

## **Alles Buch. Studien der Erlanger Buchwissenschaft II**

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**Electronic Journals and Databases in Biology. A Usage Survey conducted by paper-based questionnaire at the Departments of Biology at the Friedrich-Alexander-University Erlangen-Nuremberg**

The fast spread of the Internet over the last few years has also had an important influence on the search for very specific scientific literature, especially in the fields of science, technology, and medicine (abb. "STM"). Thus, biologists can now accelerate their search for literature with the help of electronic pendants to printed scientific journals which offer easy access to nearly all necessary articles or reports on the one hand, and large bibliographic databases, which allow an Internet-based cross search into several publications, on the other hand. Although in theory the availability of information is as good as never before, the actual use is often restricted by the exclusivity of digital information according to their high costs and the still urging problems of long-term preservation.

Therefore, this work focuses on the everyday usage of eJournals and databases by so called "end-users", i.e. professors, scientific collaborators, and doctoral candidates, their processing of the digital information, and their opinion on further developments in this field. All declarations are based on data from a survey among the members of the biological faculty at the Friedrich-Alexander-University Erlangen-Nuremberg (short "FAU") which took place during two weeks in the winter term 2001 / 2002. With 117 answers out of the total of 261 possible candidates the inquiry was quite successful, especially with the return of 72 per cent among the group of the professors and 70 per cent among the doctoral candidates. Concerning the institutes, the two botany professorships had the largest feedback with 60 per cent, closely followed by the institute of microbiology with 55 per cent. Thus these two institutes are the most likely to be compared with each other. Due to the large number of doctoral candidates with a total of 52 persons, the average age of the participants was under 40 years old.

This fact becomes even more obvious by looking at the figures of the frequency of usage. The great majority (58 per cent) uses a digital journal regularly, at least daily, or once a week whereas only a very small minority (3 per cent) read an electronic article less often than once a month or even not at all. Most of the time, eJournals are accessed via the PC at ones own working place (59 per cent) which are all connected to the network of the university and therefore included in university-wide licences for databases and eJournals by the central library. Normally without all these advantages the home PC is no suitable alternative and, therefore, only 6 per cent of the participants use it regularly for searching. Surprisingly, the computer in the library (naturally connected to all licensed digital journals, even those which are not university-wide available) are the most unlikely to be used.

According to the survey, the “Elektronische Zeitschriftenbibliothek” (German for „electronic journals library“, short “EZB”) of the Universitätsbibliothek Regensburg (university library of Regensburg) is the biologists’ main portal to access electronic journals. This project started in Regensburg / Bavaria in 1997 offering a structured and standardised access to the licensed journals for its library users and has soon become a European-wide institution with participants from Austria, Switzerland and the Czech Republic. Due to its database, the electronic library is not only connected with the journals’ homepages but also stores information about the status of full text accessibility of its different members, e.g. the library of the FAU. It is planned for the near future to allow article search through all available journal titles which was announced in the survey and sounded a good idea to the majority of the biologist (65 per cent), who would then use the EZB even more often.

Asked about their experiences with databases and electronic journals most of the biologists admitted to having gained them mostly by “trial and error” (80 per cent) and with the help of colleagues (70 per cent), whereas special courses offered by the library or by the provider of a database are hardly attended. This, from a librarian’s point of view, slightly amateurish relationship towards the digital information might explain the fact that a majority estimates the well known medical database MEDLINE (60 per cent) and its pendant PUBMED (67 per cent) even more important than the biological one BIOSIS (21 per cent) which an impressive number (28 per cent) even do not know. This might also be influenced by the dominance of the microbiologists in this survey as their subjects are getting closer and closer towards modern medicine.

The articles themselves are processed intensively by the biologists as they usually ticked more than three of the given possibilities as there were for example “sending by email”, “add to a private database” or “save on the computer”. Nevertheless, the printout is still the most common way (86 per cent) to first read and then store an article; and nearly a quarter of the participants would not give up the printed version of a journal entirely. The main reason for this scepticism towards the digital version is the easy handling of the printed copy without technical support both during reading and (the still problematic!) long-term preservation.

The electronic articles, however, are preferred by nearly 40 per cent. Those estimate the availability beyond any library opening hours as the greatest advantage, closely followed by the comfortable access via their own computer working place. There, many of the participants are supplied with interesting scientific news by colleagues (71 per cent) and by using the interlibrary loan service (78 per cent). One group (45 per cent), mainly compound of professors, scientific collaborators, and doctoral candidates, contacts the author of an article directly to receive a copy what requires some personal contacts within the scientific society and is therefore not always suitable e.g. for students. Pay-per-use or other methods including individual charges are hardly used by the biologists.

As an effect of the nowadays widespread digital scientific information many participants (75 per cent) declare an increasing knowledge especially in their own specific field of research whereas in other fields and disciplines it stays very much the

same. Another large group (51 per cent) also states that the supply with scientific information in general has ameliorated since the appearance of electronic journals even if still not all necessary journals are available for the scientists. Free electronic journals are estimated by 55 per cent as an important addition to the highly reputed journals but they will not replace them in the near future.

Due to the data of this survey which allowed only a small insight into the daily routine of end-users of electronic journals, the biologists at the FAU have proved to be very busy but also critical consumers of digital information. In the future, the growth and changes of their informational competence as a result of the still ongoing developments in scientific publication will stay an interesting object for research. Therefore, this work is equipped with a detailed appendix containing all tables, diagrams, and the original questionnaire to hopefully serve as a useful data pool for further investigations.