

LIS Students' ICT Skills in Kuwait: Perspectives of Employers, Teaching Staff and Students

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In Kuwait and elsewhere, developments in electronic information resources have led to the demand for employees with ICT (information and communication technology) skills especially in information handling institutions. There is, therefore, a need to prepare the students for this workplace. As a result, the ICT skills of current LIS (library and information science) students; the needs of employers and the LIS curriculum in Kuwait were explored. In addition, the factors that had an impact on students' ICT skills were also investigated. The paper presents the results and analysis of 225 LIS students' questionnaires carried out to collect in-depth quantitative data on the students' ICT skills level. In addition, 54 analyzed semi-structured interviews were conducted to present qualitative data on the views and explanations of LIS students, teaching staff and employers on the implementation of ICT skills into the LIS curriculum in Kuwaiti HE (higher education). The quantitative data analysis suggested that the majority of the students (71%) indicated that they had an intermediate ICT skills level, database maintenance and Web page construction skills were not practiced by students; whereas the "search and retrieve information from Internet" was the most frequently used skill by 88% of the students. The qualitative data suggested factors that negatively affected the students' ICT skills improvement, such as lack of motivation, ICT courses' content and ICT skills training. In addition, the current students' ICT skills did not satisfy the need of the job market, the findings suggested that they should possess other skills, in addition to ICT skills, to become information professionals.

Keywords: Kuwait, ICT (information and communication technology), LIS (library and information science) curriculum, job market, employers, teaching staff and LIS students

Introduction

As new ICT (information and communication technology) skills are identified, LIS (library and information science) curriculum need to be revised to update its ICT courses, depending on the needs of the job market or LIS schools will fail to provide students with the appropriate skills. In addition, academics need to realize the needs for ICT skills from different sectors/organizations and incorporate them in their syllabus. LIS programmes need to change and develop new ICT courses that deliver the required ICT skills in order to survive in the constantly changing information world. Furthermore, possessing ICT skills will expand the extent of LIS students' interests and encourage them to practice a wide range of library activities, hence, increasing their chances of employment.

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LIS is taught as a BA (bachelor) degree in one college in Kuwait at the DLIS (Department of Library and Information Science). The DLIS strives to fulfill the employment needs of various LIS sectors by equipping its graduates with different skills. As such, students' ICT skills in the department have been recognized as essential qualities for employment. These skills prepare graduates to perform and use different ICT technologies. It is for this reason that LIS students should possess ICT skills, which are required and agreed upon by the DLIS and employers.

ICT implementation in Kuwait was found to be limited. There was a lack of qualified ICT teaching staff and library staff (Al-Qallaf, 2006; Marouf & Ur Rehman, 2007), undergraduates' ICT skills and library skills (Ur Rehman & Mohammad, 2002) and ICT resources (Ur Rehman & Mohammad, 2002; Al-Ansari, 2006). In order to provide graduates with better ICT skills in DLIS (Kuwait), it is necessary to know their entry-level ICT skills and how these skills can be improved through their LIS education. The literature review showed that there has been little research on the topic in this area and in particular, in Kuwait. There has been no recent empirical study on this topic. Therefore, this research focused on exploring the ICT skills in the Kuwaiti higher education and that are needed by the job market.

LIS Programmes in Kuwait

LIS in Kuwait is taught as a four-year BA degree at the DLIS, CBE (College of Basic Education) supervised by the PAAET (public authority for applied education and training). The program started in 1977 as a two-year diploma of LIS studied at the same college. It was the required professional qualification to become an assistant librarian in Kuwait (Alqudsi-Ghabra & Al-Ansari, 1998).

In 1986, the LIS four-year degree became the required degree. It was the only one in the country for librarians and the teachers of librarianship at secondary schools. The programme focused on the education of librarians to meet the needs of school libraries and did not address the needs of other information sectors in Kuwait (Abdel-Motey, 1995). However, since 1998, the programme has been the only one that qualifies librarians in Kuwait to work as information professionals in different sectors of the country to fulfill the needs of the Kuwaiti job market. Today, it has about 700 students and 47 teaching staff, of which 12 are pursuing their Ph.D. studies in USA, UK and Australia. In addition, there is a two-year MLIS (masters of library and information science) programme that started in 1996 at Kuwait University, College of Graduate Studies. It was a result of the extreme need for LIS professionals and information specialists in Kuwait to work in academic, public and special libraries and other information intensive organizations. Moreover, it provided a progression route for librarians and information centre employees to continue their education and provided LIS bachelor holders the opportunity to extend their higher education (Alqudsi-Ghabra & Al-Ansari, 1998).

ICT Skills Definition

The following definition has been chosen in this research, as it will be used in many parts of this paper: the minimum ICT skills that LIS students need to access, evaluate, communicate information and produce documents electronically by the use of computers and communication technologies. These ICT skills include: (1) using office applications (Word, Excel, etc.); (2) using and managing library automated systems (acquisition, catalogues, circulation, and current awareness); (3) maintaining in-house databases; (4) designing and constructing Web pages; and (5) databases, online and Internet searching to retrieve information.

Literature Review

The review of related literature established the concept that ICT skills and knowledge are keys to the training and education of LIS professionals. It has been emphasized by LIS programmes worldwide. LIS schools have altered their curricula (Virkus & Wood, 2004; Horvat, 2003), changed their LIS programme name from LIS to IS (information science) (Ocholla & Bothma, 2007) and introduced new ICT courses (Callison & Tilley, 2001).

More trends also occurred, including adding new courses to the curriculum, such as knowledge management, multimedia and ICT (Ocholla & Bothma, 2007; Miwa, 2006). As well as including ICT in all aspects of a LIS programme due to the rapid change of the information setting (Donchenko & Kerzum, 2006). Moreover, curricula revision includes new LIS courses (Hallam, 2006; Blankson-Hemans & Hibberd, 2004). These trends and others, such as new specializations of teaching staff, adding graduate levels to programmes and graduates seeking employment in other non-librarian organizations, have emerged in response to the needs of the job market and have led to improved LIS education, forming a LIS international infrastructure and adapting to the world's changing information setting. However, ICT application was the most prominent trend in LIS education (Ur Rehman, Abu Baker, & Majid, 1998).

Nevertheless, as well as LIS schools including ICT in their curriculum, they will also need to apply professional guidelines and standards to help develop their programmes to include ICT. Curriculum revision needs to take place regularly (International Federation of Library Associations, 2002; American Library Association, 2006), to ensure that LIS programmes are updated and continue to meet the needs of a country and its job market. ICT skills were mentioned within professional associations' standards/guidelines, which show their importance. IFLA listed them as "core skills", CILIP defined ICT skills as one of the "core areas" (Khoo, Majid, & Chaudhry, 2003) and ALA listed them as basic "technological knowledge" (American Library Association, 2005). The ALA appeared to be the most concerned with ICT. It has defined it as skills that "enable an individual to use computers, software applications, databases and other technologies to achieve a wide variety of academic, work-related, and personal goals" (Association of College and Research Libraries, 2006). It also has divisions dealing with different aspects of ICT, such as the ACRL and LITA (Library and Information Technology Association). Moreover, McKinney (2006) indicated that the number of ALA accredited institutions instructing the competency "technological knowledge" as 56 (100%) of US LIS programmes.

LIS graduate employers' views should be sought to identify whether newly appointed graduates have met their job requirements and whether there are gaps in their knowledge, skills and attitudes that could be improved by LIS departments (Ocholla, 2001) including their ICT skill capability. Studies have confirmed that ICT skills are required (Ojedokun & Moahi, 2005), which is a necessary qualification for employment in all sectors. It was found that LIS graduates in the public sector lacked ICT skills (Dalton, Mynott, & Shoolbred, 2000). Therefore, LIS graduates needed on-the-job training and ICT courses needed to be included into the LIS curriculum (Ocholla, 2001).

Although LIS programmes are attempting to change their curriculum and adapt to new ICT through their courses, they are facing challenges and barriers that may affect adoption and implementation, including lack of training and motivation (Abdel-Motey & Al-Ansari, 2003); lack of ICT skills among faculty (Rath, 2006) and students (Ocholla, 2001); lack of finance (Abdel-Motey & Al-Ansari, 2003); and lack of hardware, software and other ICT facilities (Ur Rehman & Al-Ansari, 2003). These challenges and barriers facing LIS schools

have led to a call for collaboration as a solution among LIS schools to help develop the curriculum. Ways of collaborating have included meetings, the exchange of views and faculty (Abdullahi & Kajberg, 2004), cooperating with other departments to improve the quality of teaching and research (Dalton & Levinson, 2000), and sharing knowledge through the use of technologies (Chaudhry, 2006).

Methodology

To gather the research data, qualitative and quantitative methods were used. Combining techniques would enable reliable and in-depth information to be gathered. The methods used were a questionnaire to collect quantitative data and semi-structured interviews to collect qualitative data.

The questionnaire was selected as a quantitative method to collect data from LIS students. The questionnaire participants were first and fourth year students. Sixteen students of them (male and female) were interviewed based on their indication to participate when they provided their contact details in the returned questionnaires. The semi-structured interview was selected as a qualitative method to collect data from employers, teaching staff and students. The interview participants were LIS graduate employers (public and private), LIS ICT courses teaching staff and LIS first and fourth year students (who agreed to take part in the questionnaire).

Analysis and Discussion

The questionnaire was self-administered to the first and fourth year students at the DLIS during the last ten minutes of their lectures. It achieved a very good response rate of 79%. Some students did not participate due to their absence during the survey period. The semi-structured interviews were conducted in different public and private sites. The final interviews participants included 26 employers from the private and public sector, representing 11 different organizations, 12 ICT skills courses teaching staff, and 16 LIS males and females students.

ICT Skills Literacy and Level

Although the research participants (employers, teaching staff and students) lacked a common understanding of the term ICT skills, they showed an understanding of the term when they answered other related parts of the interview questions, such as about the ICT skills they practiced. The students also showed an understanding of the term when they completed the questionnaire (the definition was attached). In addition, the results of employers and teaching staff interviews revealed that the students in the fourth year had better ICT skills than those in their first year. The quantitative data of the questionnaires supported this; it showed that the majority (71%) of the students perceived that they had an "intermediate" ICT skills level, the majority (73%) of who were in their fourth year (see Table 1). It was expected because these students have had ICT courses and training. The percentage of students that had a "proficient" ICT skills level was 14%, which was not encouraging. It was interesting, however, to find that 15% of the students were "beginners" at this time (according to their ages from 18-22 and being LIS students), whereas ICT usage has become an essential daily tool. One can conclude, therefore, that they did not get enough training from either their previous education or their LIS education.

ICT Skills Proficiency and Sources of Learning

The interviewees (employers, teaching staff and students) stated that database maintenance and Web page construction skills were not practiced by students. It was also confirmed by the results of the questionnaires data where the maintenance of in-house databases (ranked fifth out of six ICT skills) and design and develop Web

pages skills (ranked sixth) received the lowest rates, the “search and retrieve information from Internet” was rated as the top skill the students achieved and the “use of office applications” was rated as the second, although they were basic. This is equivalent to the finding of Abu Baker (2005), who found that the use of Microsoft Word and the use of different features of word processors, such as printer control, mail merge and others in Malaysia were rated as the top two basic skills for professionals working in almost all LIS areas. In fact, these skills are considered as basic ICT skills requirements for anyone in all other fields.

Table 1

Students' Current ICT Skills Level

ICT level	Frequency	Percentage (%)
Proficient	31	14
Intermediate	160	71
Beginner	34	15
Total	225	100.0

The quantitative data suggested that “database searching” was practiced by 28%, “library catalogues searching” by 25% and “Web page design and construction” by 10% of the students, reaffirming the results of the interviews. It indicates that 70% of the students did not know database searching, 75% did not know how to search library catalogues and 90% did not practice Web page design. It could be because these subjects were not taught as standalone courses or they were taught in one cohort but not the other.

In general, the qualitative and quantitative findings indicated that LIS graduates lacked the following skills they needed to practice as professionals: (1) database searching and maintenance; (2) Web page design and construction; (3) electronic cataloguing and classification skills; (4) information searching and retrieving skills; and (5) using library automated systems.

Similar findings were reported by Marouf and Ur Rehman (2007), when they recommended the need to strengthen the MLIS graduates' skills in ICT in Kuwait, cataloguing skills and the management of electronic resources. There were some disagreements about the sources of ICT skills learning among the students. The quantitative data of the questionnaire suggested that the majority of the students learnt from their “previous education” (first option) and on their “own” (second option) through trial and error. Moreover, the first year students revealed that they had learned least from “LIS School”, but they had been there for the least time. The fourth year students had “LIS School” as their third option of source of learning, whereas one would expect it to be their first choice (see Figure 1). It indicates that ICT courses at the DLIS were not delivering the ICT skills that the fourth year students needed.

Factors Negatively Influencing ICT Skills Improvement

Another objective of this research was to identify the main factors that have negatively influencing students' acquisition of ICT skills. Different factors were determined from the qualitative and quantitative data.

Lack of training. Minishi-Majanja (2007) stated that LIS schools needed to increase the practical training of their courses. The results of the questionnaire showed that the main problem faced by the students was “not enough training provided by the DLIS” (ranked as the first option). The majority of the students also did not think that the practical training provided at the DLIS was “sufficient”, their responses ranged from “insufficient” to “sufficient”, “1” to “6”, using a six-point semantic differential scale (see Figure 2).

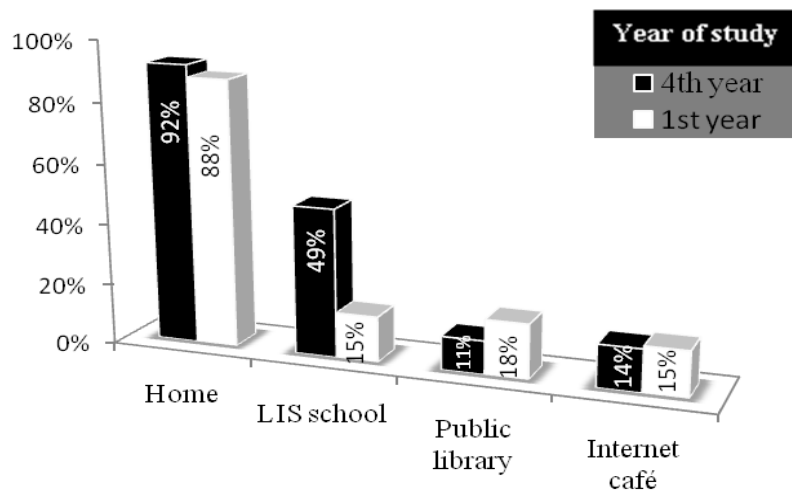


Figure 1. Where use ICT equipment by year of study (N = 225, multiple response).

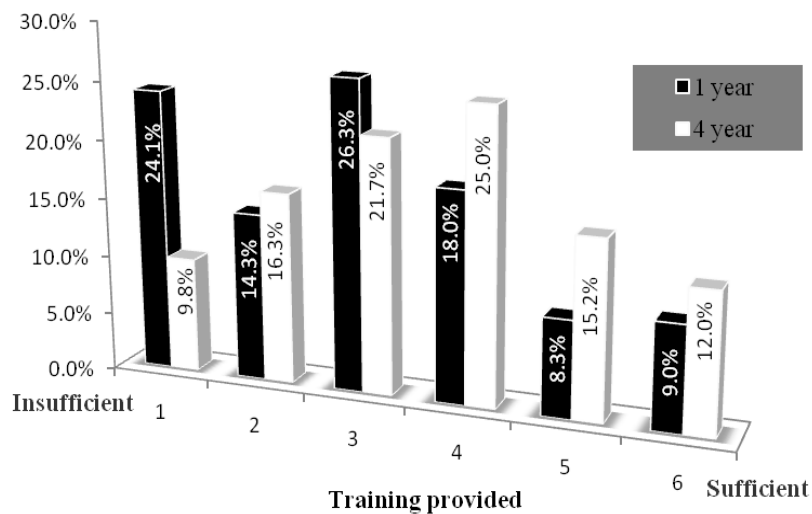


Figure 2. Degree of practical training provided.

Data from the interviews showed that students were not well trained to practice their ICT skills during their LIS education. It also suggested that the first year students lacked ICT skills because of their previous education training. However, the first year students still had time and opportunity to improve their ICT skills through their LIS education. The interviews also indicated that although the fourth year students had improved their ICT skills during LIS education, they needed more training and the current LIS ICT education alone was not enough to improve their skills to meet the needs of the job market. The same finding was reached in an earlier study of the training of LIS professionals in Kenya (Kavulya, 2007). It found that LIS training programmes did not address the needs of the job market.

ICT courses' content. The inconsistency of the curriculum (a lack of balance between theory and practical training) was reported. Teaching at the DLIS was more theoretical than practical work. Lutwama and Kigongo-Bukenya (2004) reported the same findings at the LIS programme in Uganda, that 87% of the respondents were not satisfied because teaching tended to be theoretical. In addition, it was recognized by the respondents that the ICT courses' contents did not reflect the needs of the job market and were outdated.

However, when the students were asked about the theoretical teaching of the ICT courses provided by the DLIS, it appeared to be insufficient as indicated by most respondents. Their responses ranged from “1” to “6”, “sufficient” to “insufficient” with a mean of 2.52 for the first year and a mean of 2.63 for the fourth year. The qualitative data suggested that there was more theoretical than practical work, results of the quantitative data also indicated that the theoretical teaching of the ICT courses was “insufficient”.

“Not enough courses offered” (52%) was the second, out of ten, most critical comments about content students made. Moreover, providing “intensive ICT courses” was the third option, out of five, that the students indicated as a preferred way to improve their ICT skills training, 21% of them were in their fourth year reinforcing this view, since they had a full experience of the programme.

Levels of motivation from DLIS and home. The employers' and teaching staff's interviews indicated that there was a need to motivate students at the DLIS and at home to encourage them to improve their ICT skills. Students, however, indicated that they were not motivated enough at the DLIS to improve their ICT skills. For example, there was no encouragement from the teaching staff to use ICT and ICT resources were not accessible. In addition, females received less encouragement to use ICT at home. This was also stressed by the employers.

The quantitative data supported the previous qualitative data, as it showed that the students in both years (first and fourth) of their study were not motivated at the DLIS to improve their ICT skills. It was measured on a six-point semantic differential scale ranging from “1 = Not motivated” to “6 = Motivated”, most of their responses ranged from “1” to “3”; Whereas in contrast, the students in both years were motivated at home to improve their ICT skills, most of their responses ranged from “4” to “6” motivated. This could be due to the reason of recognizing the importance of ICT especially by literate families or even those uneducated families wanted their children to learn or because the ICT facilities were available at home.

Conclusions and Recommendations

Overall the students had knowledge and basic ICT skills. They had basic knowledge of office applications (such as Microsoft Word) and Internet searching skills (such as basic keyword search). However, the students lacked advanced searching and Internet navigation skills (such as using Boolean and truncation).

Concerning the students' ICT skills level, the majority (71%) had an “intermediate” ICT skills level, the majority (73%) of who were in their fourth year. The “proficient” students' ICT skills level was 14%. However, 85% of the students did not have enough ICT skills; their level was self-rated as “intermediate” or “beginner”.

Some of these skills (such as database searching and information searching and retrieving) that the students are learning at the DLIS could be enhanced if practical training could be provided upon request from the teaching staff. However, the training would depend on the availability of the teaching staff and facilities, including ICT equipment. In addition, students could be advised to use online authorized courses, which could be reviewed and suggested by the teaching staff.

The negative factors found were:

(1) Lack of ICT skills training: Most students did not think that the ICT skills training and teaching provided was “sufficient”. More than half of the respondents (55%) identified “not enough training provided by the DLIS” and “not enough courses offered” (52%) as the most critical difficulties they were facing. It was also supported by the qualitative data of the interviews.

The findings suggested that theoretical teaching alone was not enough to equip students with the future needs of the job market. It is suggested that LIS graduates should enter the job market with knowledge gained

through theoretical teaching, in addition to ICT skills and other skills that are gained through practical training. It is also suggested that the curriculum, the learning and teaching environments are changed;

(2) Lack of ICT courses' content: The research found that the ICT course content was inconsistent; It was also found that the ICT courses' content did not reflect the needs of the job market and was outdated.

A number of the ICT skills (such as advanced database searching) needed for the job market, as it was suggested by the qualitative data, should be improved and instructed as standalone courses, since this is the case in worldwide LIS education. Other skills, such as attitude and teamwork, are to be taught as a part of other LIS courses and some, such as marketing and interpersonal skills should be merged to form one course;

(3) Lack of motivation: The DLIS was found to be an unsuitable environment due to the lack of ICT facilities to motivate the students (to improve their skills). It was found that students who were motivated at home were better equipped to improve their ICT skills.

The DLIS should provoke interest of students to encourage them to improve their ICT skills. It could be achieved by promoting them to use ICT in different assignments and linking this with their grades. Therefore, LIS students (quantitatively the students had interests to improve their ICT skills) need to be willing to enhance their skills to improve their chances of employment.

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