

Libraries and Distance Education – a German View

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On our way to an information-based society, the volume of data, of information and of knowledge will become ever greater. At the same time a technology is developing which, on the one hand, facilitates data processing but, on the other hand, requires competent handling and efficient management of information and knowledge. The existence of digital, multimedia information resources also support distance education and decentralized learning in our society. The library as a physical location for knowledge and wisdom is becoming increasingly replaced by a library of electronic infor-

mation, multimedia teaching and learning. As a consequence, clients and users must acquire sufficient information literacy and at the same time libraries must become actively involved and provide an appropriate range of services for distance learning. This article reviews the position of libraries and continuing distance education programs especially in Germany. Finally it provides a vision of a successful integration of distance education and library information environment as a qualitatively new form of learning and teaching.

Introduction

Characteristics of the information society

Nowadays, one hesitates to use the expression data flood since it has become completely hackneyed. Nevertheless, there is no escaping the fact that there is a flood of data, information and knowledge. Each year 80,000 new books are published, more than 150,000 different journal titles are available worldwide and no day passes without a new Internet portal being set up. It is a sign of being well read today if you know what you don't have to read. The number of Internet hosts has increased annually by 30% in the past three years. More than 40% of the workforce in the European Union uses a personal computer for their work (Deiss 2001). These figures alone show that, on the one hand, the whole world is in danger of drowning in the data flood, and, on the other hand, that the application, acceptance and use of information and communication technology have been increasing at breakneck speed. You may

shudder at this volume of data, but burying your head in the sand in view of the gigantic data quantity threatening to steamroller you is the worst possible solution. In contrast, it is important and necessary to handle data and information and the knowledge arising from them constructively and productively, to sift the information, discard nonsense and junk data, and to create valuable knowledge for society from important and high-quality information. Knowledge has long taken over the position of the labour force and natural resources as the central production factor. The further development of systemic knowledge management no longer defines knowledge merely as a resource but as capable of being permanently improved and inseparably linked to ignorance (Willke 2001). Handling the data flood and handling knowledge will therefore become a central management topic in modern industrialized nations (see Figure 1).

Knowledge management is therefore the most important central management topic in the first decade of the 21st century. If "knowledge is the

Figure 1: Knowledge Management as a Leadership Topic



new competitive basis in post capitalist society” (Drucker 1999), not only management but also productive handling and permanent acquisition of knowledge are central components of working life and of science. It is almost a matter of course that life-long learning will become an imperative condition of a knowledge society, which at the same time as a learning society requires the productive handling of knowledge in all its forms. Against this background, the dramatic development in the field of ICT, such as distance education and e-learning, will become natural aids in a learning society.

Whereas in the countries of the so-called Third World, the transition from an agricultural society to an industrial society has not been completed, the industrial nations are in the process of a transition from an industrial society to a knowledge society (Willke 2001). In a society whose

central production factor is knowledge (and which has thus become a knowledge society), handling this knowledge and life-long learning has become a matter of course. Changes to the training, teaching and learning sectors are quite natural. The explosion of encyclopaedic world knowledge is contrasted with the poor achievements of our schoolchildren. The latest OECD study on the capabilities of schoolchildren worldwide identifies deficiencies in various segments and also reveals an urgent need for action in the field of computer literacy (PISA 2000). The Federal Ministry of Education and Research (BMBF) commissioned a report on the actual situation concerning the use of electronic scientific information in university education in Germany (Klatt et al. 2001). This report revealed that neither is the use of electronic scientific information a constituent part of the curriculum, nor are students

in a position to assess and optimally exploit electronic information media. Even in developed countries information literacy is still only poorly developed, as is information and knowledge management. It thus becomes clear that “knowledge” and “learning” are inseparable in a learning society (Warner 2002).

With progressive complexity, increasing speed and the existence of new technologies, the learning and training world must comply with new rules in the knowledge society. The development of a complex and efficient telecommunications infrastructure is a special characteristic and provides the backbone for change in working and living conditions. Training can now take place both centrally and in a decentralized manner without any need for mobility. In this paper, the term “decentralized centrality” is used for this type of distance education. The course content is compiled and produced centrally, and is then centrally distributed and made available to the decentralized users, who, for their part communicate with centralized organizations via the information and telecommunications infrastructure, exchange content and check and make progress with their learning. Through the dissolution of space and locality, in the learning and teaching sector communication with those present turns into communication with those absent. A completely new semantic significance of the terms presence and absence becomes possible in view of “decentralized centrality”. The terms “knowledge society”, “learning society”, “distance education”, “life-long learning” and “e-learning” are becoming synonyms for social progress.

Distance Education – an appropriate way of learning and teaching for the knowledge society?

General considerations, history, definition

Distance education and e-learning are two different things, nevertheless obviously related. Distance education describes nothing else but the possibility of dispatching teaching and learning material from a central location to the decentralized students and of administering the entire learning process in an appropriate form of communication via a central agency of the distance learning centre. Distance education is therefore

the right choice for all those who are not able or willing to travel to a place of instruction and who wish to work on the subjects taught from their accustomed place of work or their familiar personal environment. Especially in countries with vast geographical dimensions, central education at a central location is frequently impossible for practical reasons. In these countries, distance education has been exploited at all levels of training and education from a very early period and has become a constituent of the normal curriculum, such as in Australia (The Australian Experience 2000). With more than 1.45 million vocational students, distance-learning elements are a matter of course in Australia. “Technological advantages, coupled with flexible training delivery methods, means that rural Australians will enjoy one of the world’s best distance education systems” (The Australian Experience 2000). Distance education is therefore nothing out of the ordinary and has long been established in a historically grown environment.

The development of computer-assisted media is, however, a consequence of the rapid development in the ICT sector (information and communication technology), although the development of computer-assisted teaching and learning units is not necessarily linked to distance learning. There is indeed a large range of e-learning programmes specially created for use in distance learning, but in addition there is also a large number of electronic teaching and learning media requiring decentralized application. Nevertheless, linking distance education and e-learning will supplant local media on floppy disk, CD-ROM or DVD in favour of the almost ubiquitous Internet products on the World Wide Web.

Subsuming computer-based training (CBT), Web-based training (WBT) and video-assisted learning (VAL) under the heading of e-learning helped this form of training and further education to gain acceptance. Real distance learning emerged from the combination of online tutors, chat rooms and virtual libraries. Whereas there seems to be no limits to the application of e-learning in advanced vocational training for adults, it has nevertheless become apparent that e-learning cannot replace the entire classical learning process. In particular, soft skills such as social competence and ability to work in a team can only be acquired by coaching in the classroom. Another

limiting factor is the quantity and selection of the subject matter taught. "Just-in-time" learning can be achieved by e-learning, whereas, in contrast, more attention must be paid to the principle of "just enough". It doesn't make sense if everybody wants to learn everything.

Examples of the e-society

Electronic information services and e-learning are just two examples of the wide world of the e-society. Apart from e-learning, the development of the ICT field has also given rise to e-commerce, e-government, e-health and a plethora of other "e-sectors". Telemedicine, for example, already provides aids to decision-making, remote sensing and collaborative arrangements for the real-time management of patients at a distance (telecom. esa). All of us are familiar with numerous examples of e-commerce from our personal or professional environment. Deutsche Bank, one of the largest banks in the world, uses distance education and e-learning for the training and continuing education of its staff (Rautenberg 2001). The construction of an e-learning platform within the framework of the "Corporate University" has devoured € 5–7 million in the past two years (Frankfurter Allgemeine Zeitung 17.2.2001).

"The African Virtual Library", a project funded by the World Bank, is concerned with distance learning and e-learning. Support to the tune of about US\$ 1.2 million is supplied by the World Bank for a project in which 12 African universities from six different nations are linked virtually to universities in Europe and America (Okuni n.d.). Teaching and learning materials for the participating universities and their students are provided via the Internet and thus independently of space and time. One of the problems with this project is the ICT infrastructure, which is not always adequate, as well as the high cost of access to telecommunications in African countries. This, in turn, leads to disqualifying criteria for these modern forms of distance education.

A large number of different journals are concerned with issues of distance learning. Whereas in the USA, the zenith of the "distance-learning wave" seems to have already been passed, in Europe new journals are still being established such as the new *European Journal of Open and Distance Learning*. This journal is an interactive commu-

nication tool for all those interested providing editorial contributions, open chats, information and other possibilities of access, and is thus itself a concrete example of a multimedia information product.

In the past few years, a whole number of European projects has been concerned with distance learning and e-learning (WIFO n.d.). It thus becomes apparent that in Finland distance education is an integral component of training throughout the whole country and not just since the emergence of the Internet. Distance education has already been employed with teaching and learning elements on television and radio.

Case studies from several European countries show that distance learning requires very high levels of student motivation, more traditionally associated with professional learners and continuing vocational training than with initial vocational training. Programmes available through the Internet tend to have a high dropout rate as learners sign up without realizing the work and time commitments needed. While distance programmes are undoubtedly successful in enhancing access to vocational education and training provision, their effectiveness and efficiency are under debate. Managers and policy makers have tended to favour such programmes as allowing cost efficiency savings but some researchers and practitioners doubt that in reality such savings are possible. (Atwell 1999)

The future of e-learning in Europe is considered to be extraordinarily positive. According to forecasts, the market turnover for e-learning in 2004 will be about US\$ 4 billion in Europe alone. 87% of industrial companies are prepared to use e-learning to train their staff, and 39% already do so (Davis 2001). No global player can manage today without electronic learning. Many universities already make use of e-learning and are investigating the quality, output, problems and benefits of these new teaching methods (Lupo 2001). However, critical voices are increasingly being heard since it has become evident that not everything that is technically feasible is also conducive to good learning. A research group at the University of Bielefeld (Germany) is investigating the quality demands to be made on students in the largest target-group-specific study so far. It was determined that the quality of the learning process and product depends directly on the learner. He thus becomes the co-producer of his own learning product by actively participating in

achieving successful learning. According to Ulf Ehlers (University of Bielefeld), the quality of e-learning is not defined by technology alone. The electronic environment is rather only a framework within which traditional learning processes take place. The quality and success of learning therefore depend directly on the content and methods and not to such a great extent on the technical framework (Global Learning Newsletter).

Distance education and e-learning in basic training and continuing education for librarians

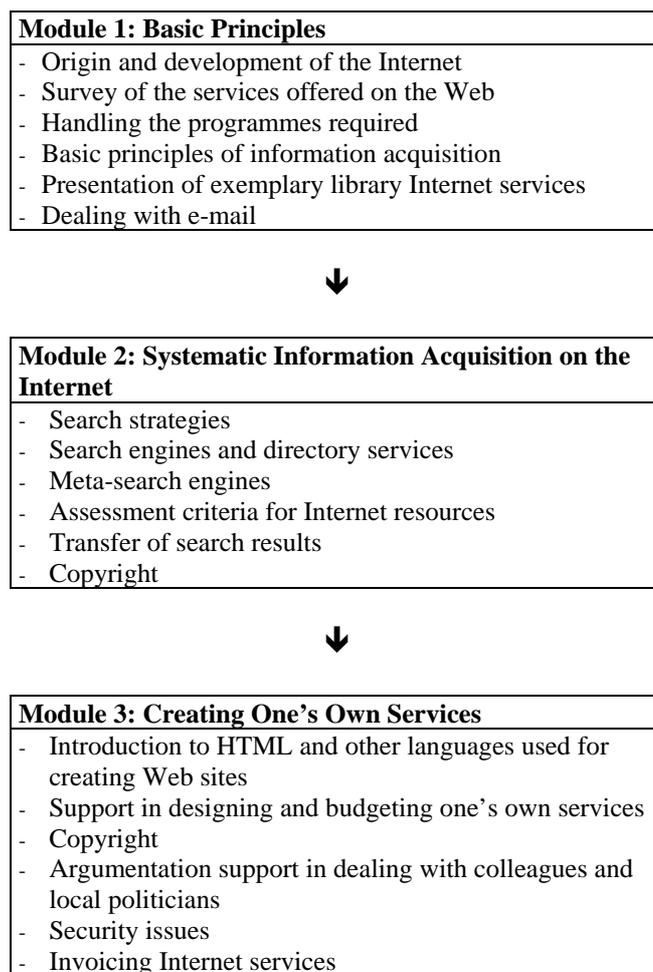
Distance education for information professionals is attaining increasing significance in the library environment. Whereas, on the one hand, further training is in general becoming more and more important, and particularly in dynamic professional areas with a low half-life for vocational knowledge life-long learning has become a matter of course, on the other hand, resources of time and money are becoming ever tighter. At the same time, training and continuing education in all professions in the information sector are quite obviously also changing in the direction of ICT knowledge. Against this background, it is indeed meaningful for information specialists to make more intensive use of distance learning and e-learning than other occupational groups.

Continuing education in Germany

The measures undertaken in the range of continuing education in the German library scene are very heterogeneous and only partly fulfil the present requirements.

Underlying this problem are the missing nationwide structures in German librarianship, insufficient equipment, and the personnel and financial resources available to the agencies that offer continuing education for librarians. A list of these agencies on the web lists not less than 11 suppliers of training courses for librarians. To this group belong vocational bodies and federations, departments for continuing education in library cooperatives, library-related departments at universities and high schools for information science. This is complemented by courses of the parent organizations of libraries that offer more general courses like company specific topics or training

Figure 2: Learning modules of the "bibweb" programme



of office products like word-processing, spreadsheets etc.

The most successful e-learning programme in Germany is "bibweb". This cooperative project of ekz Reutlingen (a library services company) and the Bertelsmann Foundation has the aim of promoting the acceptance of online media in libraries and of increasing the application of Internet services in libraries by disseminating expert knowledge. The online course consists of three modules (see Figure 2) and provides basic principles, systematic knowledge acquisition on the Internet and creating one's own services (ekz n.d.). More than 3,000 members of staff from public libraries have already successfully completed the "bibweb" course, and 90 % of them would take an online course again (Bertelsmann-Stiftung).

Participants can subscribe to the modules individually or as a whole package. There is a certificate for each module and the costs ranging between € 75 and € 105 per module are very

moderate. The project partners plan to extend the range of online courses for 2002 via the so-called "Learning Forum for Libraries".

A final evaluation by the project partners revealed interesting details.

- 69% report improved learning efficiency
- 91% would join another internet-based course
- 58% consider the auxiliary tools like hotline, chat room to be helpful

but

- 40% do not do the exercises online but with the help of print-outs
- 43.7% do not communicate with remote participants by e-mail but with colleagues on the spot

These contradictions can be summarized as follows: the benefits of e-learning are highly valued but hardly used!

Great Britain

In Great Britain there are two major vocational or institutional associations. This is on one hand *ASLIB*, the Association for Information Professionals and *CILIP*, a recently founded association consisting of the two formerly independent organizations: the Library Association and the Institute of Information Scientists.

CILIP

The main focus of CILIP (Chartered Institute of Library and Information Professionals) is more in the area of traditional services and background support. They offer public training courses, enable contact to experts, so called (=professional advisers), publish guides for "best practice" and promote information specialists as key actors in the process of life-long learning.

ASLIB

The Association for Information Management (ASLIB) represents more than 2,000 institutional and personal members in about 70 countries. It offers its members a wide range of services in the range of continuing education and life long learning such as numerous public course trainings in

all areas of information management. A wide range of public training courses and internet-based training units are standard features of their service portfolio for members and are operated on a far more commercial way than in Germany.

The electronic learning tools, still small in number, were developed in cooperation with Telford College in Edinburgh.

The online course "Essential Skills in Information and Library work" aims at starters in the profession and comprises 4 modules that can be studied online. Topics range from "role of the library/information unit" and "selecting and acquiring" to "introduction to online searching and using the CD-ROM". Collateral tools like an e-mail service enable direct communication to the other participants and the tutor and facilitate building the individual portfolio of work (Association for Information Management).

USA

Vocational continuing education has a high significance in the United States. The concept of pre-professional training can't work in a country where job rotation and a high flexibility in the professional career is self understood. Job-related training on the spot is the equivalent tool and widely spread in the US.

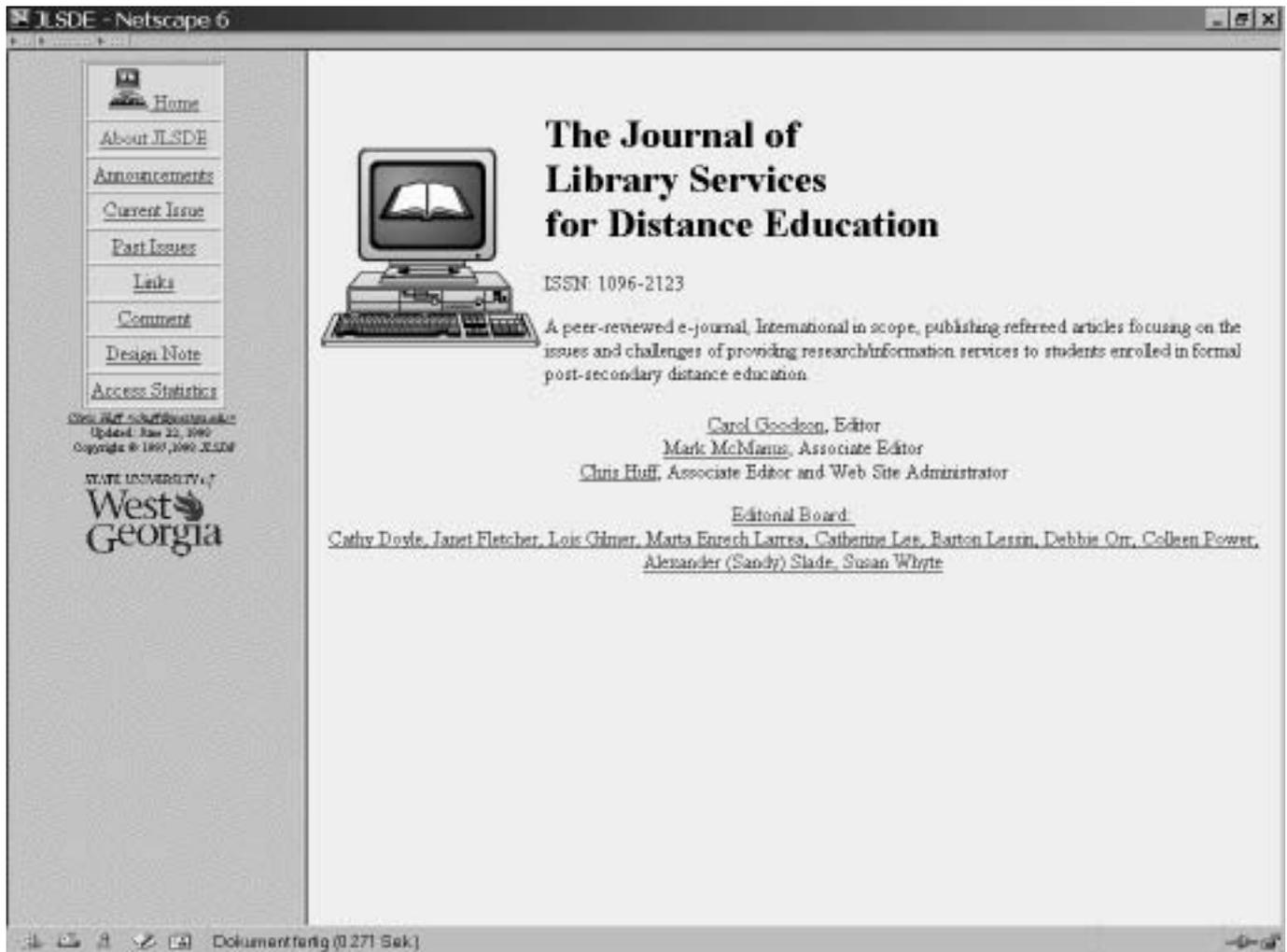
ALA

The American Library Association with its 63,000 members in the US, Canada and in more than 115 countries is on the international level the strongest supplier of electronic learning tools for librarians and information specialists. Together with its subdivisions, like the American Association of School Libraries (AASL), the Association of College and Research Libraries (ACRL) and the Public Library Association (PLA), the whole portfolio of traditional and innovative learning tools can be offered. Continuous education has its own dimension in the United States (American Library Association).

ALA's offerings comprise:

- 50 journals and newsletters
- 300 electronic discussion lists
- E-mail tutorials

Figure 3: Screenshot of the JLSDE



- Videos and slide shows
- E-learning Web casts (i.e. live interviews on the Web presented at fixed times)
- Satellite teleconferencing with collateral material, tapping rights, call-in ability

- SLA virtual seminars
- SLA video conferences (i.e. live broadcasts)
- Technology kits (CD-ROMs including workbooks and resources guides)
- SLA learning express (i.e. desktop access to Web-modules)

SLA

Job-related continuing education is also of high importance to the Special Libraries Association (SLA) with its 13,000 members worldwide. It is the intention of SLA – as stated in the vision statement – „ ... to help information professionals to become indispensable through learning. “

SLA has founded a permanent task force group for this kind of activity called Strategic Learning and Development Center (SLDC).

SLA – e-learning comprises

This service is run on a high quality level and includes developed services dealing with topics like “Getting started on the Internet” (technology kit) or virtual seminars on the benefit of library and information services (Special Libraries Association).

Sloan created the comprehensive and very good Web site entitled “Library support for distance learning”, which not only brings together primary and secondary sources on e-learning but also provides a wide range of special information

and support for e-learning in a library environment (alexia n.d.).

Distance education as a means of user instruction in libraries

The services and information provided by libraries are becoming more and more comprehensive and also more complex. It is rarely the case that the use of these services can be understood intuitively. User instruction and guided tours are becoming more important and indeed expected in a service society. Since the development of hybrid libraries also increasingly involves distance information service (you only need to think of the vast number of e-journals and Internet databases), it is obvious that user instruction and guidance should be available through distance education. A large number of libraries have therefore developed programmes ranging from retrievable videos (information on the library services) and online support to virtual tools and virtual librarians (Kekulé Library of Bayer AG in Leverkusen). One journal (Journal of Library Sciences for Distance Education) is concerned exclusively with this topic (westga n.d.) (See Figure 3).

Daily experience based on practical library work shows that the classical guided tours have attracted fewer and fewer participants for several years now and that instead assistance is required in a decentralized manner via the Internet. Libraries must respond more readily to these needs. For library customers, distance learning and e-learning not only means being able to use self-explanatory services worldwide, but also being able to expect tutorials and other learning units on important issues of information literacy to be provided by the library.

The role of libraries in distance education – new partners for distance education and e-learning ?

At first sight, distance education and e-learning do not have anything to do with libraries. If you narrow your vision and don't let your gaze wander, distance education may indeed be regarded as a phenomenon for sociologists and educationalists. There does not appear to be any connection with libraries. E-learning cannot initially be related to the classic mission of a li-

brary. The production of electronic learning materials, whether on solid media such as CD-ROMs, floppy disks or DVDs or available on the Internet is not dependent on the existence of libraries. These materials are produced by commercial publishers of school and textbooks or by the didactic media centres of the universities and other educational establishments. However, a knowledge society is always a learning society and a learning society needs permanent life-long learning. Against the background of e-learning, it is electronic teaching and learning materials that are being increasingly used for this life-long learning. If one assumes a convergence of libraries, computer centres and didactic centres in the medium term, then the connection to libraries is already quite apparent. The German Universities Rectors Conference, for example, recommends exploiting the synergies between the above-mentioned central facilities at universities. The German Science Council recommends a better integration of electronic learning media into the university curricula (Wissenschaftsrat 2001). The lightning development of ICT and the establishment of new learning structures and learning materials both enable and indeed compel an ever greater and more differentiated range of services to be provided by libraries for the educational sector and for industry. The development of the various e-learning media is based on library and documentary know-how. Metadata have to be gathered and recorded, databases structured and information environments organized (Megzari *et al.* 2002). "More than half of the colleges and universities in the U.S. are offering at least some of their classes over the Internet." (Chen *et al.*) If primary and secondary training is to be increasingly provided via distance education and e-learning, then libraries must more than ever play an active role in this field. Especially the trend towards blending distance learning with traditional educational methods means that the importance of libraries in conveying, providing and archiving e-learning materials should not be neglected (Wallace & Wallace 2001).

Distance education at universities has many dimensions. It means learning outside the lecture room, access to centralized, Internet-supported information and teaching services from any place whatsoever. Distance learning at the universities also means digital reference, and access to all

sorts of electronic information services that enhance, support or indeed control the learning process as primary, secondary or tertiary services. New learning and teaching products such as multimedia services, the use of video and audio sequences not only make teaching and learning more interesting and comprehensible but they also enable teachers and students to themselves determine learning speed and learning progress. In view of the multiplicity of different computer-supported information and teaching media, no one will be able to do without a central repository for these media. Individual activities by particularly dedicated and able professors and lecturers remain an exception and are not appropriate for mass use. A central facility is required to collect these services, structure them and make them available to both teachers and students. This facility has to be a library as a media centre in an extension of its own self-conception.

The Association of College and Research Libraries defines distance-learning library services as referring “to those library services in support of college, university, or other post-secondary courses and programmes offered away from a main campus, or in the absence of a traditional campus and regardless of where credit is given” (ALA n.d.).

When, for example, e-learning in companies is no longer merely a topic for the personnel department but has become a “corporate topic” then information specialists and libraries will have to become involved in this mission. This function involves a whole range of challenges. The provision of electronic teaching and learning materials requires consultation with the faculties and university lecturers. It also makes coordination and communication, possibly also cooperation, with media centres and/or didactic centres necessary. Computer centres must also be included since e-learning is only meaningful with extensive computer capacities and a perfect ICT infrastructure. On a higher level of communication, synergy effects must be exploited over and above the individual institution. The universities of the federal state of North Rhine-Westphalia, for instance, cooperate closely in developing and disseminating e-learning materials and structures (Kramme 1999).

The integration of content, media, teaching and literature does not only mean new and more pro-

ducts but also a new quality. Technically upgraded books and computer systems are ready-made, static learning materials and do not represent real e-learning. The advantages of e-learning in universities are quite obvious: no physical presence in the lecture theatres and tutorial rooms; access for an almost unlimited number of participants; readily updateable at any time; and moreover cost-efficiency. The disadvantages are restricted interactivity, direct dependence on technical equipment and a frequent tendency of the products to be technology-oriented. There is also a danger of hyper-abstraction through the exclusive use of e-learning systems (Hakken 2000). E-learning leads to a whole new interplay between libraries and academic teaching staff, on the one hand, and library users and the, in the literal sense of the word, multimedia products on the other hand. Against this background, the following central tasks arise for libraries in their involvement with and handling of e-learning products:

- identifying the e-learning products and their sources
- cataloguing the sources by metadata and subject headings
- providing quality control and quality assurance of all external e-learning products
- ensuring the technical availability of the products
- upgrading and structuring the electronic environment for e-learning products
- central purchasing and central funding
- coordinating the production, processing, application and protection of the e-learning programmes

The Association of College and Research Libraries in the USA has published Guidelines for Distance Learning Library Services. The Association has formulated the following special tasks (abridged) (ALA):

- reference assistance
- computer-based bibliographic and informational services
- reliable, rapid secure access to institutional and other networks including the Internet
- consultation services
- a programme of library user instruction designed to install independent and effective information literacy skills while specifically meeting the learner support needs of the distance-learning community

- assistance with and instruction in the use of non-print media as equipment
- interlibrary loan services
- prompt document delivery
- adequate service hours
- promotion of library services to the distance learning community

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Willke, H. 2001. Systemisches Wissensmanagement. Stuttgart UTB, Lucius und Lucius, 291. Quote: "We can speak of a knowledge society or a knowledge-based society if, on the one hand, the structures and processes of the material and symbolic reproduction of a society are so pervaded by knowledge-dependent operations that information processing, symbolic analysis and expert systems take precedence over other reproduction factors. An additional de-

cisive prerequisite for the knowledge society is that knowledge and expertise should be subjected to a process of *continuous revision* so that innovations become an everyday constituent of knowledge work." Wissenschaftsrat: Empfehlungen zur digitalen Informationsversorgung durch Hochschulbibliotheken. 2001. Greifswald, 13 July. URL: <http://www.wissenschaftsrat.de/index.html> [viewed May 5, 2003].

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