Examining school librarians' readiness for information literacy implementation

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ABSTRACT
This study investigates how school librarians perceive their readiness in implementing information literacy (IL) education in schools. It addresses the concerns that school librarians are not adequately prepared in delivering the IL programme in secondary schools. This study uses a quantitative research design with two distinct data collection techniques; a semi structured interview and a survey involving 710 school librarians from secondary schools in Malaysia. School librarians' readiness construct is derived from the cognitive, functional and technical sub-scales of IL implementation readiness. School librarians' professional qualification has an impact on their cognitive, functional and technical readiness. However, their experience as a school librarian has an impact on technical readiness only. The study proposes an IL Implementation framework that emphasizes School Librarians' Readiness as a factor to the successful implementation of ILE in Malaysian schools.

Keywords: School Librarians, Library Media Teacher, Information Literacy, Readiness, Malaysia

INTRODUCTION

This paper discusses findings of a study on the self-perceived readiness of secondary school librarians in Malaysia, with a focus on implementation of information literacy (IL) education in schools. The motivation for this study was the researcher's experiences as a school librarian and the vast literature in information literacy that lacked in studies to understand the implementers of IL in schools, i.e. the school librarians.

Information literacy (IL) is the term used to describe the ability to find and use information effectively in relation to need and purpose. Some of the definitions of IL is the ability to:
  • "...access, evaluate and use information from a variety of sources" (Doyle, 1992; Eisenberg, et al., 2004).
  • "...knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner" (CILIP, 2012).

In 2012, the Moscow Declaration on Media and Information Literacy (UNESCO, 2012), appealed to the relevant authorities to integrate media and information literacy in all national educational policies. It also urged support for necessary structural and

pedagogical reforms in the education system and integrates media and information literacy in the curricula including systems of assessment at all levels of education, including workplace learning and teacher training. These proposals further emphasized the importance of information literacy in the national education system. The main purpose is to improve student success in the classroom. However to do so, the policy makers must first understand that well-prepared teachers play an important role in achieving this (Boyd, et al, 2007). This would include well-trained school librarians to impart information literacy to students. However, there remains an ideological divide on how to prepare school librarians, what the role of school librarians is, and how to ensure successful and effective implementation of information literacy in the school curricula.

PROBLEM STATEMENT

The American Association of School Librarian (AASL, 2013), proposes the school librarian as cadre of school specialists - reading specialists, technology integration specialists, curriculum specialists, or any other specialists with a whole-school mission. These roles require school librarians to be knowledgeable in information literacy and constantly update their personal skills in order to work effectively with teachers, administrators, and other staff to assist them in their information issues. To date much of the research on IL implementation has focussed mainly on pedagogical approaches in delivering and assessing effective information literacy instructions (Horton, 2008; Bruce 2002, Williams and Wavell, 2006; Halida, et al, 2011; Intan Azura & Shaheen, 2006; Intan Azura, Shaheen & Foo, 2008, Sajjad and Suha, 2013) or the instructional role of the library media specialist (Dotan & Aharony, 2008; Drake, 2007). There have also been several studies on the perceptions of school media specialist or school librarians on their role in information literacy education (McCracken, 2001; Miller, 2002; Martin, 2011; Smith, 2013; Subramaniam et al, 2013). These studies have individually focussed on diverse issues plaguing IL implementation.

The school librarians are at the forefront of successful information literacy education implementation in schools, yet little is known about the preparedness or readiness of school librarians in successfully executing this responsibility. To date the extent of school librarians' readiness in the information literacy education implementation in Malaysian secondary schools is unknown. The literature suggests that school librarians may not be prepared to teach information literacy (Combes, 2008; Diao & Chandrawati, 2005; Duke & Ward, 2009; Norhayati, 2009) as they appear to be lacking in IL skills and competencies (Tan & Singh, 2008, 2010). Therefore, this study aims to address this void and present a model of school librarian readiness towards information literacy implementation at schools.

LITERATURE REVIEW

School Librarians in Malaysia

In Malaysia, school librarians are teachers, academically qualified and professionally trained in the discipline of Education. They are subject teachers and familiar with the

school curriculum (Norhashimah, 2007; Lee, et al, 2003). Once, their services are confirmed with at least three years of teaching experience, they are eligible to be appointed as school librarians (Ketua Pengarah Pelajaran Malaysia, 2005.   Their responsibilities include managing the school libraries in terms of budgeting, collection building and execution of school library programmes. They are expected to collaborate with teachers, management of the school, Teachers' Activities Centre, Education Technology State Department, as well as the Education Technology Department to plan, implement information skills programme, carry out research, and provide in-house training to teachers in their respective schools. In addition, they may have full-time teaching responsibilities (Abrizah, 1999). However, many of them have little or limited library and information science (LIS) qualifications (Raja Abdullah & Saidina Omar, 2003). The general practice is for them to attend a Basic Thirty–five Hours SRC (*School Resource Centre)* Management Course followed by Advance Forty-five Hours SRC Management Course prior to or after their appointment as school librarians (Abrizah, 1999). The highest qualification may be a Master degree in LIS or Education Technology or Information Science Studies.

School Librarians and Information Literacy

The school librarians' capability in their IL skills is empirically unknown. The school librarians may need better IL skills to provide services and perform their tasks in the school libraries (Combes, 2008; Tan, Gorman & Singh, 2012). Table 1 depicts some of the more pertinent research papers related to IL and school teachers. Merchant and Hepworth (2002) observed the use of information resources by teachers and concluded that teachers are information literate but their skills were not transferred to their pupils, which they conclude could have been influenced by their attitude towards IL. In 2006, Williams and Wavell delved further into understanding the relationship between IL and learning. Their investigation into curriculum-based information activities led them to conclude that many teachers regard IL skills as cross-curriculum skills formation or a separate subject rather than a way of learning and teaching. Later Williams and Wavell (2007) found that teachers' conception of IL is influenced by individual experiences and curriculum priorities. School librarians' also face the dilemma of decreased support from their colleagues.

Two interesting studies focussing on the school librarian are conducted by Ritchie (2011) and Nelson (2011). Both studies investigated school librarians' perception about their status and professional identity. Ritchie (2011) used the survey method to obtain a wider response, while Nelson (2011) used the semi-structured interview method to solicit in-depth perception of school librarians about their professional identity. Nelson found that school librarians often lack current job description, though they understand their professional role. The study by Kamal and Normah (2012a) revealed that schools in Malaysia do not employ full-time adequately trained professional school librarians. The school librarians are without proper professional library or information science training. Furthermore, Kamal and Normah, (2012b) also revealed that there is no formally instituted school librarian training policy and as such standard practices are not evident. They stress that there is a clear lack of commitment in developing human resource for school libraries in Malaysia. Several researchers have found that school librarians need

professional development relating to IL, particularly the information skills in teaching programme, a framework of skills for students and practical help for teaching and evaluating information skill (Clyde, 2004, 2005; Probert, 2006; Slyfield, 2001).

Smith (2013) found that secondary teachers are confused about the phrase of information literacy and are ill-prepared to instruct IL effectively. They need experience in IL instructions. This is an old and basic issue which is still facing neglect. In 1990, Buckley and Caple (1990) clarified training as a planned and systematic effort to modify or develop knowledge or skills or attitudes through learning experience and to achieve effective performance in an activity or range of activities. The training is to improve the school librarians' performance to ensure that they achieve the best possible results in their job (Carliner, 2003).

Experiential Learning Theory

The notion of "experiential learning" originated from the work of Dewey, Lewin and Piaget (Kolb, et al., 2000; Miettinen, 2000). Kolb's (1984) experiential learning theory describes learning as "the process whereby knowledge is created through the transformation of experience". Based on the theory, it is assumed that experience plays a fundamental role in the school librarians' learning process that combines experience, perception, cognition and behaviour. Thus, the school librarians' experience may be the foundation for the creation of knowledge on Information literacy. Therefore, Kolb's experiential learning theory provides a link between theory and practice, between abstract generalisations and concrete experiences as well as between the affective and cognitive domains. It provides linkages among school librarians' education, work and personal development. Thus, the researcher adapts and utilizes the Kolb's experiential learning theory (Kolb & Kolb, 2008; Kolb, 1984) to illustrate and justify that school librarians' experience may have an impact on their knowledge, skills, and competencies relating to IL.

OBJECTIVES

The main objectives of this study are to examine information literacy education implementation in Malaysian schools from the perspective of the school librarians. This study aimed to answer the following questions in relation to the stated objectives:

1. What is the general perception of school librarians' about information literacy implementation in Malaysian secondary schools?
2. What is the level of school librarians' readiness for information literacy implementation in Malaysian secondary schools?
3. How does experience and professional qualifications influence school librarians' readiness?
   [Several hypotheses are tested to examine if there is a statistical significant mean difference between school librarians' readiness and their professional qualifications and experiences.]

This study contributes to understanding the necessities and readiness of school librarians to successfully implement information literacy education in schools.

METHODS

This study adopted a quantitative research methodology, specifically the descriptive research design. Since the objective was to investigate the perception of school librarians about IL implementation and to assess the readiness of Malaysian school librarians in implementing IL, the target population was school librarians from all states in Malaysia. Thus, a survey research method was conducted in two sequential phases. Phase one using interviews with selected school librarians to explore their perception of IL implementation and Phase two using a survey questionnaire to assess school librarian readiness.

Study Sample

The target population for this study was school librarians from all sixteen states in Malaysia. The samples were generated from a total of 2,189 secondary schools (based on data from MoE, Kementerian Pelajaran Malaysia, 2009). Using the Krejcie and Morgan's (1970) sample size table determination for research activity, a total of 326 responses were necessary. The number of questionnaire sent to each state was based on a 50% expected response rate. A total of seven hundred and ten school librarians participated in the survey. This represents 32.4% of school librarians' population in Malaysia. The respondents were school librarians with teaching experience ranging from 3 months to 35 years. Whereas their experience as a school librarian, ranged from 3 months to 28 years. About 72.30% of these school librarians have less than 5 years of experience as school librarians. The school librarians' qualification includes the in-service SRCM (School Resource Centre Management) courses and LIS qualifications at Diploma, Degree or Masters level. It can be summarized into 4 levels of qualifications as shown in Table 1.

Table 1: LIS related qualifications (n = 710)

	Courses in LIS	Frequency	Percent, %
a.	None	259	36.5
b.	In-service SRCM courses less than one semester	351	49.4
c.	In-service SRCM courses one semester or more	59	8.3
d.	Tertiary levels in LIS	41	5.8
	Total	710	100

The data reveal that there is a substantive number of school librarians (36.50%) in this study have no formal qualification in LIS or in school library management.

Table 2 School librarian experience, n=710

	Length of School librarians experience	Frequency	Percent
a.	0 - 5 years	513	72.30
b.	6 - 10 years	139	19.60
c.	11-30 years	58	8.20
	Total	710	100

Study Instrument

This study utilized a self-administered questionnaire resulting from an analysis of the literature pertaining to IL and school librarians. The measures for information literacy implementation readiness were confirmed via interview sessions with six school librarians and two Education technology officers from the MoE. Based on data from nine hours of interview, the emerging themes were similar to those from the literature: understanding information literacy, information literacy skills, information literacy attributes, school librarians' role as the information literacy educator, school librarians' qualifications and experience. These themes formed the basis of a proposed framework into the investigation of school librarians' readiness for IL implementation and the survey instrument. The questionnaire was prepared in dual languages, English and Bahasa Malaysia (National language). There were six questions of demographic nature. School librarians' readiness for IL implementation was measured with 12 items on cognitive readiness, 6 items on functional readiness and 14 items on technical readiness, all of which employed a five scale Likert-type response (i.e., 1= strongly disagree, to 5= Strongly agree). The reliability was ascertained through a Cronbach's Alpha value of 0.961.

Study limitation

The researchers acknowledge several limitations in this study that should be known to others. The study is solely based on the perception of school librarians. It is limited to the school librarians' self-assessed IL skills as it does not test on or evaluate the school librarians' actual IL skills. Furthermore, in terms of IL implementation, the research focused only on school librarians' perception and does not attempt to explore or report on actual implementation as in the classroom activities or library activities. The researchers acknowledge that Klob's experiential learning theory is comprehensive but in this study only two constructs are examined, professional qualification and experience as measures of experiential learning.

Analysis methods

McCain and Tobey (2004) described the presence of readiness when adults are able to face the situations that require them to use the new knowledge, skills, or abilities. Their readiness involves a wide range of aspects such as skills, social, affective, capabilities, experience, intellectual, interest, knowledge, and physical aspects in order to understand certain fundamental principles. They are to accomplish a specific work task and their readiness related to their abilities and willingness as well as to requisite knowledge and skills to perform the tasks which leads to the accomplishment of the educational organization's goals (Hersey, Blanchard, & Johnson, 2001; Strohschen & Elazier, 2009). In this study the school librarians' readiness was measured on 3 sub-scales of readiness which were derived from the analysis of the interview data in the first phase of the study : (i) *Cognitive Readiness* is conceptualised as pertaining to the act or process of knowing, perceiving, understanding IL concepts and attributes of an information literate person. *Functional Readiness* is conceptualised as the act of functioning as an IL educators, in other words it is about how school librarians perceive their roles in the implementation of IL in education. *Technical Readiness* is

conceptualised as the capabilities to perform the task, in this case the self-assessed IL skills among school librarians. The mean score of each construct is interpreted as shown in Table 3. The mean score ranging from 4.00 to 5.00 is interpreted as school librarians are ' Ready'. The mean score 3.00 - 3.99 is interpreted as they are 'Approaching readiness', whereas mean score of below 3.00 infers that school librarians are 'Developing Readiness' for the IL implementation.

Table 3 Readiness scale

Likert Scale/ Mean score		Readiness
Strongly agree	5.00	Ready
Agree	4.00-4.99	
Neutral	3.00-3.99	Approaching Readiness
Disagree	2.00-2.99	Developing Readiness
Strongly Disagree	1.00-1.99	

FINDINGS

Perception of IL implementation

In the interviews, school librarians and education officers discussed about the various issues that plagued IL implementation in schools. Generally they were of varying opinion about what constitutes IL. Discussions were focussed on attributes and skills of an information literate person. The participants also questioned their role in IL implementation and there was a clear distinction between the more experienced teachers as compared with the younger ones in verbalising their understanding of IL. Thus, it was revealed that school librarians are experiencing a lot of uncertainty in their role as information literacy implementers. The school librarians' readiness to implement information literacy could play a major role in the successful implementation of information literacy in school. This study further explored this issue on a broader scale based on the second research question.

Besides the teachers' self-reflective concerns, they also reported external factors that they perceived to have major impact on successful IL implementation in schools. School librarians were convinced that factors such as policies and standards as guides for implementation were not in clearly in place. Even the IL education curriculum had not been formulated and formalized. Most school librarians did not have the opportunity for continuous professional development in improving their own training in carrying out a curriculum focussed on IL. Several librarians highlighted that the lack of infrastructure in schools has an impact on their ability to carry out IL education in schools. These results are used to formulate a preliminary framework for IL implementation in schools focusing on school librarians' readiness (Figure 1).
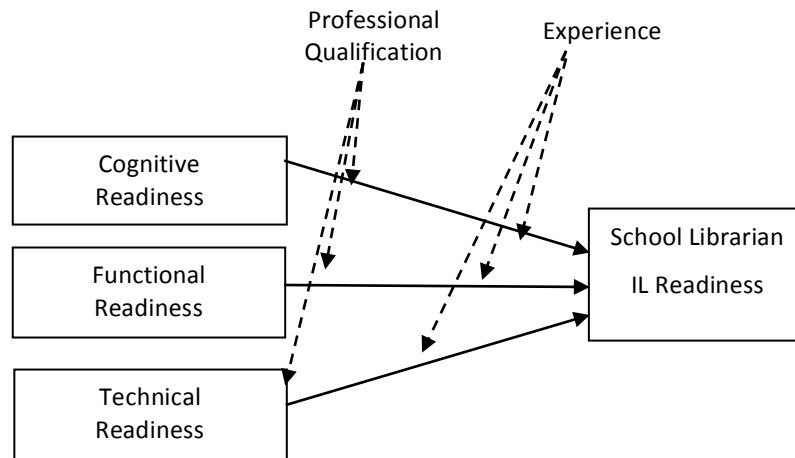
Figure 1: Conceptual framework of the study

School Librarians' Readiness

The mean score of each construct is used to interpret the each sub-scale of school librarians' readiness, specifically cognitive readiness, technical readiness and functional readiness. Table 4 depicts they mean scores for items on the Cognitive readiness.

Table 4: Mean and standard deviation of Cognitive Readiness

Dimension : **Cognitive readiness**	Mean	SD
Information literacy enables you to access, evaluate, and use information from a variety of sources.	4.43	0.60
The information-literate person recognizes the need for information.	4.39	0.60
Information literacy is a set of skills that can be learned.	4.38	0.60
The information-literate person recognizes accurately the information needed.	4.38	0.62
The information-literate person accesses sources of information through computer-based and other technologies.	4.32	0.66
The information-literate person identifies potential sources of information.	4.30	0.59
The information-literate person integrates information found with existing knowledge.	4.27	0.64
The information-literate person develops successful search strategies.	4.26	0.62
The information-literate person uses information in problem solving.	4.24	0.65
The information-literate person formulates questions based on information needs.	4.22	0.62
The information-literate person organizes information for practical applications.	4.22	0.64
The information-literate person uses information in critical thinking.	4.17	0.66
Overall Cognitive Readiness	4.30	0.48

Most items measuring cognitive readiness are above the mean of 4.0. School librarians score better in their knowledge about IL but lower in recognising the attributes of an information literate person.

The mean score of each item measuring functional readiness ranges from 4.20 to 3.77 (Table 5). Though school librarians agree that they have a role to play in providing reference, supporting teachers and being leaders in IL education, they are less confident about being the information specialist and training others in IL.

Table 5: Mean and standard deviation of Functional Readiness

Dimension: Functional Readiness	Mean	SD
School librarians provide reference services in school libraries.	4.20	0.63
School librarians view their role as supporting teachers and students.	4.19	0.59
School librarians view their role as providing information.	4.11	0.69
School librarians play a leadership role in educating students on the importance of IL skills.	4.04	0.74
School librarians perform as information specialists.	3.97	0.81
School librarians train teachers during in-house training programs to incorporate IL knowledge.	3.77	0.84
Overall functional readiness	4.05	0.57

As for technical readiness, all items scored below 4 (Table 6). Clearly school librarians do not perceive themselves as having high level of IL skills. They score better in selecting, organising and synthesizing the information, but rate themselves lower in the basic skills of identifying need for information and carrying out a search, especially using Boolean operators.

Table 6: Mean and standard deviation of Technical Readiness

Dimension: Technical Readiness	Mean	SD
Select the best sources of information.	3.78	0.68
Extract relevant information from information source.	3.74	0.68
Locate sources intellectually and physically.	3.72	0.73
Organize information from multiple sources.	3.71	0.74
Synthesize information found in the sources.	3.71	0.72
Present the information found.	3.70	0.7
Find information within sources.	3.65	0.72
Identify information needed (to solve the information problem)	3.65	0.69
Judge the effectiveness of the information found to carry out the task.	3.63	0.74
Determine all possible sources of information.	3.60	0.70
Define the information task (define the information needed).	3.59	0.68
Judge the efficiency of the information process.	3.55	0.78
Search for information using the keyword search and alternative keyword search.	3.52	0.90
Search for information using Booleans operators (AND, OR, NOT).	3.00	1.11
Overall Technical readiness	3.61	0.60

The school librarians' readiness is measured by the mean score of each construct as in Table 7. The highest mean score of school librarians' readiness is Cognitive Readiness with the mean score of 4.30 (sd=0.48) followed by Functional Readiness with then mean score of 4.05 (sd=0.57). This indicates that they are only "Ready" in their cognitive

readiness and functional readiness. The Technical Readiness mean score is 3.61(sd=0.60). This indicates that they are "Approaching Readiness" in their technical readiness.

Table 7: School Librarians Readiness

School Librarians Readiness	Mean	SD	Readiness
Cognitive Readiness	4.30	0.48	Ready
Functional Readiness	4.05	0.57	Ready
Technical Readiness	3.61	0.60	Approaching Readiness
Overall School Librarians Readiness	3.95	0.45	Approaching Readiness

Therefore, using the overall mean score of the three sub-scales, the overall mean score of School Librarians Readiness is 3.95 (sd=0.45). The result shows that school librarians are "Approaching Readiness" for IL implementation.

Relationship between Experience and Qualifications and school librarians' readiness
The study further explored the influence of years of experience as a school librarian and LIS related qualifications on school librarians' readiness for ILE implementation in secondary schools. The school librarians' qualifications and experiences are as depicted in Table 2 and 3 respectively. One-way ANOVA was used to explore relationships between the dimensions of readiness and variables of qualifications and experience. The results are seen in Table 8.

Table 8: One way ANOVA

	SL experience		SL professional qualification	
Dimensions	F-value	Sig.	F-value	Sig.
Cognitive readiness	1.459	.233	2.836	.037*
Functional readiness	2.789	.062	7.106	.000**
Technical readiness	8.136	.000**	16.216	.000**
* p < 0.05 ; ** p < 0.01				

The results suggest that school librarians' cognitive readiness and functional readiness is not significantly different across the three levels of school librarians' experience, but is there is a significant difference across the four levels of school librarians' professional qualifications. This means that school librarians with LIS related professional qualifications portray higher levels of cognitive and functional readiness. The better understand the concept and attributes of IL and better recognize their role in ILE.

With regards to technical readiness, it is found that there is a statistical significant mean difference across the three levels of school librarians' experience and also across the four levels of school librarians' professional qualifications. School librarians' self-perceived IL skills are influenced by their years of experience as a school librarian and also the LIS related qualifications they possess.

DISCUSSION

This section presents the findings of the research based on three major research objectives.

School librarians' perception about information literacy implementation

School librarians' perception about information literacy implementation in Malaysian secondary schools was gauged through face to face interviews. It was found that school librarians were concerned about two main issues. Primarily, their own understanding about the concept of information literacy and what are information literate attributes, their role as information literacy educator and the information literacy skills they themselves have. This finding confirms previous studies (Diao & Chandrawati, 2005; Norhayati, Nor Azilah & Mona, 2006; Norhayati, 2009) that have revealed that school librarians often do not fully understand the concept and sometimes even confuse it with ICT skills. This further causes them to perceive themselves to have low level of IL skills (Tan and Singh, 2008, Kamal & Normah, 2012a). School librarians are experiencing a lot of uncertainty in their role as information literacy implementers. School librarians' opinion differed based on their experience and qualifications. Secondly, they expressed concern about external factors, mainly IL related policies, standards, curriculum, professional development and infrastructure to support, facilitate and strengthen the ILE implementation. Concerns by previous researchers, that school librarians are unable to teach information literacy concepts and research strategies to their students (Edzan & Mohd Sharif, 2005; Saidatul Akmar, Dorner & Oliver, 2011), they have to be put into practice in schools (Raja Abdullah, Raja Ahmad & Kamaruzaman, 2011).

Generally it is concluded that school librarians' readiness was an issue worth examining on a larger scale. Their understanding of the concept s and attributes related to IL were considered cognitive readiness. Their recognition of their role as IL educators was conceptualized as functional readiness and their IL competencies are conceptualized as technical readiness. The findings revealed an issue that needed further examination that is the school librarians' readiness in implementing information literacy in school. The readiness is measured on the school librarian's self-perception on three scales; cognitive readiness, functional readiness and technical readiness.

School librarians' readiness for IL implementation.

This research provides an insight of school librarians' readiness to IL implementation. The finding suggested that overall they are only **partially ready** for IL implementation. They are ready in cognitive and functional readiness, but only partially ready in technical readiness.

The school librarians' cognitive readiness is a measure of their self-perceived knowledge about IL and information literate attributes. They need to be clear that IL is a set of skills that can be learned to enable them to access, evaluate and use information from a variety of sources. They have to know that as an information-literate person, they must have the necessary attributes. The information-literate attributes requires them to recognize accurately the information needed as well as recognize the need for

information. They need to formulate questions based on information needs. They need to identify potential sources of information and develop successful search strategies to search for information. They are able to access sources of information through computer-based and other technologies. Once they obtain the information, they need to organize information for practical applications. They can integrate the information through the knowledge they have and use the information in critical thinking and in problem solving.

The findings indicate that they are ready in their cognitive readiness. This contradicts the findings of Norhayati (2009)'s research which indicates that school librarians appear not to understand the information literacy concept. They often misunderstand it as information communication technology. They assume that information literacy is the skill to look for information online and presume that this skill as being information literate.

The school librarians' functional readiness is based on perceiving school librarians' role as IL educator. In order to be functional ready, school librarians need to fulfill these characteristics: able to train teachers during in-house training programs to incorporate IL knowledge; play a leadership role in educating students on the importance of IL skills; perform as information specialists; provide reference services in school resource centres. They view their role as supporting teachers and students and also view it is their role to provide information. The findings indicate that Malaysian school librarians are ready in their functional readiness.

Thus, school librarians are the instructional partner to foster IL education by providing resources not only for the students but also for professional resources and support for teachers (Abrizah & Zainab, 2008; Church, 2008; Li, 2006). They are resource managers (Hockersmith, 2010) as well as multi-tasking as teachers, collaborators, curriculum leaders, instructional leaders, information specialists, instructional technologist, programme managers and advocates. They are also the facilitators to student learning to the greatest possible extent (Church, 2008; Novo & Calixto, 2009; Reed, 2009).

The school librarians' technical readiness is based on the self-assessed IL skills. The findings indicate that they are partially ready. In order to be technically ready, school librarians need to be able to know and possess the Big Six Model IL skills. The school librarians' technical skills are a fundamental factor, as they need better IL skills to provide services and to perform their tasks in the school libraries (Combes, 2008; Tan, Gorman & Singh, 2012). The need of IL is essential, so they are required to acquire and comprehend the IL skills as well as knowledge in order to assist, provide and teach IL in schools (Morizio & Henri, 2003). Thus, school librarians have to develop their technical competency in acquiring new skills and competencies notwithstanding disparities in technological and intellectual disciplines in this new learning paradigm (Sit, 2003).

Influence of experience and professional qualifications on school librarians' readiness.

The influence of professional qualifications on school librarian's readiness is significant in cognitive, functional and technical readiness. School librarians who qualify in the In-service SRCM courses of one semester or more or Tertiary level in LIS are equipped with their cognitive, functional and technical readiness. Thus, professional qualifications are needed to facilitate their cognitive, functional and technical readiness. This findings bear

similarity to Farmer's (2007), research where she indicated that school librarians who have high regards for continuing education and pursuing a Master's degree have a deeper understanding of the profession as they hold a longer-term perspective.

The influence of experience on school librarians' readiness is significant in leading to technical readiness. Experience facilitates technical readiness for the school librarians to learn and comprehend IL skills. The literature confirms that their experiences are a dominant factor of information literacy knowledge that is considered as a means and strategy to learning opportunities for the teachers. Their prior learning, teaching combined with school librarians' experiences are the main principles for the new information literacy knowledge (Zepeda, 2008).

School librarians' experience influences their technical readiness in their professional IL learning (Williams & Coles, 2007). Thus, the Kolb's experiential learning theory (Kolb & Kolb, 2008; Kolb, 1984; Kolb, Boyatzis, & Mainemelis, 2000; Kolb & Plovnick, 1974) illustrates and justifies that school librarians make full use of their experience to smoothen and expedite their learning process.

The school librarians' experience highlighted in the Kolb's experiential learning theory shows that their IL skills knowledge is created through the transformation of experience. Their experience is the foundation for the creation of knowledge as they transform their experience into knowledge. In this respect, their knowledge represents their self-assessed IL skills as their technical readiness.

CONCLUSION

This research investigated school librarians' perception about themselves in the implementation of IL in schools. It found that school librarians were indeed very concerned about their readiness in implementing ILE. Their concern is related to their cognitive readiness, that is, their firm understanding of information literacy and the attributes of an information-literate person. It was found that the school librarians were quite ready in this aspect. They understood what IL is and they could also identify several attributes that defies an information literate person.

Based on their role as implementers of IL education in schools, school librarians are also concerned about their functional readiness. Becoming a specialist entrusted with the authority to train other teachers is a role school librarians are not keen on. They have to be ready to embrace their role as information literacy champions in order to lead the other teachers in implementing it successfully across the curriculum. Malaysian school librarians are ready for their role as ILE implementers. However they are less ready in providing in house training and confident in their role as information specialist.

An important aspect of the school librarians' readiness is their own information literacy level. It is found that in terms of technical readiness, that is, their own IL skills, Malaysian school librarians are only partially ready. This in turn could affect their perception of their functional role as well. When asked to self-assess their IL skills, school librarians have shown a low level of readiness. This indicates that there is a need for further training to enhance their skills before they can be expected to implement IL initiatives in schools involving teachers and students.

School librarians' personal readiness in cognitive, functional and technical aspects enables them to be skilled and confident performers as IL educators. Their experience

and professional qualifications help to consolidate their readiness in the ILE implementation.

Future studies should explore qualitatively the level of school librarians' readiness for ILE implementation in relation to their attitude towards IL in the curriculum. Their perception that they are not fully ready for IL implementation can be investigated based on their perception of their professional identity. One can further investigate how experiences influence their knowledge about IL and how they are able to better comprehend their function as an IL implementer over the years of service as a school librarian.

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Appendix: Interview questions for school librarians

Interview semi-structured questions
1. Can you tell me about yourself? Your experiences? Qualifications, etc?
2. How long have you been in charge of the school library?
3. What are your main responsibilities as the school librarian?
4. What do you know about information literacy?
5. Would you consider yourself as an information literate person? Why?
6. What do you know about information literacy implementation in schools?
Probe : Government policy? Standard? Integrated curriculum?
7. Have you had any formal training in information literacy education?
8. How do you think IL can be taught in schools?
9. What support do you need to have to teach information literacy in schools?
10. What are the setbacks in implementing information literacy in schools?

Appendix: Survey instrument

B I. **Perceptions of** School Librarians
about Information Literacy.

To what extent do you agree or disagree with these elements of information literacy? Please tick (✓) the number that best describes the extent of your opinion, ranging from **1** for **Strongly disagree** to **5** for **Strongly agree**.

7. Information literacy is a set of skills that can be learned.
① ② ③ ④ ⑤

8.Information literacy enables you to access, evaluate, and use information from a variety of sources.
① ② ③ ④ ⑤

9.The information literate person recognizes accurately the information needed.
① ② ③ ④ ⑤

10.The information literate person recognizes the need for information.
① ② ③ ④ ⑤

11.The information literate person formulates questions based on information needs.
① ② ③ ④ ⑤

12.The information literate person identifies potential sources of information.
 ① ② ③ ④ ⑤

13.The information literate person develops successful search strategies.
① ② ③ ④ ⑤

14. The information literate person accesses sources of information through computer-based and other technologies.
① ② ③ ④ ⑤

15. The information literate person organizes information for practical applications.
① ② ③ ④ ⑤

16. The information literate person integrates information found with existing knowledge.
① ② ③ ④ ⑤

17. The information literate person uses information in critical thinking.
① ② ③ ④ ⑤

18. The information literate person uses information in problem solving.
① ② ③ ④ ⑤
.
19. A skilled school librarian with information literacy expertise has knowledge of resources.
① ② ③ ④ ⑤

20. School librarians train teachers during in-house training programs to incorporate information literacy knowledge.
① ② ③ ④ ⑤

21. School librarians play a leadership role in educating students on the importance of information literacy skills.
① ② ③ ④ ⑤

22. School librarians perform as information specialists.
① ② ③ ④ ⑤

23. School librarians provide reference services in school resource centres.
① ② ③ ④ ⑤

24. School librarians view their role as supporting teachers and students.
① ② ③ ④ ⑤

25. School librarians view their role as providing information.
① ② ③ ④ ⑤

II. Self-Assessment of Information Literacy Competencies.
Please indicate your level of your information literacy abilities of the following skills. Please tick (✓) the number that best describe your abilities, ranging from 1 for Do not know at all to 5 for Excellent.

26. Define the information task (define the information needed).
① ② ③ ④ ⑤

27.Identify information needed (to solve the information problem).
① ② ③ ④ ⑤

28.Determine all possible sources of information.
① ② ③ ④ ⑤

29.Select the best sources of information.
① ② ③ ④ ⑤

30.Locate sources intellectually and physically.
① ② ③ ④ ⑤

31.Search for information using Booleans operators (AND, OR, NOT).
① ② ③ ④ ⑤

32.Search for information using the keyword search and alternative keyword search.
① ② ③ ④ ⑤

33.Find information within sources.
① ② ③ ④ ⑤

34.Extract relevant information from information source.
① ② ③ ④ ⑤

35.Synthesize information found in the sources.
① ② ③ ④ ⑤

36.Organize information from multiple sources.
① ② ③ ④ ⑤

37.Present the information found.
① ② ③ ④ ⑤

38.Judge the effectiveness of the information found to carry out the task.
① ② ③ ④ ⑤

39.Judge the efficiency of the information process.
① ② ③ ④ ⑤