

## **Chapter 4**

### **Findings and Discussion**

#### *4.0 Introduction*

This study was to find out the extent of awareness by teachers and management of secondary schools in the Petaling Jaya area, on the existing information communication technology for schools, availability of technology resources and the competency of the teachers and management in using information and communication technology in their every day work.

The objectives of this study were:

- a). to determine the level of awareness among teachers and the school management on information communication technology.
- b). to determine the level of competency among teachers and school management.
- c). to determine the availability of technology for teachers and the school management.
- d). to determine the level of information communication technology used by the teachers and school management.

#### *4.1 The awareness of ICT by the school management.*

For the eight (8) secondary schools responding to the survey, 100% (table 2) indicated that they were aware of the information and communication technology being

implemented the education system by the government. This indicates that the school's management is getting the information about information and communication technology usage in schools

Table 2 School management ICT awareness

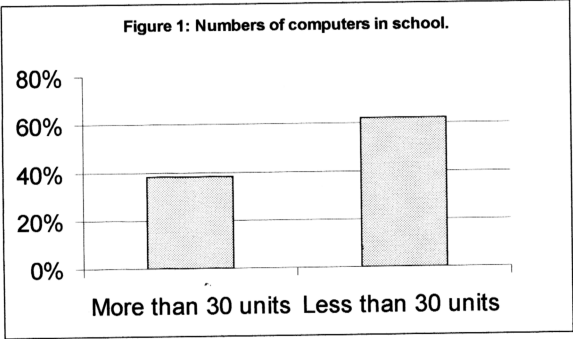
<i>Question</i>	<i>Yes</i>		<i>No</i>	
Know about ICT	8	100%	0	0%
Used or have plan to use ICT	8	100%	0	0%
Have enough budget	3	38%	5	62%
Benefit the students	8	100%	0	0%

As shown in table 2, 100% of the school's management indicated that they have used ICT or have some plan for the implementation of ICT in their schools. The table also shows that only 38% agree that they have enough budget but the remaining 62% of the schools state that they do not have enough budget for the computer hardware and software. This shows that the school's management are aware of the existence of the ICT for schools that will benefit them. This also shows that the schools do have plans for ICT usage but lack of funds to accumulate enough recourse. Table 2 also shows that 100% of the schools' management agree that ICT will benefit the students.

4.2 Availability of resources at the schools.

Response to the question on the total numbers of computers in a school, 38% of the schools have more than 30 units of computers. About 25% of the schools have more than 20 but less than 30 units of computers. Another 13% have between 5 and 10 units and 13% have less than 5 units of computers. Figure 1 show only 38% of the schools have more than 30 units computers where else the rest, 62% of the schools, have less then 30 units of computers. An average size of class in secondary schools is about 30 to 40 students. This shows more then half of the schools surveyed do not have enough computers to accommodate one class.

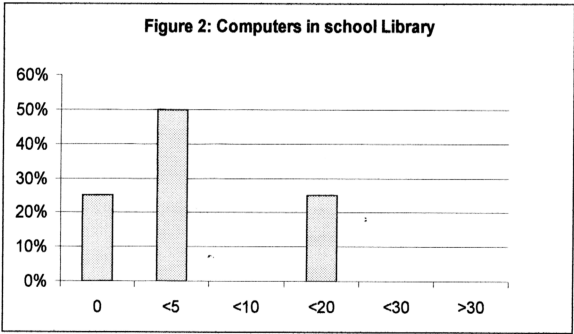
Figure 1: Numbers of computers in school.



All respondents answered these questions therefore the only error that might exist is human error made in the process of answering the questions. The schools with enough

budget are the same schools which have more than 30 units of computers, this show a correlation between having enough of budget and having more computers.

Figure 2 indicates the number of computers in the respective school libraries. A total of 50% of the schools have less than 5 units of computers and 25% of the eight schools have more than 10 units but less than 20 units of computers in their libraries. With 75% of the schools which have an average of 1400 pupils having less than five or no computers at all in the library indicates that the communication technology is not fully utilised by the schools within the library.



All eight schools (100%) surveyed indicated that they have less than 5 units of computers in the office for the administration purpose. This indicates that the school’s management or administration staff do have access to computer facilities



**Figure 3: Comparison of computers in schools, library and office**

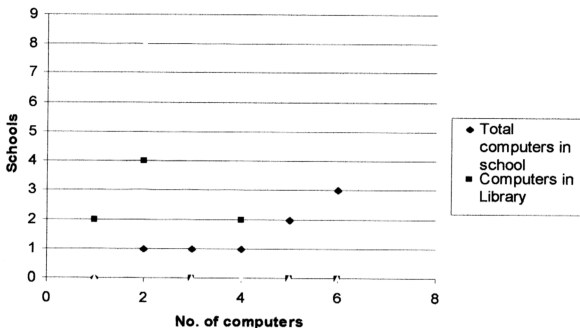


Figure 3 shows the distribution of computers in all the eight schools. The manner in which computers are distributed in schools do not follow any specific trend or pattern. The total number and numbers of computers in libraries throughout the eight schools surveyed varies. The only one common factor among all the eight schools is that they all have less than five units of computers for office use.

One of the major obstacle that most of the schools recorded is the insufficient budget for the implementation. Figure 4 indicates that 63% have problems in terms of having sufficient budget for buying the hardware and software. This is inline with Figure 1, which indicate almost 62% of the schools surveyed do not have one complete computer laboratory of 30 unit workstations.

Table 3            Financial help by Teachers and Parents Association

Schools that received financial help	75%
Schools that don't received any financial help	25%

Table 3 indicates that 75% of the schools are getting help from Teachers and Parents Association in achieving the objective of equipping the schools with the technology. This indicates the parents are also playing positive role in the implementation of ICT in secondary schools in Petaling Jaya area.

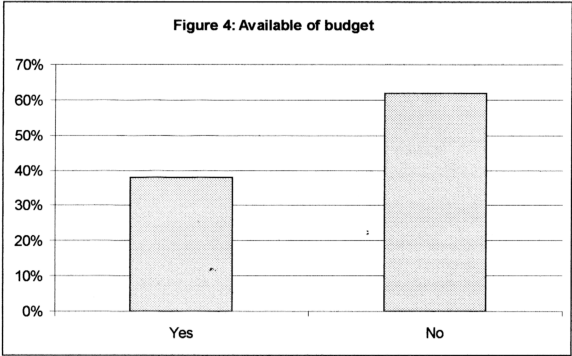
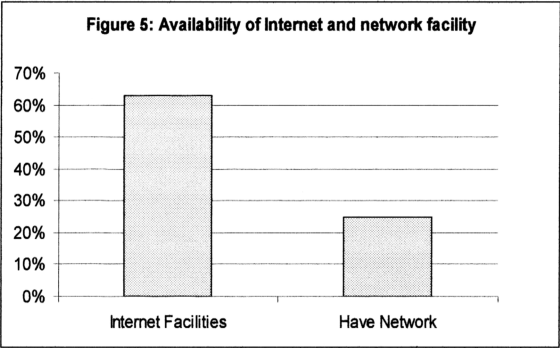
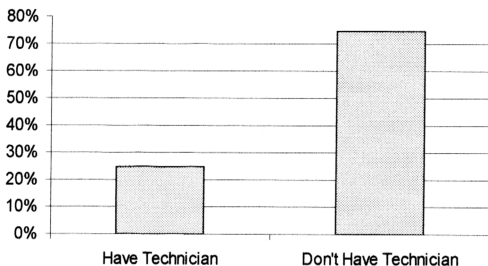


Figure 5 indicates that 63% of the schools have internet facilities, but only 25% of the eight schools are linked to a network. This means that large numbers of schools have stand alone Internet facilities but this facilities are limited to the numbers of telephone lines in the school.



The study also indicated that all eight schools surveyed have computer clubs which facilitate computing among the students. But only 25% (2) of the schools surveyed schools employ technicians. This shows that most of the schools lack of expertise in maintaining the machines as indicated (Figure 6). This could be the main reason for schools not having network facilities, because this facility requires technician’s expertise to handle cabling and server maintenance.

**Figure 6: Availability of technician**



#### *4.3 Result of the technology usage by the school management.*

Figure 7, indicates that almost 90% of the staff use internet for 5 or more hours in a week. It also indicates that the management of the schools is concerned about new technology to members of the staff. This can be seen as the answer to the question whether the teachers are sent for training, all schools (100%) indicated that their teachers were given some kind of computer training.

**Figure 7: Average e-mail & Internet usage in a week**

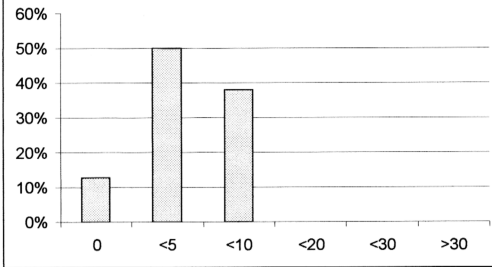
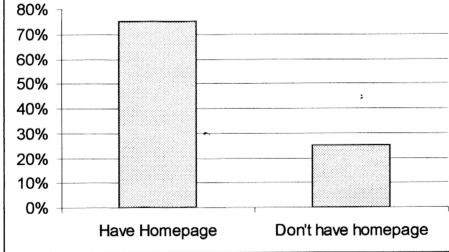
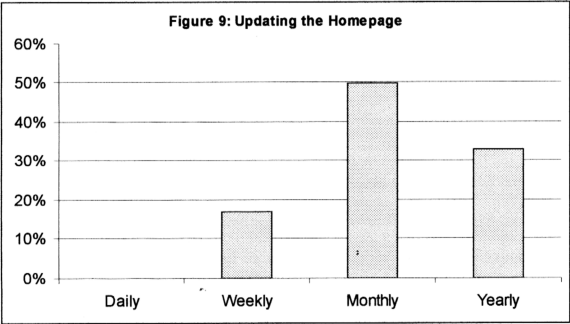


Figure 8, shows that some 75% of the schools have homepage of their own, but the mode of updating is not very good.

**Figure 8: Schools that have homepage**

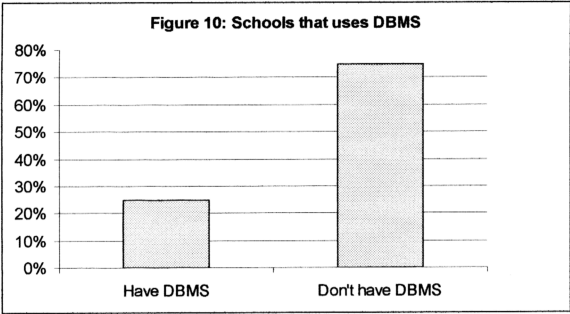


The survey indicates none of the schools update their homepage daily, 17% is updating it weekly, 50% update the home page monthly and 33% show the home page is only updated yearly as (Figure 9). With 83% of the schools update home page monthly or yearly, gives an indication that the schools are not using important information communication technology tool in disseminating information about activities held in the schools. Only 1 out of 8 schools or only 13% of the schools indicate that it received emails from the public, again this indicates most of the communication with public, students or parents done using conventional methods of writing letters or personal visit to the schools.



In answer to question whether the schools use any kind of database management system to manage the student or staff record, 75% (Figure 10) indicate, they do not. The result

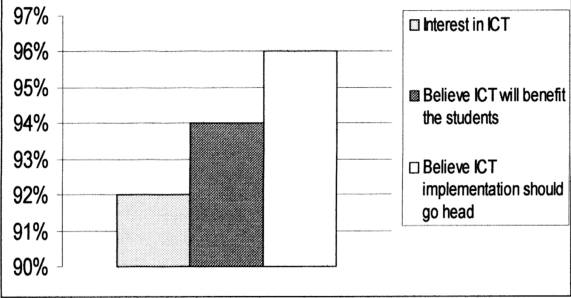
above indicates that schools are still lacking in the use of ICT, in dissemination of information and almost all of the daily operation is done manually.



*4.4 Awareness of teachers of ICT*

The survey on one hundred ninety seven teachers indicates that 92% (164) teachers are interested in ICT. About 94% of these teachers agreed that ICT will benefit the students in their study. About 96% or 172 of the teachers, think that the implementation of ICT should be continued. Figure 11 shows the three issues that the teachers are interested in. Positive answers to the all three issue above, indicates most all of the teachers are aware of ICT and incline to implementing it in the school system.

Figure 11: Teachers awareness on ICT

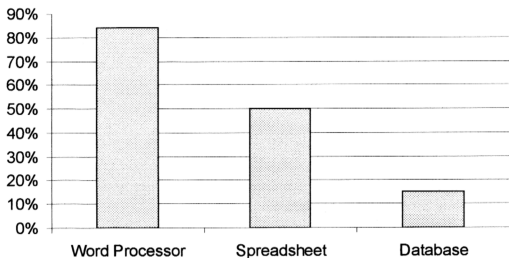


4.5 Competency of teachers in ICT.

Figure 12 indicates 84% of the teachers are able to use a word processor, 50% are able to use spreadsheet, and only 15% of the teachers are able to use database management system. The figure 12 also illustrates the ability to use software reduces as the software become more complex.

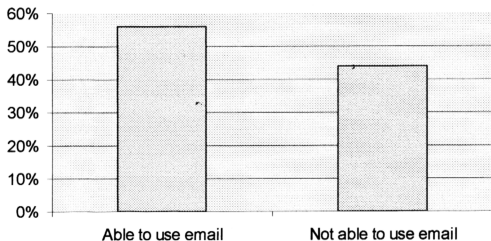


**Figure 12: Teachers competency on application software**

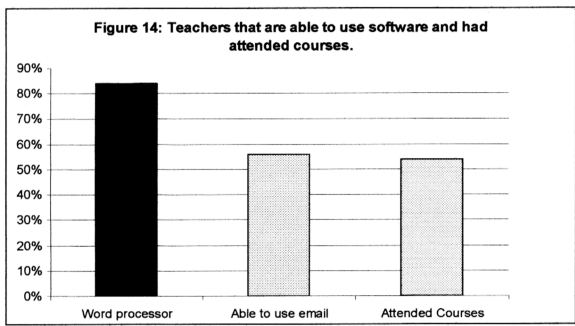


The survey, as indicated in figure 13 shows 56% of the teachers have some level of skill in using email facilities for communication.

**Figure 13: Teachers competency on e-mail application**

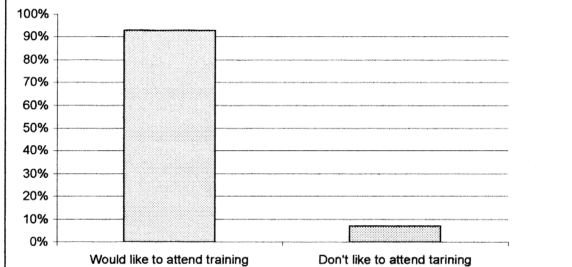


On the question if the teachers had attended any formal training, only 54% of the teachers indicated that they have had formal training. Figure 14 shows the percentage of teachers that had training and also percent who are able to use some of the common software, the illustration on the chart show some of the teachers might have picked up the computing skill by themselves:



The teachers have also shown a very keen interest in learning more about computing and the communication technology. Figure 15 shows that 93% of the one hundred seventy nine (179) teachers surveyed are interested in attending further computer training.

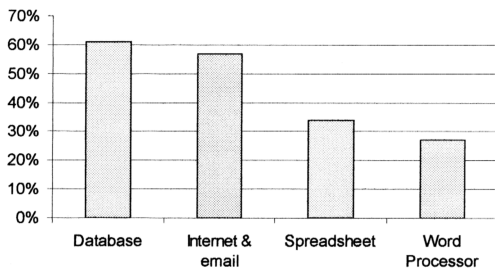
**Figure 15: Teachers would like to attend training.**



The large number of teachers that are interested in computing and communication training shows that the teachers are keen in upgrading their competency and understand the importance of computing in education in the near future.

For the question on what the teachers would like to learn more, each teacher from the 93% would like to attend training, allowed to choose two choices from four options. Indication to question on the type of software that the teachers would like to learn more, most of the responses would want to learn about database and Internet. Figure 16 shows that 103 choose to attend database training; this is 61% of the (169) teachers. This is followed by the Internet and email usage which is 57% and 34%, would like to learn about spreadsheet and 27% would like to know more about word processing.

**Figure 16: Type of training that teachers would like to attend.**

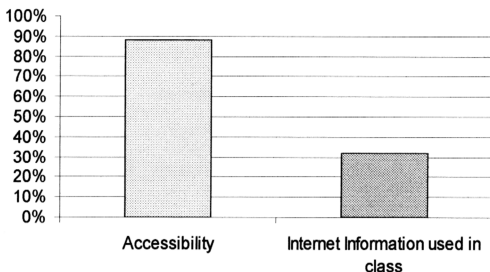


The teachers can be seen as wanting to improve their competency on the complex software such as database and on the usage of communication technology by learning more about exploring the Internet and electronic mail.

#### *4.6 Availability and usage of ICT by the teachers*

The survey indicates that 88% of the 179 teachers claim to have their own computer at home. This gives an assumption that the teachers are inclined to the technology savvy and access the technology. On the question of do the teachers access information from the Internet for the use in class rooms, only 32% agree in doing so. Figure 17 shows the accessibility and use of information in class rooms.

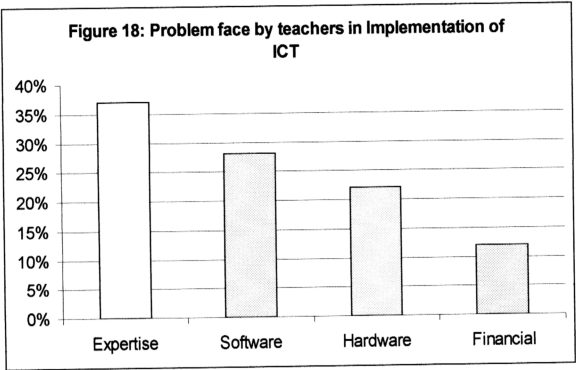
**Figure 17: Computer accessibility and internet information usage in class**



This indicates the respondents are aware of the importance and benefits of the technology but yet the usage of information communication technology is still limited. This might be due to the lack of facilities in class rooms and skills among the teachers.

The surveys to question relating to the problems faced by the teachers in implementing information communication technology in the schools, the respondents were allow choosing two choices from four options. A total of three hundred thirty two responses were received. This is due to five teachers who did not comment on this question and some teachers only marked one option. The study indicates that 37% of the total respondents feels a lack of expertise as the major problem. This is followed by 28% indicates inavailability of software as the problem face by the teachers. Figure 18 shows the problems face by the teachers in declining order. Financial aspect is considered the

least problematic in the aspect of implementation of information and communication technology in schools.



This again is in line as mentioned in management area of analysis (Figure 4). The teachers do feel the financial is a problem in implementation of ICT as mention by the management of the schools. This indication shows that the teachers are involved with the management of the schools in planning of information and communication technology implementation.

Findings from this study indicate that the implementation of ICT in secondary schools in Petaling Jaya area is still in the level of first policy as mention in chapter 2. This can be seen as most of the respondents, both the management and the teachers are aware of the

idea of collaborating with ICT in the education system but then the actual usage of the information and communication technology is at the level of emerging as mention the literature study. The findings also indicated that slow phase of the implementation are due the information illiteracy of the school managements and teachers, availability of expertise, software and hardware.