Improving the information literacy at the Czech Technical University in Prague: support of study and research

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Abstract: The paper presents the activities of the Central Library of the Czech Technical University in Prague (CTU), which was created by a merger of independent faculty libraries in 2009. The library's key role lies in supporting the educational, scientific and research activities of the university. Its aim is to understand the information needs of both students and researchers, and to meet their expectations in terms of services and resources offered. Activities of the Central Library (CL) are developed in close cooperation with both the university management and individual teachers/researchers, and always with a respect to students' needs. Particular examples used in CL practice are discussed in the paper.

Keywords: academic library, information education, information literacy, R&D support, study support

Introduction

Czech Technical University in Prague (CTU) is the biggest and oldest technical university in the Czech Republic. Currently there are about 23,000 students, about 3,000 academics and more than 200 members of research staff (CTU, 2011). The libraries of the CTU were merged into one central university library in 2009. Until then there was a single library for each faculty which ran independently on the others. The transformation of the separate libraries into one body involved establishing a new independent part within the university structure, merging of collections and staff, and changes in financing. The librarians perceived this changing environment as a chance for change: particularly for restructuring the system of services and creating a new information background for the university.

Problem description

The organization of libraries at CTU has gone through many changes in the university history. The system of CTU libraries was yet distributed to faculties while entering the 21st century. The only department that had some coordinating role between the libraries was a part of Computing and Information Centre

(CIC) of CTU established in the late 80's with the aim to create a computer-based library management system. However, this department had no ambitions to become a base for managing the university libraries in other fields than the library system. This experience showed that a voluntary cooperation can work efficiently for a long time, but it was obvious that the different conditions in library management, budgeting, staff management, services providing, and projects acquiring were barriers for effective library activities. The main shortcoming found was the wasting of time by having the same work done by staff in every single faculty library.

New conditions

In 2009, all independent CTU faculty libraries were merged into a new CL. The challenge was to restructure the existing system and create a new one while keeping all required functions and adding new high-quality services. To establish a good-working compact body, we had to first provide an analysis of the current system and prepare a proposal of the libraries transformation–to describe the current state, to analyse the particular elements and their relations, and to decide what to change, what to discontinue, what to improve, and what to introduce. As a part of the analysis, an internal document 'Strategy for the information literacy development of the CTU students for 2008–2012' was released by the librarians in 2008 (Tichá, 2008).

We had to consider especially: the strategic plan of the CTU, trends in academic libraries development, strategic documents for information literacy (IL) development in higher education (Pejova, 2006, ALCU, 2008), fast development of ICT, specific needs and requirements of the faculty and students at a technical university, expectations from the librarians, demands on providing well maintained and organized information (preferably with added value).

These were our **strengths**:

- the librarians themselves had demanded the establishment of CL,
- awareness of the university's long-term intentions,
- proactive approach to participation in academic life,
- previous close cooperation with the faculty,
- voluntary long-term collaboration of faculty libraries coordinated by CIC had been working successfully for many years,
- experience of several faculty libraries in providing progressive services (evaluation of R&D results, knowledge of intellectual property issues, IL issues embedded into curricula, librarians' skills in teaching and training).

Obviously, there were also some **threats**, or risks, we had to deal with:

- some previously well-established processes and relationships were broken, so confusion of some faculty members could have been expected,
- contacts and the credit built-up by faculty libraries has been seen as of 'local importance', not sufficient to broaden to the whole university,
- some users were conservative and not willing to change their habits (to accept the conditions in CL).

Goals of the new library

- to build-up library's reputation within the university,
- to convince the academic staff and management of a positive role of CL,
- to persuade faculty and university management to let the librarians participate in education, i.e. to invite the librarians into classes,
- to convince researchers and university management that the library staff is capable of contributing to research and to the R&D results evaluation,
- to maintain existing services at a high level, and to further improve them,
- to adapt client-centred services to new conditions,
- to embed IL into curricula,
- to train the teachers to use information resources in classes and to require its use for assignments and final papers.

The goals and intentions of CL have been formulated in order to meet the priorities and recommendations of strategic plans of the university (and of The Ministry of Education, Youth and Sports), such as: responsibility for the employability of graduates, requirement to support another abilities in addition to expert knowledge and skills, development of students' general competencies, support of activities concerned with ensuring the protection of intellectual property at higher education institutions, etc.

Study support

The intention to form the study support department resulted from the 15-year experience with organizing IL courses in the former library of Faculty of Mechanical Engineering. From 2000, an Information Education and Information Literacy Working Group of the Association of Libraries of Czech universities (ALCU)[i], has been supporting the cooperation in the area of IL. The working group was chaired by the CL librarian L. Tichá for 11 years. CL considered IL issues to be an important part of the curriculum, and we planned to widen the study support service to all faculties. The final objective of the department was to embed IL into curricula in cooperation with the teachers.

The study support department's scope covers providing support for students, e.g. the library web site maintaining, marketing of library resources, services and trainings, IL courses, lectures for the academia focused on 'hot topics' in higher education (copyright act, plagiarism, intellectual property protection with emphasis on patents and its importance for R&D evaluation), consultancy for students and academic staff.

The department has used a variety of ways to get a feedback from academia: surveys investigating citation manners and practice, pre-tests and evaluation questionnaires, observations of students' information behaviour, frequently asked questions. CL follows the strategic plans of the university and changes in curricula, and monitors trends in IL and academic libraries. This helps to identify the new ways of work, to adapt library services to students' and faculty needs, and to offer a range of valuable activities to academia proactively.

IL support has been planned with respect to following CL and university goals:

- to shape the students' skills required for study,

- to contribute to students'skills important for professional life (ability to solve problems, to find and evaluate information, to create new knowledge and communicate it, to use the new knowledge for technical solutions), and to introduce them to the professional community in practice or science,
- to support and develop the student' skills in writing, citing and using information in ethical manner,
- to meet the principles defined by the Strategy (Tichá, 2008).

The following table and graph show the number of hours spent by the librarians from department of study support by diverse types of training, and the number of participants attending the events in last two years.

activity/event	2010		2011	
	hours	participants	hours	participants
lectures	14	327	10	146
trainings	6	26	24	121
seminars	4	35	17	135
courses	118	81	110	68
workshops			6	21
webinars			2	22
participation in classes	22	187	38	482
teaching	24	15	26	19
Open Access Week	4	6	6	60
other			8	45
library tour	43	449	36	377
total	235	1,126	283	1,496

Table 1: Comparison of the hours spent by training and the no. of participants
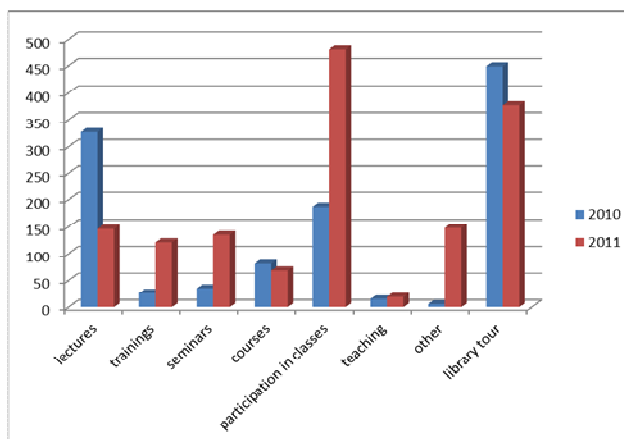
Graph 1: Participants attending diverse types of training organized by CL

Communication and cooperation within the university

What steps have been taken and how have we tried to achieve our goals? Following examples show our approach to find the right course for promoting the planned activities.

Example one: 10-week course for postgraduate students 'Information for R&D'
The course was established at the Faculty of Mechanical Engineering on the vice-dean's demand. To promote the course at other faculties, a project was presented to the faculty managements and people responsible for doctoral studies at the university (i.e. the vice-rector, vice-deans, and the heads of the faculty departments for R&D).
The project contained:

- formal data (the course title, intention, target group, goals),
- organizational details (semester, time range, lecture/computer room requirements, form of instruction, financing, lecturers),
- subject coverage (including electronic resources for R&D, guidelines for writing an academic text and proper citing),
- educational principals (learning systems, teaching methods, teaching and learning materials, assignment and assessment, course certificate),
- course evaluation (questionnaire) as a feedback for course improvement.

The course was accepted as a recommended course for postgraduate students, and liaison persons were appointed at every faculty. Further cooperation with each faculty included a help with the provision of the course schedule, computer labs/lecture rooms, technical tools, accessibility to the faculty network for lecturers, etc. The faculty contact persons have always been provided with the conclusions of the course impact which cover results of the students' works (accomplished tasks) and results of the students' questionnaire after the course. The course has been running at 6 faculties from 2010 (14 courses altogether in 2010-2011). The course syllabus contains advanced searching in electronic databases (including technical standards and patents), resources for R&D, evaluation methods for R&D results, ethical academic writing, citation and reference managers, and supplemental topics on demands (presentation, active conference participation, etc.). The course topics are subject to change–it has been altered every year according to needs detected from feedback, availability of information resources and tools, and also on.

Example two: promotion of the intellectual property protection
One of the tasks the new CL focused on was copyright and plagiarism issues. There were many discussions about Copyright Act and the Higher Education Act, and as we understood, there was rather low awareness among the academic community about these issues. Cases of plagiarism detected in the academic sphere in the Czech Republic and abroad raised new questions. Therefore, the library organized several lectures 'Copyright in university practice' with lawyers as lecturers, and two seminars 'What do you want to know about

patents?' where the speakers were specialists in patents (employees of the Czech Industrial Property Office and of Patent Centre of the CTU), and librarians. Both the lectures and the seminars were prepared with the respect to students' and academics' needs. The speakers were in advance acquainted with the participants' questions submitted during the registration, so that the speech of every lecturer was tailored to the real needs. All answers and explanations to the questions asked during the lectures are presented on the library web site with the lecturers' approval. We recommend these documents as study materials in case of consultations and requests on the topic as well. There is good response from the participants, faculty and students to this value-added service.

Example three: support in evaluation of R&D results
The former library of the Faculty of Electrical Engineering had a lot of experience in the support of R&D before CL was established. CL also finds these activities important and continues assisting the process of research evaluation, both at the level of individual researchers and the level of the whole university. The support of individual researchers and CTU authors focuses on increasing the knowledge of the Czech national system of R&D evaluation, and helps with the specific steps researchers have to take while submitting their research results to the internal information system and the national R&D database. Every year, The Research, Development and Innovation Council[ii] of the Government of the Czech Republic specifies the criteria for research results and assigns 'points' to scientific contributions in the national R&D system which consequently bring money to the university. CL librarians continuously follow the changes in the system, study new guidelines released by the Council, and work with the R&D information system. A part of CL website dedicated to the Czech R&D evaluation system informs the researchers and PhD students about university internal guidelines and the national system. The area of R&D evaluation is one of the topics of the course mentioned in example 1.
As the national R&D evaluation system is based on assigning different amount of points to results published in prestigious journals or registered by several citation indices, it is very important for both the authors and the university that the result is identified and matched with CTU affiliation. To insure this, guidelines for authors defining the obligatory form of quoting CTU affiliation in published articles were released by the university management in 2008. Also, the library staff communicated with producers of Web of Science (WoS) and SCOPUS to ensure that CTU would have a unified affiliation name in the databases (together with only one unique identifier in SCOPUS) and that all non-preferred forms of its name would be matched with this preferred form. The unification of affiliation name in WoS was completed during 2008 and the integration of affiliation IDs in Scopus was finalized during 2010. This effort was reflected in the increased number of publications matched to CTU and used for the international evaluation of universities (QS university ranking). Contribution of the library to the improvement of CTU ranking is highly appreciated by the university management.

Example four: Open Access promotion

From 2007 CL engages in the support of open access (OA). The first step was creating of the institutional repository for CTU's theses and dissertations by the library and CIC. The pilot project of the repository started in 2007. The librarians and IT specialists have been attending seminars of the Czech users of DSpace system from 2008. As a result of the developing co-operation of the Czech academic libraries on this field, an OA initiative under the auspices of ALCU was established in 2010. In the same year, the libraries united in the Initiative joined the international OA Week for the first time. CL CTU was between the first members of this informal community. On its 10th annual conference, the Association decided to claim its support of OA by signing the Berlin Declaration[iii].

To promote the ideas of OA between faculty and students CL dedicated a section of its website to the topic[iv] and it was also included in the above mentioned PhD course. OA resources relevant to the CTU disciplines were selected, basic descriptions and links were added, and the sources were divided according to subjects. These subject-specific lists tailored to our users' needs were appreciated for added value.

In 2011 the institutional repository (Digital Library of CTU[v]) has started its full operation. The workflow between university information system and the repository has been developed and tested. Nowadays, the metadata of final bachelor, masters and dissertation theses are available, and the repository is ready for submission of full texts as well. The approval of inclusion of full texts depends on the policy of the university which is being developed now. From the beginning of 2012, publication results of chosen highly-cited CTU authors (available for self-archiving by the publisher) are deposited to the repository by the library staff.

The new institutional development plan adopted by the university management in the beginning of this year declares the aim of the university to promote free access to the results of R&D, transparency of science, communication of scientific results and the openness of university on both national and international level. In accordance with this objective CL was assigned the task of building and managing the institutional repository. In this situation, it was obvious that fortune favours the well-prepared and the library's proactive approach paid off: as the technical solution was already chosen and prepared for use by the library and CIC, the management could respond to the challenge of university openness immediately. In the same time, they recognized the library as most appropriate to coordinate the task.

Conclusions

From its establishment in 2009, CL has been working on fulfilling its main mission to support the educational, scientific and research activities of the university. After the merger of former faculty libraries CL continues with the enhancement of IL of all users, esp. by providing various forms of training and education and by supporting the research process. We are aware that it is crucial to communicate with the university management, and to cooperate closely with

the teachers. Considering that the CL's department of study and R&D support has only six employees (4.4 FTE), it has done a good deal of work. Naturally, there is a lot of work ahead of us. The 'Strategy for IL development' published four years ago was an important guideline and most of its 15 recommendations were applied. But it is the right time to update the document and adapt it to current situation. The important tasks for the future are: managing and further development of the repository, supporting IL, and fostering further cooperation between academic libraries in the field of OA. For further development of CL it is fundamental to reflect every change in the university environment, to consider the users' comments and suggestions, and to be positive even in unfavourable conditions.

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Notes:

[i] see http://www.akvs.cz/en/index.html (ACLU) and http://www.ivig.cz/e-index.html (working group)

[ii] See http://www.vyzkum.cz/Default.aspx?lang=en for R,D&I Council

[iii] Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities http://oa.mpg.de/berlin-prozess/berliner-erklarung/

[iv] http://knihovna.cvut.cz/veda/open-access/

[v] https://dspace.cvut.cz/