, the lack of Arab-language materials available on the web. Since many of the participants represented library and information professional training institutions or libraries and documentation centers where trainees are regularly training within context of the training programs, the debates concerning how to integrate IT into the ranks of the library staff members who have not enjoyed the training over the last three to five years gave great insights to both library directors and to the new graduates on how to improve this situation. Since the conference included representatives from most of the North African countries, as well as some from other Arabian countries, the geographical scope covered was very positive for hopefully enacting greater integration of such skills in the training programs and in continuing educational courses to be established in this area. The response from the participants was overwhelmingly positive for building up more extensive offerings of continuing education in this area. Furthermore, the level of the students' presentations from the ESI was impressive and here, too, these students have a sense of the mission they will have to perform when they enter the work force. The organizers and sponsors of this conference are to be commended and applauded for their efforts and for the success of this conference. The conference proceedings will be published by the ESI in a special issue of their school journal: *Revue de la Science de l'Information* expected to be published in September 2007.

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