Information literacy course design based on student survey: The practice of subject librarians at NSL, CAS

Ming WU†, Li WANG & Yanli LIU
National Science Library, Beijing Headquarters, Chinese Academy of Sciences, Beijing 100190, China

Abstract

Purpose: This paper aims to explore best practices in academic and research libraries in providing information literacy (IL) instruction to science and engineering graduate students.

Design/methodology/approach: Using the questionnaire survey method, we conducted an IL assessment study on 114 graduate students enrolling in graduate courses offered by College of Chemistry and Chemical Engineering, Graduate University of Chinese Academy of Sciences (GUCAS).

Findings: The current situation of graduate students’ IL competencies and the need to develop them are revealed. An IL course was designed by subject librarians of National Science Library (NSL), Chinese Academy of Sciences (CAS), with three patterns addressing the development of graduate students’ IL competencies.

Research limitations: It is only about the practice of subject librarians at NSL, CAS, in designing IL courses for graduate students enrolling in graduate courses offered by College of Chemistry and Chemical Engineering, GUCAS.

Practical implications: The results can provide a lot of useful information for the improvement of IL competencies of graduate students in science and technology disciplines.

Originality/value: It is significant for assisting future subject librarians in incorporating IL skills into their course, especially for academic and research librarians to prepare and develop IL courses for science and engineering graduate students.

Keywords Graduate student; Scientific information literacy; Survey and course design; Subject librarian; National Science Library (NSL)

† Corresponding author: Ming Wu (E-mail: wum@mail.las.ac.cn).
1 Introduction

The term “information literacy” was first used by Zurkowski in 1974 in his paper *The Information Service Environment Relationships and Priorities*. He observed at the time that “people trained in the application of information resources to their work can be called information literates”\(^1\).

In an era of information explosion, with the emergence of information technologies, the focus of information literacy (IL) education has been shifted from the concept of simple training to the development of skills and competencies that are critical to the improved use of information\(^2\). The skills and strategies to access and use information in the Internet have become new challenges for everyone, especially for students. In 2000, the Association of College and Research Libraries (ACRL) released *Information Literacy Competency Standards for Higher Education*\(^3\). Over the years, a variety of user instruction methods, involving in-class lectures and presentations, hands-on training sessions on using specialized databases, etc., have been used by many libraries\(^2,4–8\).

As we all know, familiarity with scientific literature and the ability to identify, evaluate, acquire, and use diverse sources of information are essential competencies for science and engineering graduate students. In 2002, according to the characteristics and development needs of education and research, Science & Technology Section (STS) of ACRL set up the special task force on IL for science and technology and started the preparation of *Information Literacy Standards for Science and Engineering/Technology*. This document was first launched in 2004 and revised in 2006. Five standards, 24 performance indicators and 104 outcomes for assessing student progress were developed for IL education of university students in science, engineering and technology (SET) disciplines, which fully reflected the IL capabilities that SET students should have\(^9\).

Chinese Academy of Sciences (CAS) is a leading academic institution and a comprehensive research and development center in natural science, technological science and high-tech innovation in China, and Graduate University of Chinese Academy of Sciences (GUCAS) offers mainly science and engineering programs. In this paper, our study will focus on science and engineering graduate students. In our field research, it is found that, although the emergence of information technologies makes it easier for people to access information, evidence is mounting that students are still not becoming information literate, especially graduate students in science and engineering disciplines. They cannot select appropriate sources of information, do not understand the structure or purpose of different sources of information, and cannot critically evaluate the result of information retrieved\(^10\).