



ESCOLA POLITÉCNICA DA USP

Serviço de Bibliotecas

Information Literacy Education: the case study of Escola Politécnica da USP- Brazil

Authors

Elisabeth Adriana Dudziak e-mail: elisabeth.dudziak@poli.usp.br

Maria Aparecida Gabriel e-mail: maria.gabriel@poli.usp.br

Maria Cristina Olaio Villela e-mail: cristina.villela@poli.usp.br

The School

- **General data**
 - Founded in 1893
 - Incorporated to USP in 1934
 - 15 Teaching and Research Departments
- **Constructed area**
 - 141,500 m² – 9 buildings
 - 20,000 m² – laboratory space
 - 16,500 m² – classrooms
 - 5,000 m² – libraries (8 libraries)
 - 323 agreements and contracts with firms
- **Human Resources**
 - 495 professors
 - 404 PhD or higher titles
 - 328 full-time
 - 500 non-teaching staff
- **Courses**
 - **Undergraduate courses**
 - 10 semester-based courses
 - 3 four-month-based co-op courses
 - 524 Undergraduates
 - **Graduates**
 - 32 courses
 - 4,054 students
 - **Continuated Education**
 - 222 courses
 - 7,777 students
- **Teaching and Research Departments**
 - **Civil Area**
 - Civil Construction
 - Structures and Foundations
 - Hydraulic and Sanitation
 - Transportation
 - **Electrical Area**
 - Computer and Digital Systems
 - Electrical Energy and Automation
 - Electronic Systems
 - Telecommunications and Control
 - **Mechanical Area**
 - Mechanical
 - Mechatronics and Mechanical Systems
 - Naval and Ocean
 - Production
 - **Chemistry Area**
 - Chemical
 - Metallurgical and Materials
 - Mining



The Institution

The library

The library of Escola Politécnica da USP was established in January 24th, 1893. Converted to Serviço de Bibliotecas in February 26th, 1988, its aims are to promote harmonic and systemic operation of the 8 libraries of the School, one to each engineering area, so as to offer essential products and services for the development of academic activities, for teaching, research and extension. Congregates one of the biggest and more important bibliographic assets in the engineering field, presenting, in some cases, unique copies in the country.

Collection:

Books: 89,929 Multimedia: 973
Thesis: 17,396 Others: 219,242
Periodicals: 96,297

Head Office

Av. Prof. Luciano Gualberto, Travessa 3 n.380
Cidade Universitária "Armando de Salles Oliveira"
USP - Campus São Paulo - Brazil
<http://www.poli.usp.br>

Library

<http://www.epbib.usp.br>
e-mail: bibepcen@org.usp.br

© Copyright 2001.

Special thanks to Prof. Antonio Marcos A. Massola, Prof. Sergio D. Brandi, Prof. Oscar Brito Augusto, Prof. Eduardo Toledo and faculty staff.

Information Literacy Education: the case study of Escola Politécnica da USP- Brazil

Information Literacy

Information Literacy

This work derived from the premise that it is necessary, in face of reality, to know how to deal with information and its huge universe, in order to learn continuously. To prepare the human being to rule this universe is the role of educational institutions - schools, libraries and their agents.

People must know how to define their informational needs, how to search and access information; how to evaluate it; organize it; transform it into an amalgam of knowledge, abilities and values, so as to, learn to learn, in an independent way, along life. The Information Literacy is the process that makes this possible.

In the course of this study, it became clear that people have different conceptions of IL - Information Literacy, based on their experiences and priorities, which determine different ways of interacting with the world. This is also applicable to institutions, librarians, professors and students.

Information Literacy Definition

All this work was guided by the conception of Information Literacy directed to the lifelong learning. In this way, the following synthesis is the result of this view.

Information Literacy is the continuous process of internalization of concepts, behaviors and abilities that are necessary for the understanding and permanent interaction with the informational universe and its dynamics, in order to provide lifelong learning.

Concepts of Information Literacy : Comparative Table

Information Emphasis	Knowledge Emphasis	Learning Emphasis
Information Society	Knowledge Society	Learning Society
Access	Access and processes	Access, processes and relations
What	What and how	What, how and why
Knowledge accumulation	Knowledge construction	Knowledge phenomenon
Information System Technology	Users / Individuals	Learners / Citizens
Abilities	Abilities and knowledge	Abilities, knowledge and values
Technocratic approach	Cognitive approach	Systemic approach
Traditional school	School in process	Learning school
Traditional Library (as repository)	Library as learning space	Learning library as space for expression
Librarian as intermediate	Librarian as processes mediator	Librarian as educational agent and citizen

Characteristics

- .It is transdisciplinary, being common in all the knowledge areas;
- .It involves not only information, but also knowledge and intelligence;
- .It permeates any process of creation, problem solving and decision making;
- .It is dependent on the context in which it is inserted;
- .It is an integrated set of personal and social abilities, knowledge, values.

Educational Institutions

In order to provide Information Literacy, educational institutions need turn to the culture of information, working in cooperation with libraries and librarians in the implementation of Information Literacy Education, providing a propitious environment to the development of educational activities toward information, from its educational and curricular policies. The *integrated curriculum* and the *resource-based learning* provide and foster Information Literacy.

The Library and the librarian

Libraries, while cultural and educational institutions, are the basic mediators in the learning processes that aim at Information Literacy. However, a change in the paradigm of library and librarian are absolutely necessary. The library must be turned into a *learning organization* and into a *space for expression*. The librarian must change himself/herself into an *educational agent*. Such changes aim at the integration and the real commitment of the library and the librarians with Information Literacy and the faculty, from:

- .a pro-active vision
- .valorization of an interaction with the community
- .democratization of physical and intellectual information access
- .cooperation among librarians, professors, administrators and, students in the development of Information Literacy Education.



From left: Prof. Antonio Marcos A. Massola (Director -EPUSP), Prof. Jacques Marcovitch (Principal - USP), Prof. Francisco R. Landi (Director -EPUSP- 1990-1994)



Students in classroom at Escola Politécnica da USP



From left: Maria Aparecida Gabriel - collection development librarian, Maria Cristina O.Vilela - director, Elisabeth A.Dudziak - reference librarian, Serviço de Bibliotecas da Escola Politécnica.

The components that support that concept of Information Literacy are:

- . investigation process
- . active learning
- . independent learning
- . critical thought
- . learn to learn
- . lifelong learning

Information Literacy Education: the case study of Escola Politécnica da USP- Brazil

The Pedagogical Project

Through the 80s, the professors of the Escola Politécnica - EPUSP saw the need of reformulating the engineering courses. There was not a crystalline vision, but there were many ideas. In the beginning of the 90s, the school director Francisco Romeu Landi (1990-1994), took the initiative of systemizing these arguments creating the Commission of Curricular Modernization and calling together professors of all the Departments of the School. In March of 1993 the Basic Guidelines for the Curricular Modernization were disseminated. According this document, the graduated engineer must have been stimulated to develop a professional profile characterized by competences and abilities described below:

- .capability of conceiving, analyzing, operating and maintaining systems
- .critical vision of order of magnitude in the solution and interpretation of engineering results products and processes
- .leadership capacity to work in teams, creativity and initiative
- .knowing how to use the basic tools of computer science
- .capability of verbally communicating and of registering the knowledge
- .critical and citizenship sense that allow for following attitudes in the professional exercises:
- . commitment with the quality of what is accomplished
 - . commitment with professional ethics
 - . social, political and environmental responsibilities
 - . understanding the need of continuing learning.

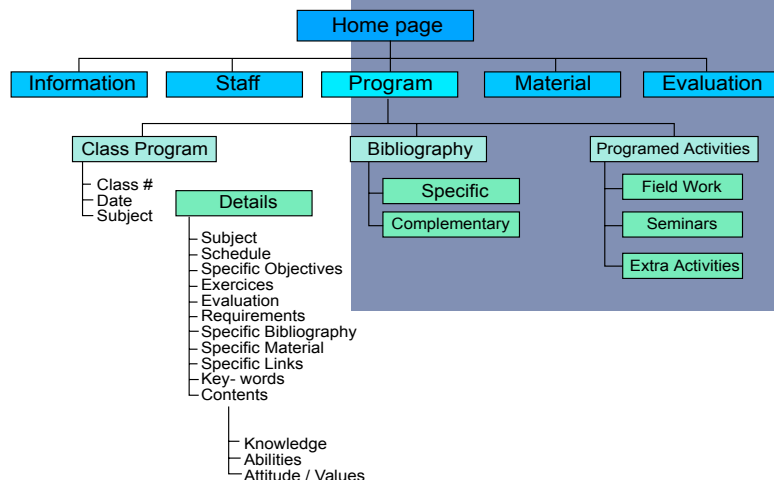
All of the courses at EPUSP are diurnal and take all day. In ideal conditions the qualification takes five years. After one basic-core year, students opt for one great area: Civil, Electric, Mechanics or Chemistry. The curriculum contents have been organized in Basic Core, Essential Professional Content and Specific Essential Professional Content (specialization). Yearly, a Seminar of Valorization of Undergraduate Teaching is carried out.

Partnership for Information Literacy

Librarians are cooperating with faculty, taking the initiative in :

- .survey professors and students to assess information needs and plan programs to meet those needs
- .create a sense of a democratic access to information
- .Digital Library: texts, images, also the memory of the institution
- .remove barriers to transdisciplinary education
- .introduce faculty to new information sources
- .cooperate with teachers to develop appropriate curricula that foster Information Literacy and, course integrated instructions
- .focus on instructing via workshops with active learning activities
- .participate in all the community activities: visit classrooms, dialogue with professors and students, participate in committees, events and, collaborate with special programs as a citizen.
- .cooperate with the faculty set up sites of disciplines

Discipline's Site Structure



Bibliografia

Livros Texto

1.TOCCI, R.J. Sistemas digitais: princípios e aplicações. 7.ed. São Paulo:LTC, 1998. DEDALUS - Abstract - Full Text.

2.FREGNI, E. ; SARAIVA, A.M. Engenharia de projeto lógico digital. São Paulo: Edgard Blucher, 1995.DEDALUS - Abstract .

Referências Complementares

1.Apostila de circuitos digitais. São Paulo: EPUSP, 1987. Full Text.

Dados Complementares

1.MOTOROLA. Circuits and systems. Disponível em:<http://www.motorola.com>. Acesso em: 23.07.2000.