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THE STATUS OF SCHOOL LIBRARY AUTOMATION IN MALAYSIAN CHINESE SECONDARY SCHOOLS: A NATIONAL SURVEY

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ABSTRACT

This article presents the findings of a survey undertaken to determine the current status of library automation in Malaysian Chinese Secondary Schools (MCSSs), which comprise the Independent Chinese Secondary Schools (ICSS) and the National-type Secondary School (NTSS). Questionnaire was mailed to all school libraries from 60 ICSS and 76 NTSS. A total of 89 respondents (65.4%) returned the questionnaires, of which 56 (73.7%) were from the NTSS and 33 (55.0%) from ICSS. Follow-up interviews conducted over the telephone were also carried out to gather supporting information. The study showed that the MCSS libraries started to automate during the 1990s and have been actively involved in library automation projects since 2000. A total of 43.8% school libraries (39.3% NTSS and 51.5% ICSS) have automated their library functions. The study found that circulation is the function mostly automated by libraries, followed by cataloguing. Turnkey system is the choice for most automated NTSS libraries, whereas ICSS libraries opt for systems developed in-house. A total of fifty (56.2%) libraries are not automated, however 39 of them (78.0%) plan to do so in the near future. Small size libraries and libraries with no budget for automation do not plan to automate their libraries function. Management decision is the most important factor in conducting library information work. The research has also identified important factors in determining the systems used, and areas need for future planning initiatives in implementing library automation.

Keywords: School libraries; School resource centres; Library automation; Library systems; Chinese Secondary Schools; Malaysia

INTRODUCTION

Schools are giving more thought to the use of computers in the school resource centre and in particular to the possibility of automating their school libraries, as they

are gaining benefits once they start to implement their library functions. Abdullah et al (2002) indicate that the reasons given for automating a school library range from the practical to the philosophical, and cover aspects such as school library management, school and library efficiency, curriculum support, information access, information skill instruction, public relations, facilitating collaboration, and promoting equity. The management benefits include improved circulation of resources, extensive reporting- facilities, efficient book hire system, and increased access to the resource collection. Educational benefits derived from the automation of library functions include opportunities for students to develop information skills, to achieve greater success in locating resources, and to become independent and life long learner. School library management has to take note of the fast generating information and its growth rate, and the importance of having the information resources properly bibliographical controlled, and disseminated to concerned users. In order to contribute towards the objectives of building an information rich Malaysian society, Teh (1996) suggested that Information Technology (IT) education strategy must embody a long-term plan to automate the school libraries.

In Malaysia, school libraries or school resource centres (SRCs) are parts of the whole continuum of educational provisions. Almost every primary and secondary school has its own library or resource centre and the Educational Technology Division (ETD), Ministry of Education (MOE) Malaysia has been given the responsibility of overseeing school library development since 1988 (Fatimah, 2002). As at 31st January 2002, there were 1794 secondary schools and 7404 primary schools in Malaysia (Malaysia, Ministry of Education, 2003; Malaysia, Ministry of Education, 2003b). School library automation started nationwide only in the late 1990s when IT is making rapid inroads into Malaysian schools due to the inception of the Smart School concept. Based on the survey conducted by the ETD 2001(Malaysia, Ministry of Education; unpublished), 1378 primary schools and 631 secondary schools are using an automated system in their school libraries. Table 1 presents the systems used and the distribution of the schools in various states that have implemented a library automation project.

Realizing the benefits of library automation, the Ministry of Education officially launched a pilot project, *Rangkaian Munsyi* Electronic Resource Centre (ERC) in 1996, involving 14 schools from each state in the country. In 1999, Smart School (*Sekolah Bestari*) pilot project involving 97 schools started. Both projects are implemented in secondary schools. This project has quickened the tempo of Malaysian school libraries implementation of a library automation system (Fatimah, 2002). The Smart School concept is premised on the belief that students should be

educated to be "self-paced, self–access, and self-directed learners". As ERC has been adopted as one of the key features of the smart school in Malaysia, more efforts on school library automation were initiated by individual schools. Kasbon (2001) indicated that the percentage of students' computer literacy, and Internet consciousness, as well as awareness towards computer and IT has increased tremendously with the use of ICT technologies in school libraries, since the inception of these two projects. This was also reported by Chan (2002) in her writing

Table 1: Distribution of the Primary & Secondary Schools; Number of School Libraries with Automated System; and the Systems Chosen: 2001
(Source: Malaysia, Ministry of Education, unpublished)

No	State	No of Responded Schools		No of Libraries Being Automated		Systems & the Number of Schools					
		Primary	*Sec.*	*Primary*	*Sec.*	*Kom-Pus*	*SPPSS*	*SPPSP*	*P'kawan*	*Auto-pus*	*Others*
1	Perlis	65	23	1	23	-	-	-	24	-	-
2	Kedah	478	131	188	60	-	-	-	10	-	-
3	Penang	247	86	21	27	-	-	-	48	-	-
4	Perak	320	92	25	41	-	-	-	66	-	-
5	Selangor	558	198	221	89	-	305	-	1	-	4
6	Kuala Lumpur	183	83	25	25	-	-	-	-	24	26
7	N. Sembilan	330	98	55	53	-	62	-	-	-	46
8	Melaka	212	62	56	32	-	37	51	-	-	-
9	Johor	823	177	425	130	-	555	-	-	-	-
10	Pahang	488	143	33	46	-	-	-	79	-	-
11	Terengganu	312	82	6	3	-	6	-	-	-	3
12	Kelantan	395	117	17	23	4	1	-	6	-	23
13	Sabah	1020	169	17	16	-	-	-	-	3	30
14	Sarawak	1249	193	288	63	-	-	351	-	-	-
TOTAL		6680	1654	1378	631	4	966	402	234	27	132

SPPSS: Sistem Pengurusan Pusat Sumber
SPPSP: Sistem Pengautomasian Pusat Sumber
P'kawan: Pustakawan
Others: Includes Smart School Management System, Pustaka, Bookmark, CDS/ISIS, Microsoft Access, Dbase, etc.

on the development of information literacy in the Malaysian smart schools, which gives a clear picture towards the Smart school concept to promote computer and information literacy. However, the first attempt to implement library automation system in a school library was under the *SISPUKOM-SUTERA* pilot project in 1993 (Rosyati, 1995), under a research and development project between University of Technology Mara (formerly known as Mara Institute of Technology) and Business Computer (H) Sdn. Bhd. (BCH) (Raja Abdullah & Nor Aziah, 1992).

Computerised school library services in Malaysia have not been reviewed much in the literature of library science, if compared to other types of libraries such as the academic and public libraries. One of the possible reasons is that Malaysian school libraries start implementing library automation fairly late if compared to the larger libraries. Till date, only a survey on school library automation has been conducted at the national level by the ETD (Malaysia, Ministry of Education, unpublished). The more recent papers generally describe the development of library information system and the potentials of it being used in Malaysian school libraries (Zainab & Abdullah, 2002; Abdullah et al., 2002). Yong's study (1997) was the first and the only effort conducted to investigate the current status of the Malaysian Chinese school libraries. She investigated the status of library services, collections, management as well as library automation in Malaysian Chinese primary and secondary schools.

THE STUDY

The aim of this research was to determine the current status of library automation in Malaysian Chinese Secondary Schools (MCSSs), which constitute the Independent Chinese Secondary School (ICSS) and National-type Secondary School (NTSS). Specifically, the objectives of this study are to identify the schools that have automated their library functions, and to determine the extent of library automation in terms of the functions automated and the systems being used. The study also reports respondents' satisfaction with the systems, the automation processes involved, the problems they faced, and the reasons why some libraries do not automate their functions.

The motives for choosing Chinese Secondary Schools as the population for this study were twofold: a) ICSS is not under the jurisdiction of the government education system; it is under a private educational Chinese organisation called Dong Zong. Thus research conducted by policy makers, have never included ICSS as

subjects. Survey conducted by ETD (Fatimah, 2002), involving all government secondary schools, may have included NTSS, however the study did not indicate the school type; b) Secondly, the medium of instruction in ICSS is Mandarin, therefore researchers who are not from Chinese educational background will find it difficult or have no interest to conduct studies on ICSS. Apart from Yong's (1997) study, where she presented a brief picture about the technologies implemented in school libraries, no reported studies on library automation in MCSSs has been carried out in Malaysia. Therefore, it is within the interest of the researchers to investigate the current status of the library automation.

This study employed a survey research method. Mailed questionnaire was used to collect data regarding the present status of the school libraries' automation in ICSS and NTSS as well as the demographic information. Telephone interviews and personal interviews were also carried out to gather supporting information. The population chosen for this study was all Malaysian Chinese Secondary Schools, which comprise 60 ICSS and 76 NTSS, since the population size is not very large and is manageable by the researchers. A total of 89 (65.4%) respondents returned the questionnaires, of which 56 (73.7%) were from NTSS and 33 (55.0%) were from ICSS. All questionnaires were usable; no questionnaire was rejected even though some parts of the questionnaire were not answered. Some of the omitted information important to the survey was added by the researchers much later based on phone calls interview.

The majority (76.0%) of the school libraries in the study are equipped with computer facilities. However, the Internet connectivity is quite low (36.0%). Nearly half of the libraries responded that they do not have either the school or library homepage. Besides, more than half (53.9%) of the libraries either do not allow their students to use the library computers or there was no specific computer for students to use in the library. For school libraries where students are allowed to use the computers, students mainly use it to do their school project works, followed by online surfing and searching for library collections. In general, the school library is highly used for reference work (85.4%) followed by leisure reading (70.8%), project works and the school reading programme (57.3% respectively). When compared by school type, the results indicated a similar pattern for ICSS. Students at NTSS, on the other hand, highly use the libraries for the school reading programme, which is a "compulsory school library activity", required for all schools under the Ministry of Education. However, this is not so in ICSS. The school libraries (87.6%) do not collaborate with other libraries in whatever forms such as resource sharing, cataloguing and interlibrary loan.

FINDINGS

The Status of Library Automation

The survey shows that 39 (43.8%) school libraries have automated their library functions, whereas 50 (56.2%) have not done so. When compared by school type, 22 (39.3%) NTSS and 17 (51.5%) ICSS libraries constitute the libraries that have been automated. This result shows that the percentage of the ICSS libraries that have implemented library automation has increased 35.2% since Yong's survey on *The Current Status of Resource Centres In Malaysian Chinese Schools* conducted in 1997 (Yong, 1997). Table 2 presents these findings.

Table 2: The Status of Library Automation in Malaysian Chinese Secondary Schools

Status	NTSS n=56		ICSS n=33		Total n=89	
	Count	%	Count	%	Count.	%
Automated	22	39.3	17	51.5	39	43.8
Not Automated	34	60.7	16	48.5	50	56.2

The study also further investigates the year library automation started in MCSSs (Table 3). Although the first government secondary school in Malaysia started library automation through SISPUKOM-SUTERA project in 1993 (Rosyati, 1995), none of the responding NTSS libraries (which are also government schools) were involved in any automation work during that period (1990-1994). However, three ICSS libraries independently started to automate their libraries during that time. Another eight ICSS and three NTSS automated their library functions during 1995-1999 when the Rangkaian Munsyi project took place. The survey results show that the majority of the school libraries were actively involved in library automation starting the year 2000.This indicate that the rapid growth of the use of computers in school libraries is quite recent, and in parallel with the establishment of Smart Schools. However, two respondents indicated that they were not aware when the automation work took place because they were not the librarian or the person in charge of the library at that point of time.

From Table 3, it is clear that a) ICSS automate their earlier libraries earlier than NTSS; and b) the implementation of library automation work in NTSS libraries is relatively much more rapid than ICSS libraries starting 2000. When further delved into this, the researchers found out that government support was the contributing

factor to the increase in the number of the NTSS libraries in implementing library automation beginning 2000. Although some of the libraries did not receive any funding or grant from the government, the government, through the state education departments had also assisted in the procurement of library systems by providing the schools lists of recommended library software, and ICT training for the teacher librarians.

Table 3: The Year Library Automation Took Place in NCSS

Year	NTSS n=22		ICSS n=17		Total n=39	
	Count	%	Count	%	Count	%
1990-1994	0	0	3	17.6	3	7.7
1995-1999	3	13.6	5	29.4	8	20.5
2000-2003	18	81.8	8	47.1	26	66.7
No Answer	1	4.5	1	5.9	2	5.1

Features in Use

Automation system features are constantly being developed by vendors. Today an abundance of advanced features are becoming common, such as web-based OPAC, multimedia and image links, as well as remote patron access for renewing and reserving materials. This survey however asked about only a few of the current and emerging automaton systems features. Circulation is the function mostly automated in MCSS, with 34 (87.2%) out of 39 school libraries automating this function, followed by cataloguing (30; 76.9%), information retrieval or OPAC (20; 51.3%), acquisition (13; 33.3%) and serial control (2; 5.1%) (Table 4). Meckler's (2001) study also shows that circulation was ranked the highest as the library function to have been automated and cataloguing came in second. However, the percentage of these two functions in Meckler's study was very much closed to each other, that are 95.9% for circulation and 95.2% for cataloguing, indicating that nearly all libraries in his study automated both circulation and cataloguing. It is obvious from the figures that the majority of the libraries cannot afford to automate all the library functions at once. When compared by school type, 17 (77.3%) out of the 22 automated NTSS libraries stated that they automate circulation, 16 (72.7%) automate cataloguing and 13 (59.1%) automate acquisition. Only six NTSS have OPAC. It is interesting to note that two NTSS have a serials control module to manage their serials collection. On the other hand, all 17 (100%) automated ICSS reported that their libraries have circulation module; 14 (82.3%) reported having

cataloguing and OPAC module respectively. The survey also shows that none of ICSS libraries have acquisition or serial control modules.

Table 4: Library Functions Automated

Functions	NTSS n=22		ICSS n=17		Total N=39	
	Count	%	Count	%	Count	%
Circulation	17	77.3	17	100.0	34	87.2
Cataloguing	16	72.7	14	82.3	30	76.9
Acquisition	13	59.1	--	--	13	33.3
OPAC	6	27.3	14	82.3	20	51.3
Serial Control	2	9.1	--	--	2	5.1

The data was further analysed to determine the combinations of library functions automated. Out of 39 automated libraries, 27 (69.2%) automate three or more than three of the library functions, only 2 (5.1%) automate two of the library functions, and 10 (25.7%) automate only one of the library functions. Table 5 presents the findings.

Table 5: Combinations of Library Functions Automated

Functions	NTSS n=22		ICSS n=17		Total n=39	
	No.	%	No.	%	No.	%
Circulation only	4	18.2	3	17.7	7	17.9
Cataloguing only	1	4.5	--	--	1	2.7
Acquisition only	2	9.1	--	--	2	5.1
Acquisition & Cataloguing	2	9.1	--	--	2	5.1
Circulation, Cataloguing & Acquisition	7	31.8	--	--	7	17.9
Circulation, Cataloguing & OPAC	4	18.2	14	82.3	18	46.2
Circulation, Acquisition, Cataloguing & OPAC, Serial Control	2	9.1	--	--	2	5.1

The results show that some libraries that automate circulation function do not automate cataloguing in addition to its circulation; some have cataloguing, acquisition or other modules but do not have OPAC module. To ascertain the reasons of doing so, the researchers attempted to investigate further and personally contacted the librarians that responded to the statement automating *"circulation only*". The researchers found that these libraries only develop a simple library catalogue in a form of an electronic database, and they do not treat this as their cataloguing function being automated. A teacher librarian responded that her library systems does not have a cataloguing module and she pointed out that she "*only key in books call number in the circulation function, and the more detailed and complete cataloguing tasks is done after that*". Some respondents indicated that they do not own an OPAC module because their libraries do not provide computers for students to search the library collections. A few respondents also use their automated system to generate a variety of statistical reports to the administrators, print bibliographies and overdues.

The Systems Used

The study found that systems varied when compared by school type. The top three automation products used in NTSS are Pustakawan, SPPSS and SPPSP. This finding is somehow different from the survey conducted by ETD (MOE, unpublished) where the survey revealed that SPPSS was the most popular library software being used in government secondary schools, followed by SPPSP and only then Pustakawan. As anticipated, none of the ICSS use these three turnkey systems because they do not support Chinese characters. The numbers of ICSS libraries that use turnkey systems developed locally are very much low. The majority (17 out of 39) of the automated school libraries reported that they use other systems not listed and those systems are Uni Sumber, Dynabook Library Management, E-Library, Novel-Magic Runtime, Library System, Dos-based, Yi Tian, Ju Ruan and SLS. A librarian reported that her school developed the system in-house using programming tools such as VB, ASP, and SQL. Table 6 and 7 present the types of library systems used by the respondents. Only systems such as Uni Sumber, Dynabook Library Management, E-Library, Novel-Magic Runtime and Library System were bought from library system vendors whereas the others listed in Table 7 were developed in-house by the libraries.

Table 6: Library Systems Used

Library System	NTSS n=22		ICSS n=17		Total n=39	
	Count	%	Count	%	Count	%
SPPSS	2	9.1	--	--	2	5.1
Pustakawan	10	45.5	--	--	10	25.6
Microsoft Access	--	--	3	17.6	3	7.7
SPPSP	2	9.1	--	--	2	5.1
Dbase	1	4.5	4	23.5	5	12.8
Others	7	31.8	10	58.8	17	43.6

Table 7: Library Systems Used under "Others"

Other System Used	NTSS n=7		ICSS n=10		Total n=17	
	Count	%	Count.	%	Count	%
Uni Sumber	1	14.3	--	--	1	5.9
Dynabook	--	--	1	10.0	1	5.9
Library Management	1	14.3	--	--	1	5.9
E-Library	1	14.3	--	--	1	5.9
Novel-Magic Runtime	--	--	1	10.0	1	5.9
Library System	1	14.3	--	--	1	5.9
Dos	--	--	1	10.0	1	5.9
Yi Tian	--	--	1	10.0	1	5.9
Ju Ruan	--	--	1	10.0	1	5.9
No Mention	1	14.3	2	20.0	3	17.6
Own System	1	14.3	2	20.0	3	17.6
SLS	1	14.3	--	--	1	5.9
VB,ASP,SQL	--	--	1	10.0	1	5.9

The reasons for choosing the library systems were also determined. In respond to this, automated NTSS libraries gave the following reasons (in ranked order): the management's decision; free of charge; economic/affordable; recommended by the government (JPN/ETD/MOE); popular/used by others; and provision of good technical support by vendor. The following responses in ranked order were generated from the automated ICSS libraries: management decision; free of charge; and economic / affordable. The findings revealed that the school management's decision is the most important factor in determining the type of system procured by the school libraries. Table 8 presents the respondents' reasons for choosing the library systems.

Table 8: Reasons for Choosing the Library System

Reasons	NTSS n=22		ICSS n=17		Total n=39	
	Count	%	Count	%	Count	%
Recommended by the government	3	13.6	--	--	3	7.7
Popular / Used by other libraries	1	4.5	--	--	1	2.6
Economic / Affordable	3	13.6	2	11.8	5	12.8
Good Technical Support	1	4.5	--	--	1	2.6
Management's Decision	6	27.3	8	47.1	14	35.9
Free of Charge	5	22.7	4	23.5	9	23.1
Others	3	13.6	3	17.6	6	15.4

Systems developed in-house, by the library or other libraries, as a gift or donation, are considered as "free of charge" by the respondents. According to the respondents, they receive lists of library system recommended by the State Education Department (JPN), however the lists differ from one JPN to another. The only library that indicated "good technical support" as the main reason for choosing the systems noted in the questionnaire that the vendor provides immediate response and feedback when problems arise. The respondent also wrote that the library seldom face problems with the system. All six (27.3%) NTSS libraries that stated "management decision" as the reason for choosing the system purchase the systems. However, all the eight (47.1%) ICSS libraries that also stated "management decision" as the reason use systems that are free of charge. This may indicate that the decision made by the school management from these eight ICSS was that "to get a free system available", and if this is so, the most popular reason for choosing a library system among ICSS school libraries is that because the system is "free of charge".

The study also investigates the approximate cost of the library system or software. Table 9 indicates that 11 (28.2%) school libraries obtained the systems free, 10 (25.7%) school libraries spent not more that RM 3,000 on the library system, two (5.1%) school libraries spent between RM 3,000 to RM5,000, 3 (7.7%) school libraries spent between RM 5,000 to RM 10,000, and another two (5.1%) schools spent RM 10,000 to RM20,000. A total of 11 libraries responded that they were not sure about the cost of the system. Among the reasons given were that they were "not involved in the automation project" and they "do not have access to any documentation regarding the project as it was conducted many years ago". The highest cost reported was RM20,000. As the number of libraries spending more than

RM10,000 for a system is very much low, it is safe to conclude that either schools do not have big budget for libraries or they are not willing to invest in an expensive system for the libraries.

Table 9: Cost of the Library System

Cost	NTSS n=22		ICSS n=17		Total n=39	
	Count	%	Count	%	Count	%
Free of Charge	5	22.7	6	35.3	11	28.2
< RM3000	9	40.9	1	5.9	10	25.7
RM3000-RM5000	1	4.5	1	5.9	2	5.1
> RM5000, < RM10000	2	9.1	1	5.9	3	7.7
> RM10000, < RM20000	2	9.1	--	--	2	5.1
Uncertain	3	13.6	8	47.0	11	28.2

Satisfaction with Systems

Most respondents with automated libraries indicated that they would stay with their library systems because they are mostly satisfied with the automated system they currently use. A noticeable number of respondents felt their satisfaction or dissatisfaction with their automated systems was irrelevant because they were not included in any decision-making about the systems.

A total of 25 (64.7%) respondents indicated that their library system has met its overall requirement, whereas 14 (35.9%) said no. When compared by school type, it was found that the majority (16; 72.7%) of the NTSS libraries and 9 (52.9%) of the automated ICSS libraries are satisfied with their existing systems (Table 10). It is interesting to note that only 17 (43.6%) automated libraries stated that they would recommend their existing systems to other libraries. A total of nine (40.9%) automated NTSS libraries and 10 (58.8%) automated ICSS libraries constitute the libraries that do not intend to recommend their system to other libraries. The frequently cited reason by these libraries was that "other libraries should try other and better system newly launched".

The survey was also set to investigate the problems faced during the implementation of library automation. Getting information regarding library automation work and

cost in automation processes were frequently cited as problems. Respondents identified the following reasons:

- lack of information or reference sources regarding automation work;
- not having enough money or fund to invest in a good system;
- limited features because system do not support Chinese characters;
- conversion of library catalogue to a new automation system;

Library Automation Processes Involved

There are various processes involved in library automation (Wright, 1995; Cohn, Kelsey & Fiels, 1997). Table 11 presents the automation processes conducted by the automated school libraries. The top three processes conducted are staff training (28; 71.8%), retrospective conversion (17; 43.6%) and system selection (13; 33.3%). The most common training prior to library automation is instruction by vendor. The teacher librarians or library personnel have also gone through some kind of library automation training in the forms of short-term courses and workshops conducted by ETD (MOE) or Teachers' Activities Centre (PKG) (for NTSS) and by Southern College, a Chinese private college (for ICSS). Respondents with systems built in-house taught themselves how to use their automated system. Retrospective conversion was not highly ranked, by NTSS although very often this is considered an important process in library automation work after system selection. This is simply because these libraries reported that they do not manually convert the existing library catalogue to machine-readable format, as they only catalogue new addition to the library materials. The responses from the six (15.4%) libraries that stated other types of processes involved, include communicating with schools' computer teacher, communicating with school software programmer, visiting other school libraries that have been automated and forming a student librarian committee. Surprisingly, none of the libraries implement careful evaluation procedures for weeding during the automation processes.

This study also investigated the time taken by the libraries in completing the automation work. Table 12 presents the findings. The majority of the automated libraries (20; 51.3%) took more than 10 months to complete the automation work, with four (10.3%) taking more than two years. Only seven (17.9%) automated libraries responded that they spent five to ten months in order to complete the automation work; and four (10.3%) (all from NTSS libraries) stated that they managed to complete the task within five months time, that is the shortest time taken among all respondents. The reasons given for taking more than two years include "lack of manpower", "too busy", "no experience", and "automation work can only

be done during school break. One respondent wrote that "once school re-opens, everything has to be stopped and we have to re-continue during the next school holidays ". While most of the respondents performed system management themselves, frequent notations were made about assistance being available from a technology support person especially from the ICSS libraries.

Table 11: Processes Involved in Library Automation

Processes	NTSS n=22		ICSS n=17		Total n=39	
	No.	%	No.	%	No.	%
Staff Training	18	81.8	9	52.9	28	71.8
System Selection	9	40.9	4	23.5	13	33.3
Vendor Selection	2	9.1	4	23.5	6	15.4
Seeking Third Party Opinion	6	27.3	3	17.6	9	23.1
Form A Committee	8	36.4	3	17.6	11	28.2
Retrospective Conversion	4	18.2	13	76.5	17	43.6
Others	3	13.6	3	17.6	6	15.4
No Answer	--	--	1	5.9	1	2.6

Funding For Library Automation Work

It is obvious that NTSS, being government-aided schools, have more sources in obtaining their library automation fund especially from the government. ICSS on the other hand, need to depend on fund raising activities conducted by the school board or the Parent-Teacher Association (PTA). That is probably why relatively more NTSS libraries use turnkey systems and very few ICSS libraries use these systems, as the latter rely on public and corporate donation to obtain library systems. Funding sources under "Others" includes fund from school, school welfare division and Dong Jiao Zong (Table 12). Funding comes in various forms. Most of the libraries obtain donation in a form of cash. Three libraries however reported that they receive donation in the form of "library automated system" and one library reported donation in the form of "library renovation, networking and cabling work" to accommodate the automated system. However, most automated libraries indicated that the most practical way to secure enough funds to meet the total automation cost is through government grant (17; 43.6%); increased library budget (10; 25.6%) and fund raising (5; 12.8).

Table 12: Funding Sources

From	NTSS n=22		ICSS n=17		Total n=39	
	Count	%	Count	%	Count	%
Government Grant	9	40.9	--	--	9	23.1
PTA	5	22.7	1	5.9	6	15.4
Public Donation	4	18.2	7	41.2	11	28.2
Corporate Donation	--	--	2	11.8	2	5.1
Others	5	22.7	9	52.9	14	35.9
No Answer	2	9.1	1	5.9	3	7.7

Reasons For Not Automating

In respond to the question concerning their future plan of automation, 39 (78.0%) non-automated libraries stated that they plan to automate in the future, whereas 11 (22.0%) respondents said "no". When compared by school type, almost all 32 (94.1%) non-automated NTSS libraries and only seven (43.8%) non-automated ICSS libraries stated that they planned to automate their library functions in the future. However, 17 (43.6%) respondents were not sure when their libraries plan to automate the library functions; 11 (28.2%) stated in one year to come; six (15.4%) stated in the next five years; and five (12.8%) stated in the very near future.

Although automation has been seen as an essential tool for teacher librarians and students in this study, 11 respondents still do not plan to automate their library functions in the future. When further investigated, out of the 11 libraries, five (45.5%) reported that they do not plan to do so because their libraries do not need an automation system. These constitute libraries which have a small size of library collections and students enrolment, that is library whose collections range from 1,000 to 5,000 items and students' enrolment range from 100 to 250. Another 5 (45.5%) libraries stated that the reason of not planning to automate is because the schools do not have enough budget. The only one (9.1%) library, which indicated "other reason" wrote that, "since our system broke down, we do not have any intention to automate the library functions in the near future". This indicates that the problems with a system may seem to deter people from continuously using the system. None of the respondents stated "no support from the school administration" as the reason not to automate. When asked to indicate the modules that they would like to automate, 18 (36.0%) non-automated libraries reported that cataloguing is the most important module. Only 6 (12.0%) libraries said that they would consider circulation first if they were to automate their library functions. Acquisition and

OPAC are ranked as the most important module by only 3 (6.0% respectively) libraries.

CONCLUSION AND RECOMMENDATON

Although the implementation of library automation in MCSS is encouraging and increasingly yearly, it still has room for improvement and there are issues that need to be addressed. Many school libraries are still being managed in a "conventional" manner and there are still libraries with not even a single unit of computer. There are also libraries equipped with computers, but do not allow students usage of the ICT facilities. This indicates that school libraries treat library automation simply as a more effective way of managing their library collections rather than creating a better awareness of IT utilization among the educational community they serve. To nurture an "information rich society", much effort is still needed. Ideally, the foundation of information literacy must be laid in the schools, particularly centred on the school libraries. School libraries today are no longer traditional reading rooms and study halls; they are evolving to become facilitators of information services and gateways to the wider information world (Singh, 1996).

Automation system is an expected technology in school libraries today. When asked respondents on why they see automation is important to school libraries, several teacher librarians wondered why the question should be asked at all. One respondent expressed the idea that, since subject teachers have the current technology in their fields, so should teacher librarians. However, there are still libraries that do not have a broader view towards library automation. They view library automation as "not needed for them at present and in future" due to their small collection size and school population. As pointed out by Khalid (1997), school libraries can utilize the free CDS-ISIS library software, developed for UNESCO especially for developing countries. However, it is interesting to note that, although have been many efforts in "promoting" CDS-ISIS, listing out the benefits of using CDS-ISIS, and emphasising that CDS-ISIS is especially good for small libraries with limited fund, this study found that none of the MCSS libraries use CDS-ISIS for their non-Chinese collections. It is suggested that the National Library promote and have more training sessions for teacher librarians in using CDS-ISIS. The Ministry of Education and Dong Jiao Zong can also play similar role in assisting the government aided NTSS and private ICSS in library automation work.

Another interesting point to note is that, instead of funding for automation, teacher librarians indicated that the main problem faced by them is getting information regarding library automation either from people or printed resources. Since automation works involved both theoretical and practical knowledge and skills, teacher librarians need to gain and share experiences among themselves. Unfortunately, the school libraries do not collaborate in whatever forms such as resource sharing, library work and activities. Useful reference materials or a resource person is urgently needed in assisting the schools on what need to be done as far as library automation is concerned. User groups should be established, as a mean to provide training and support as well as updates on new system development and a way to provide feedback to the vendor.

The fact that some libraries could not provide information about their library collections, software and hardware costs indicated that they do not have a good library record keeping procedure. The Ministry of Education and Dong Jiao Zong could play their parts in assisting the school libraries by urging them to use a standard management system and provide training in documentation procedures. The two bodies can also publish useful handbooks, guidelines or local software directory as printed reference materials. Their officers can also be the resource persons for libraries that want to automate, to migrate to another system or to upgrade their library software.

The findings of the study could also provide information for policy makers to identify what needs to be done as far as library automation is concerned. The findings could also assist non-automated schools in the process of choosing, planning and implementing their library automation. This includes which systems to choose or what software is available in the market. This study shows that although management's decision is the most important factor in implementing library automation work as voiced out by the respondents. Among teacher librarians, it is easy to justify the necessity of an automated system; however administrators are not aware of the value of library automation. Communicating the impact the systems have on students, teachers, as well as towards efficient and cost-effective library operation should be helpful to teacher librarians looking for a way to "sell" the idea of automation to the administrators. However, the key factor is still the overall costs of the automation project, which also include the system, hardware and software maintenance, retrospective conversion and staff training. It is safe to assume here that school management, in general, is aware of the value of automation, however the cost is important to be considered when making a decision to purchase. School libraries only receive a small annual budget for library resources and operation, and

this do not include library automation work. With regards to the IFLA/UNESCO School Library Manifesto (2000), "school libraries must have adequate and sustained funding for trained staff, materials, technologies and facilities". Thus, the school authorities and teacher librarians should ensure that libraries receive their fair share of the school's financial resources in order to develop their libraries in terms of facilities, staffing, collections, services and information technology. Furthermore, automation of library functions is often seen as a once only exercise. Schools do not always expect to re-invest in the technology. Thus, to make the right choice is very important.

REFERENCES

Abdullah, Abrizah et al. 2002. Automating secondary school libraries: a web based library management system.. In: Singh, Diljit et al (Eds.), *School libraries for a knowledge society*. Proceedings of the 31st. IASL Annual Conference and 6th International Forum on research in school librarianship, 5-9 August, at Petaling Jaya, Malaysia.

Chan, Foong Mae. 2002. Development information literacy in the Malaysian smart schools: resource-based learning as a tool to prepare today's students for tomorrow's society. In: Singh, Diljit et al (Eds.), *School libraries for a knowledge society*. Paper presented at 31st. IASL Annual Conference and 6th International Forum on research in school librarianship, 5-9 August, at Petaling Jaya, Malaysia.

Cohn, John M; Kelsey, Ann L. and Fiels, Keith Michael. 1997. *Planning for automation- a how-to-do-it manual for librarians*. New York: Neal-Schuman Publishers, Inc

Fatimah Jusoh. 2002. School libraries in Malaysia. In: Singh, D et al (Eds.), *School libraries for a knowledge society*, Proceedings of the 31st. IASL Annual Conference and 6th International Forum on research in school librarianship, 5-9 August, Petaling Jaya, Malaysia. Available at: http://www.iasl-slo.org/conference2002-fatimah.html

IFLA/UNESCO School Library Manifesto: The School Library in Teaching and Learning for All. 2000. International Federation of

Library Associations and Institutions. Available at: http://www.ifla.org/VII/ s11/ pubs/manifest.htm

Kasbon. 2001. *The Electronic Resource Centre (ERC): a Malaysian experiment* (Unpublished). Kuala Lumpur: Educational Technology Division, Ministry of Education, Malaysia

Khalid, Mahmood. 1997. The best library software for developing countries: more than 30 plus points of Micro CDS/ISIS. *Library Software Review 16 no. 1: 12-16.*

Malaysia. Ministry of Education. 2003. *Educational statistics 2002*. Available at: http://www.moe.gov.my/statistik/frinstat.htm

Malaysia. Ministry of Education. 2003b. *Senarai nama sekolah menengah seluruh Malaysia tahun 2002.* Kuala Lumpur: Ministry of Education

Malaysia. Ministry of Education. Education Technology Devision. (unpublished) *Laporan pengautomasian pusat sumber sekolah (PSS) tahun 2001*. Kuala Lumpur: Bahagian Teknologi Pendidikan, Kementerian Pendidikan Malaysia

Meckler, Elizabeth M. *2001. The degree and nature to which public school libraries are automated: a survey of public school libraries in Ohio.* ED459864

Raja Abdullah Raja Yaacob & Nor Aziah Abdullah. 1992. *Using SISPUKOM for an integrated library and information system: the experience of ITM, Jo Library, Malaysia.* Available at http://joan.simmons.edu/~chen/nit/NIT%2792/369-yaa.htm

Rosyati, BT. Kamaluddin. 1995. *Masalah-masalah fasa implementasi projek pengautomasian pusat sumber sekolah: kajian kes di Sekolah Menengah Sultan Salahuddin Abdul Aziz Shah* (1993-1994). Dissertation: Universiti Teknologi Mara.

Singh, Diljit. 1996. School libraries as catalysts of change. *Paper presented at the 10th Congress of Southeast Asian Librarians, Kuala Lumpur, 21-25 May 1996.* Kuala Lumpur: CONSAL

Teh, Kang-Hai. 1996. *IT utilization and library automation in Malaysian educational institutions.* Available at: http://web.simmons.edu/~chen/nit/NIT'96/96-303-Teh.html

Wright, Keith C. 1995. Computer-related technologies in library operations. Hampshire: Gower Publishing Limited.

Yong, Ngi Lang. 1997. *The Current Status of Resource Centres in Malaysian Chinese Schools*. Dissertation (MLIS). Faculty of Computer Science and Information Technology, University of Malaya, 1997 vi, 115p.University of Malaya. FCSIT Library; UMLIB

Zainab, A.N. and Abrizah, Abdullah. 2002. Online library systems for Malaysian school libraries: an experimental approach. In: Singh, D et al (Eds) *School libraries for a knowledge society*. Paper presented at 31st. IASL Annual Conference and 6th International Forum on research in school librarianship, 5-9 August, at Petaling Jaya, Malaysia.