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Information Literacy Standards, Guidelines and their Implementation: An Analysis

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ABSTRACT

The current age of digitised information and networks has created a new demand for proficiencies and capabilities in information and communication technologies (ICT). However, it is often perceived that ICT proficiency equates to information literacy (IL), which actually encompasses a more holistic set of competencies where ICT literacy is only one component of it. Government organisations and research have recognized that IL is an important requirement in today's knowledge-based economy, yet there are still numerous policies and standards concerning information access and use that seem to emphasise ICT infrastructure and literacy over IL competencies. This paper provides an overview of a number of documented IL standards and guidelines, and based on the distinct characteristics of these standards and guidelines, proposes several recommendations for making them more dynamic and which can be immediately employed for effective outcomes.

Keywords: Information literacy, information standards, ICT, information policy.

1. INTRODUCTION

Digitised information, networked world, and information communication technologies (ICTs) have became necessities in order to stay abreast in the current globalised knowledge-based economy. It is often perceived that ICT literacy automatically equates to information literacy (IL), which can be defined as the ability to search, locate, evaluate and use information[1]. However, researchers have recognised that the former is often a subset of the latter[2, 3] and that both are essential for ensuring that students are equipped with the most up-to-date competencies that would enable them to be effective learners and dynamic knowledge workers who are able to make informed decisions beyond the school walls.

Despite this recognition, there are policies and standards concerning information access and use that seem to emphasise ICT infrastructure and literacy over IL competencies, with some extending to the extreme of being at the expense of the latter. It is thus important to explore various information policies and standards concerning information access and use as well as IL, to evaluate their strengths and weaknesses, and ultimately make recommendations for the development of successful and effective IL standards and guidelines based on these appraisals.

2. NEED FOR INFORMATION LITERACY

IL is a necessary competency that is utilitarian in every aspect of a person's life. For students, IL competencies would facilitate independent and authentic learning, rather than dependence on the teacher to provide answers to questions or problems that they are faced with. This creates greater responsibility towards their own learning, which in turn would help them become self-motivated learners and thinkers who are creative, analytical and effective. For employees,

IL competencies would equip them with abilities to source for the most up-to-date and authoritative information that would assist them in doing their work more effectively. They would then be able to constantly adapt to changes to keep up with the demands of ever increasing information requirements that they encounter. Ultimately, information literate employees are dynamic and are able to value-add the organisation that they work in. As for ordinary citizens, IL competencies would help them effectively analyse information that they face everyday and utilise it to their benefit. Information literate individuals are aware of their personal and consumer rights, and of how changes in national or foreign policies affect them. IL is not simply a library competency,[4] nor is it relevant only in schools or research institutions[5]; it is also widely practised in businesses specifically in knowledge management, which is currently an important aspect of every business organisation. It is also important to make the distinction between IL and ICT literacy. IL entails the ability to search, locate, evaluate and use this information or facts to create useful knowledge,[1] whereas the ICT encompasses competencies in utilising technology-based tools effectively. It is therefore reasonable to consider ICT literacy as one facet of IL. The indispensable nature of IL generated the development and implementation of IL standards and guidelines for the integration of information-related skills in the school curriculum, where such competencies can be imparted more effectively to students.

3. IL—STANDARDS AND GUIDELINES

Schools and institutions of higher education worldwide have implemented different IL standards and guidelines. These documents not only list the information-related competencies that students ought to possess and exhibit, but also make recommendations as to how these competencies can be integrated within school curricula and also the various strategies that can be implemented in order to effectively impart these competencies to students. These information-related competencies range from specific IL skills to more procedural ICT skills. The following sections provide an analysis of various IL standards and guidelines that have been implemented in various parts of the world.

3.1 The United States and Canada

In United States, the American Library Association (ALA) and Association for Educational Communications and Technology's landmark publication *Information Power*[6], and the Association of College and Research Libraries's publication *Information Literacy Competency Standards for Higher Education,*[7] have both become *de facto* standards for IL competencies from kindergarten to college, both across the US and in many other nations throughout the world. Elementary and high schools, and colleges in the US actively implement IL programmes in their school curricula, with some schools promoting active collaborations among the school libraries and teaching staff.[8, 9]

In Canada, a three-year information literacy research project was conducted across the nation starting from the year 2000, funded by the Social Sciences and Humanities Research Council (SSHRC).[10] The focus of the project was to identify instructional outcomes and characteristics of successful instructions provided by the librarians to college students in three Canadian universities. The Canadian Ministry of Education also presented the essential skills that individuals need in order to be successful in their workplace.[11] The skills include finding information, using documents and continuous learning, all of which are components of information literacy. The list of skills is targeted at students who are interested in planning their future careers. Numerous educational institutions in North America have incorporated these IL standards within their curriculum or adapted them for implementation, even on a state-wide basis.[12-15] However, it must be realised that these IL standards are largely US and Western-centric, and may not necessarily be easily adapted in the Asian context, with different cultural and linguistic environments.

3.2 The United Kingdom

The UK Standing Committee for National and University Libraries (SCONUL) first convened and proposed the Seven Pillars of Information Skills[16] in their position paper in December 1998. The basis of the paper was the relationship between *information technology skills* and *information handling skills*.

The task force sought to determine the difference between the two, and the need for information skills, especially in the UK higher education. Best practices in the area within the UK higher education sector and from abroad were explored, and seven core skills were finally identified, developed and proposed in October 1999. However, the focus of the seven core skills was on ICT literacy and information access and use, and not quite specifically on IL.

3.3 Australia and New Zealand

The Council of Australian University Librarians (CAUL), made up of representatives of various Australian and New Zealand universities, the schools sector,

the Technical and Further Education (TAFE) sector, and other related organisations in September 2000 reviewed the US Information Literacy Standards for Higher Education by ACRL for adaptation and implementation in the Oceanic region. Studies and practices by Australian researchers in the area were also taken into consideration while reviewing the standards of ACRL. CAUL approved the revision and adaptation of the ACRL standards and named the revised set of benchmarks Information Literacy Standards, which were specifically intended for higher education although they could be applied to other educational levels as well.[17]In 2003, the standards were further revised based on recommendations and experiences of academics and librarians who used the CAUL original set of benchmarks. The second edition was renamed the Australian and New Zealand Information Literacy Framework (ANZIIL) and essentially provided four guiding principles and more comprehensive details for each of the six core standards.[18] The ANZIIL IL framework has been extensively adopted or adapted for use in many educational institutions throughout the region.[19-22]

Although the ANZIIL IL framework is an adapted version of the ACRL standards, and attempts to improve on it through the inclusion of participative citizenship, awareness of cultural differences, and the importance of group cohesion, it is still largely focused on a non-Asian society. If such a standard is to be adapted to an Asian context, various cultural and linguistic nuances need to be considered and adopted.

3.4 Singapore

The Languages and Library Branch of the Curriculum Planning and Development Division in the Ministry of Education (MoE) developed the Information Literacy Guidelines in 1997. The integral element of the information literacy initiative was the promotion of reading as a vital activity for achieving IL.[23] The guidelines listed eleven learner outcomes and framed two areas in the IL curriculum, namely the *skills* domain and the *attitudes* domain. The curriculum was developed to span the primary (ages 7 to 12) and secondary schools (ages 13 to 17) and the pre-university levels, across different subjects. Subject-specific sample lesson plans were also included in the document.

To complement the guidelines, another document was produced in the same year. Specifically, the English Language Unit of the Languages and Library Branch launched the Extensive Reading and Information Literacy (ERIL) programme, for implementation in secondary schools. Strategies and measurable outcomes for monitoring and evaluating the programme were suggested in the document, accompanied by sample assignments and templates. However, both documents have currently ceased to be used in the local schools. At around the same time, the MOE started formulating the Masterplan1 for information technology (IT) in education (MP 1) in the mid-1990s.[24] There were two foci in the development and execution of MP1. First was to present an overall blueprint for the use of IT in schools, and the second was to provide every school-going child access to an IT-rich curriculum and school environment. The first masterplan was implemented from 1997 to 2002.

In the middle of 2002, the MoE unveiled the Masterplan 2 for IT in Education (MP 2). The main purpose of MP 2 was to bolster the developments and achievements of MP 1, and to further stimulate critical thinking, creativity and independent learning among students using IT.[25] The second masterplan was implemented from 2002 to 2007.

The implementation of MP 1 and MP 2 had reformed the education system in Singapore, for both students and teachers. New curriculum initiatives and strategies were planned and proposed, and new teaching methodologies were designed and recommended. Overall, these reforms were made possible through the intensive and extensive support from both MoE and the management of each school. MoE provided schools with sufficient funds, training programmes and freedom to procure computers, to equip both teachers and students with proper IT training, and to set up various forms of IT-based activities and ventures within the school. The school management was given the autonomy to engage commercial vendors to help set up their school's IT programs or to forge collaborations with various organisations from within Singapore and the rest of the world. The MoE launched the Programme for Rebuilding and Improving Existing' schools (PRIME) in May 1999, with the sole objective of upgrading all schools to current standards, in order to provide a conducive learning environment for students.[26] Among the new facilities that schools received were bigger media resource libraries and more technologically equipped classrooms. PRIME was estimated to cost around $ 4.5 billion. In addition, all Singapore school libraries were electronically linked through the MoE Integrated Library Network System, or MERLIN, in October 1999.[27] This move allowed schools to share library resources and teachers to have access to a larger database of information sources. Within the school, teachers were given the opportunity to furnish themselves with IT skills and at the same

time, share their learning experiences and new teaching practices based on IT with other teachers. The MOE's Online Training Administration System or TRAISI, allowed teachers to put up courses they planned to conduct and share with their colleagues, or sign up for available courses which were relevant to their teaching needs. Teachers were also encouraged to upgrade their IT skills through online courses accessible on the Virtual Institute of Training and Learning (VITAL).[28] In addition, teachers were strongly encouraged to apportion at least 30 per cent of their lessons to IT-mediated activities.

All these steps were taken to help ease the transition to an IT environment in schools for both teachers and students, with the hope of changing the learning culture within the education system, in addition to preparing the future generation to readily embrace the rapid technological advancements that are happening everyday. In addition, new learning initiatives and strategies such as project work,[29] problem-based learning (PBL) and strategies for active and independent learning (SAIL)[30] were also proposed and introduced by MoE. These learning initiatives and strategies were to facilitate the use of IT in teaching and learning, and equip students with the necessary technological skills that are required in the work force. It was generally observed that although there had been several MoE-based initiatives in promoting and infusing IL competencies in schools, there was still unawareness and apathy towards the importance of IL in teaching and learning.[31] This probably subsequently led to its diminished role in the education system. However, ICT initiatives and skills were more widely accepted and adopted into the education system due to their more evident usefulness and immediate applications in this technology-driven era. This disparity came about despite the fact that both the MoE-based IL and ICT initiatives were introduced around the same time in 1997. Recently, the MoE revealed the 'Baseline ICT Standards for Pupils', following the mid-term review of MP 2 in 2005.[32] Although the baseline ICT standards focused largely on ICT skills, efforts were made to incorporate IL competencies within ICT skills, such as using search engines to retrieve current information and the practice of ethical and legal use of information, even if these are not overtly identified as IL competencies.

3.5 Southeast and South Asia

In a 2003 regional workshop organised by the International Federation of Library Associations (IFLA) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO) that involved seven countries in Southeast Asia, the participants recommended to UNESCO for Southeast Asian countries to jointly improve IL education in schools.[33] This spawned a project for the development of IL education through school libraries in Southeast Asia with financial assistance under the UNESCO's Information for All Program' (IFAP) in 2004. A follow-up workshop was held in end 2004, where experts from seven Southeast Asian countries (Cambodia, Indonasia, Lao PDR, Malaysia, the Philippines, Thailand and Vietnam) convened to decide on a working definition of IL and draft a questionnaire on IL for surveys that they would need to conduct in their respective countries. A subsequent workshop was conducted in the UNESCO office in Bangkok, Thailand in mid-2005 to share their findings and make future plans for IL in the region.

Generally, it was found, through the surveys conducted in the seven Southeast Asian countries, that only half of the respondents indicated that their school had a policy statement on IL, although it was rarely explicitly stated. IL training for educators was somewhat low across all schools in the region, whereby most IL training stemmed from external courses, seminars and user education programs. There was generally a lack of leadership for IL standards and implementation in these countries. Other factors were also cited as contributory to the low rate of IL implementation in schools such as low literacy rate, lack of funding, lack of awareness, shortage of classroom or library space, and insufficient guidelines on IL integration into the school curriculum, among others. However, the participants saw opportunities for IL implementation to be improved in their respective countries, such as ICT infrastructure in schools curriculum reforms especially where ICT developments is concerned, national policies that emphasise the creation of a knowledge society, and enhanced regional and international partnerships in IL policy and implementation. An international workshop to promote IL in South and Southeast Asia was held in October 2005 in Punjabi University, India, with the objectives of improving educators understanding of the importance of IL in teaching and learning, developing strategies in educational institutions to incorporate IL within the curriculum, and generating appropriate IL standards and guidelines in the respective countries within the region, among others.[34] The workshop was attended by 65 delegates from the academic fraternity representing Bangladesh, India, Malaysia, Nepal, Pakistan, Singapore, Sri Lanka, and Thailand. Although the UNESCO effort has been instrumental in attempting to develop an Asian-centric set of IL standards, the distinct characteristics and different socio-economic status of each Asian nation throughout the region makes it a challenge to adopt an overarching standard for the region.

4. THE WAY FORWARD

Although numerous IL standards and guidelines have been established worldwide, with some countries collaborating in regional measures to create IL policies, there is still largely a lack of governmental involvement in developing state- or institution-specific IL standards or guidelines that can be immediately employed for effective outcomes. Albeit international or regional IL standards are necessary to provide directions in which IL can be implemented, each country, even within the same region, is unique and has particular needs to be addressed. Also, there are still information-related policies or standards that place too much emphasis on ICT skills instead of the all-encompassing IL competencies. In addition, there currently exists a dearth of sharing and collaboration amongst countries and academic or corporate organisations in exchanging information-related and IL agendas, which is essential in ensuring currency and relevance. Finally, professional certification of LIS courses and evaluation of IL learning outcomes are necessary to ensure that LIS courses and IL initiatives adhere to certain minimum acceptable standards that are recognised internationally.

5. RECOMMENDATIONS

First and foremost, the development of IL policies, whether for each country, state or institution, should come about with some form of government involvement[33, 35]. Information policies that are backed by the government or those in power are taken more seriously and resonate more strongly among users. This in turn would ensure more efficient and effective implementation, which is an important first step in integrating information-related skills within educational institutions and the workforce. Second, there are existing information-related initiatives that still place too much emphasis on ICT literacy. It must be realised that both IL and ICT competencies must bear equal importance in this current digital and knowledge-based era.[31] In addition, not all countries or institutions are ICT-equipped, thus information-related initiatives must cater to both ICT- and non-ICT-driven environments. For instance, such initiatives for ICT-driven environments should not only include ICT knowledge and skills such as learning about the design and structure of systems and databases,[36] but should also incorporate user competencies such as information evaluation and critical thinking skills.[37, 38] On the other hand, information-related initiatives for non-ICT-driven environments should focus on advocacy of the learner such as putting in place appealing user-centered instruction, and support for alternative information delivery systems,[3] for instance, using artwork, handicraft or cultural pieces that the learning audience can readily identify with and from which the communication of IL competencies can stem. In addition, for other non-ICT-driven environments, such as those in less developed countries or remote villages, information-related initiatives should sanction the establishment of centralised and ICT-enabled information resource centers that cater to the specific needs of the community concerned.[39]

Third, IL planning and implementation should not just be confined to within the discipline of information studies or library science. Inter-disciplinary research and strategies for IL should be undertaken to ensure that the strengths of different discipline areas can be extracted and synergised when planning IL strategies. For instance, in the education sector, with the shift of most education systems towards constructivism or student-centered and independent learning, education curricula have started to adopt authentic assessment approaches, such as problem-based and project-based learning. Problem and project-based learning can be described as in-depth investigations of real-world problems that students need to critically analyse and attempt to solve[40]. With the process of critical analysis comes the need for research abilities that inadvertently point to the application of IL competencies. As a result, IL research that is intertwined with problem-based or project-based learning has emerged.[41-43] This has also spawned research on the collaboration between educators and school librarians or media specialists, in a bid to bridge the gap amid what happens in the classroom and what is really required of students in the real world of knowledge-based economies.[44, 45] Research has also shown that the fusion of pedagogical strategies and IL competencies have spawned positive impact on students' research abilities and academic achievement.[46, 47]

Next, there should be increased collaboration and cooperation among government agencies, academic institutions and corporate organisations[48] to bring together their intellectual and entrepreneurial expertise and experiences in order to develop IL policies that are current, relevant and address market demands.[49] This would ensure that IL or LIS programmes that are conducted based on established IL policies are able to respond to global economic forces and emerging trends. Finally, professional evaluation and certification of IL programmes and LIS courses are required[49] in order to bestow more importance to these programmes and courses, as well as standardise their requirements and contents.[50] This is necessary for two reasons: (i) society will attach more significance and worth to certified IL programmes and LIS courses that are conducted for students, employees, and

citizens in general, and (ii) will ensure that the competencies learnt from certified IL programmes and LIS courses are more transferable and recognised across different educational institutions, organisations, and even countries. Alternatively, an international IL or LIS certificate will also be useful in uniting different professional and educational IL or LIS groups in a bid to bridge the digital divide between the haves and have-nots.[36]

6. CONCLUSION

There is still a lot of room for improvement in terms of developing effective IL policies and systems for information delivery and expertise. Governmental involvement, equal emphases on both ICT and IL competencies, synergistic cooperation, and professional accreditation are just some means in which these improvements can be made. However, these recommendations are not a panacea to achieving the ideal state of being an information society. Continuous review and evaluation, as well as mutual consultation are necessary to keep abreast of changes and remain relevant; yet retaining what is essential and distinctive for different contexts. The road to becoming an information society is an arduous one, but as in most human endeavours, it is a constant learning and improvement process.

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