Exploring the information literacy competence standards for elementary and high school teachers

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Abstract

The main purpose of this study was to establish Information Literacy Competence Standards for Elementary and High School Teachers. To establish these standards a set of two expert round-table discussions and three rounds of Delphi Technique surveys were employed. Ten participants including field scholars, information professionals were invited to the expert round-table for open discussions on definitions, framework, and items of information literacy competence. A questionnaire for the ''Delphi Technique Survey'' was developed based on the results acquired from the round-table discussions. The resulting questionnaire was distributed to another group of 33 participants which included graduate school deans of Information Education, professors, school principals, department directors and teachers, and information professionals. After three rounds of Delphi Technique Surveys with these participants, the ''Information Literacy Competence Standards for Elementary and High School Teachers'' was established. Three levels (standards, main indicators, and secondary indicators) and three dimensions (knowledge, skills, and attitudes) were identified. Distinguished from existing research which over-emphasizes the dimensions of knowledge and skills, the present study found that the dimension ''attitude'' is the most powerful force for promoting teachers' information literacy competence and their willingness to apply information technology in teaching. It is hoped that the proposed standards could be served as a self-evaluation tool for teachers as well as the basis for staffing and training programs for elementary and high school teachers in Taiwan.
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Keywords: Information literacy competence; Competence standards; Delphi technique

1. Introduction

The development of information technology has had a great impact on education and has dramatically changed the instructional methods, curricula, scope of learning, and role of the teachers and students in

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the instructional setting. The biggest challenge for promoting teaching effectiveness in the 21st century, therefore, is the ability of teachers to acquire informational literacy competencies and to apply instructional technology in their teaching.

The Ministry of Education of Taiwan has placed a great deal of importance on promoting teachers' level of information proficiency which has led to the implementation of several programs such as the "E-mail to Elementary and High Schools Project" in 1994, and the "TANet to Elementary and High Schools Project" in 1997. The government has made a large investment in the improvement of the information environment in elementary and high schools and has administered various training programs and seminars for improving teachers' information proficiency. In 1998, the Ministry of Education established information literacy competence standards and an evaluation tool for examining the information proficiency of elementary and high school teachers. In 2001, the Ministry of Education added "information proficiency" as one of the required qualifications for elementary and high school teachers (Ministry of Education of Taiwan, 2001). However, due to the ever-changing characteristics of information technology, the standards and qualifications used to assess and select teachers have become outdated, and need to be reevaluated and revised.

Therefore, the major purpose of this study is to establish a new set of information literacy competence standards that are suitable for assessing and increasing the information ability of elementary and high school teachers in today's educational information technology environment of Taiwan. Taking the standards from ISTE as a reference, the proposed information literacy competence standards in the present study were developed from altering the information literacy standards established by Ministry of Education in 1998 through a thorough consideration of Taiwan's current information environment. It is hoped that the proposed standards could be served as a self-evaluation tool for teachers as well as the basis for staffing and training programs for elementary and high school teachers in Taiwan.

2. Contents of information literacy competence standards

Information literacy is defined as a person's information ability including the skills of managing information and the knowledge of applying information (Bruce, 2000; Doyle, 1994). Paul Zurkowskiis, Chairman of American Information Industry Association, is the first person that proposed the concept of "information literacy" as well as the strategies for promoting information literacy in 1974 (Behrens, 1994).

Scholars have attempted to define information literacy from many different perspectives. Among them the most widely known definition was proposed by the American Library Association (ALA) in 1989 as published in "The Final Report of the American Library Association Presidential Committee on Information Literacy". The definition includes the ability to recognize when and what information is needed, and how to acquire, evaluate and utilize the needed information effectively. The ultimate goal is for individuals to be able to learn and become effective lifelong learners (ALA, 1998).

AASL (American Association of School Librarians, 1999) stated that information literacy is attained when an individual possesses the knowledge and skills necessary for processing and utilizing needed information. McClure (1994) defined information literacy through four dimensions (traditional literacy, computer literacy, media literacy, and network literacy) as the ability to solve information problems. Therefore, it could be concluded that information literacy includes: (1) the knowledge of information system; (2) the skills for acquiring, analyzing, organizing, and evaluating information; (3) understanding the value, functions, and roles of information; (4) utilizing information for solving problems.

Competency has been defined as an individual's demonstrated capacity to perform, i.e. the possession of knowledge, skills, and personal characteristics needed to satisfy the special demands or requirements of a particular situation (ERIC, 1979). According to the definition provided by Weber's Dictionary online, competence is the ability to do something well, measured against a standard, especially the ability acquired through experience or training.

With respect to "Standards", they are rules, principles, or criteria by which levels or degrees of adequacy, acceptability, quantity, quality, or value are measured or judged. Merriam-Webster Online Thesaurus (2006) defined "standards" as something set up as an example against which others of the same type are compared.