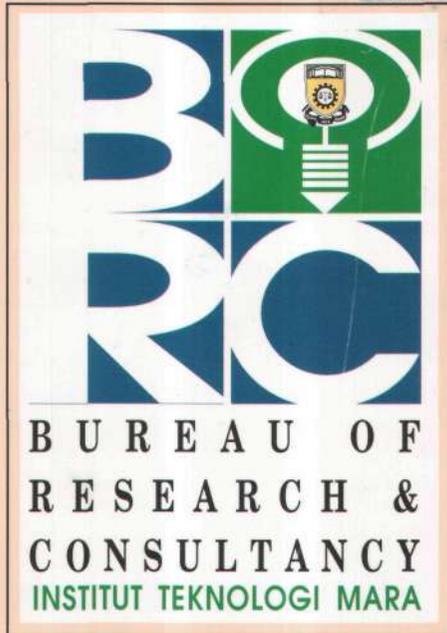


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THE EFFECTIVENESS OF COMPUTERS AT THE PRIMARY SCHOOL LEVEL IN TERENGGANU

by

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ABSTRACT

The advent of computers has affected almost all aspects of society. Computers in education have resulted in an evolution of the education system in the country. Consistent with the effort to realize the vision 2020, the Ministry of Education is planning to introduce computing subjects in secondary schools. This paper discusses the result of the research done to find out the scenario at the primary school level and suggests some computer-related programs to minimize the potential problems when the students take computing subjects in secondary schools.

Keywords: Computers, education, Ministry of Education, Vision 2020, effectiveness, primary schools, Terengganu.



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INTRODUCTION

Education plays a vital role in the development of a society. A good educational system is the key factor in the development of a nation. Malaysia, in its effort to realize the 2020 vision should look into current developments in the education system. The National Education Philosophy (NEP) should be coordinated with current demand so that the products of the national education system can be accepted by both parties: the government and the private sector.

The national education system has stepped into a new era. Consistent with the development, the fields of education should undergo extensive research processes so that a restructuring of the system can be exercised by the education specialists. It has been proven time and time again that a good education system can help the society to resolve complex problems directly or indirectly. Atan Long recommends that a good education system is composed of activities that build a good personality in an individual so that the person can contribute effectively to himself and the people around him (Atan, 1984).

Amir Awang has outlined several characteristics of an ideal education system (Amir, 1986):

- 1) It is a process of complex cognitive manipulation, affective and psychomotor.
- 2) An activity that will produce a permanent and stable change within an individual.
- 3) The above change should be produced through experience, exercise or interaction between the person and his environment.
- 4) The changes are not necessarily being monitored directly but can be inferred from other behaviours.

Kamaruddin Kachar suggested that an education system should prepare the students to fit well in the industrial society based on the formal organization, bureaucratic, complex, and dynamic and strong faith (Kamaruddin, 1989). The country is always in need of students who can contribute to the welfare of the society. Reluctance among teachers toward computer integration has been noted by a number of authors. It has been suggested that students, on the other hand are surrounded by microelectronics technology, and thus accept it with less resistance than that shown by adults (Vermette, 1986).

According to S.M. Vermette, teachers generally appeared less enthusiastic about the role of computers than did the general public. Educators resist experimenting and exploring the potential of computers as a teaching tool because they dislike the prospect of curriculum changes (Vermette, 1986).

Computers have become an agent that sets a trend in the country's education. The education experts in the country have realized the importance of this development and are working to incorporate it in the curriculum. The presence of this technology in the system should be looked into by researchers to find out how it can be used to upgrade the process of teaching and learning. In the developed countries, such as USA and Japan, the use of computers

in education has greatly improved the learning environment. It brings the students as well as teachers to a new dimension and changes the way they work, think, and interact with each other. This survey intends to find out whether the same situation might occur in the country and focuses the impact to the education system. Computers are said to be fast, accurate and efficient. However, the efficiency of this machine will never undermine the expertise of a teacher. Both the men and machines have their own advantages and disadvantages; however, most importantly they complement each other to a great extent.

METHODOLOGY

This study used observation and interview on a samples of two main groups of primary schools, that is schools with computers and schools with no computers. The total number of samples are 1400 from the localities selected for this study.

THE FINDINGS

The analysis of the survey shows that the effectiveness of computers at the primary school level in Terengganu is affected by several factors. One of them is the category of the school (refer to Table 1.0). Most of the schools (63.8%) that have a personal computer (PC) system are from the A category. The schools include those located in the urban or rural areas as well as in the Federal Land Development Authority (FELDA). The B category takes the rest of the percentage which is 36.2%. The figures show that grade A schools are more active in facilitating their students with the latest technology. They also are more likely to receive a lot of support from the community.

Table 1.0 Primary schools with computers by school's category

School	Urban Areas	Rural Areas	FELDA	Total
Grade A	24.0	26.2	13.6	63.8
Grade B	6.0	23.7	6.5	36.2
Total	30.0	49.9	20.1	100.0

The survey also shows a strong correlation between the number of computers in the school and their effectiveness. From the survey, 23.6% of the schools have more than one PC; and furthermore, 16% of them are schools in urban areas and 7.6% are from rural areas.

The survey has also found out that PCs are acquired through private sponsorships as no allocation of funds are provided by the Ministry of Education (refer to Table 2.0). A large portion of the expenses is paid through contribution from the Parents and Teachers Association (PTA) (57.3%) while the rest is from individual contributions (7.5%), private companies (7.1%), the State government (1.6%), the State Education Dept.(2.9%) and

others (23.4%). Clearly, the figures show the vital role played by the PIBG. It is important that all parties concerned should make sure that the PIBG is well-organised, well-managed, and constantly active in safeguarding the welfare of the students.

Table 2.0 Source of income to support school computer systems (%)

Source of Income	Urban Schools	Rural Schools	FELDA Schools	Total
PIBG	16.3	27.9	13.1	57.3
Personal	0.0	0.8	6.7	7.5
Private Co.	7.1	0.0	0.0	7.1
State Educ. Dept.	0.7	1.9	0.3	2.9
State Gov't	0.3	1.3	0.0	1.6
Volunteer	0.0	0.2	0.0	0.2
Others	5.7	17.7	0.0	23.4
Total	30.1	49.8	20.1	100.0

The survey has indicated further that, 60.3% of the PCs are placed in labs or computer clubs, under the supervision of a teacher. Other schools place the PCs either in the school's office or the principal's room. This is due to the lack of appropriate rooms, and not having computer clubs or qualified teachers to supervise the system. From the survey, 49.2% of the schools that have PCs do not have a proper computer club. Another main factor that contributes to the effectiveness of computers at the primary school level is the availability of the computer-related reading materials. All schools in the country have their own library. Besides getting the PC to expose the students to the latest technology, the schools should also increase reading materials in the library.

The study shows that most schools, especially in rural areas do not have enough books or magazines for the students (refer Table 3.0). The survey also shows that 63.1% of the respondents agreed that the materials in the library are not enough.

Table 3.0 Computer-related reading materials in the library (%)

Computer-Related Books	Urban Schools	Rural Schools	FELDA	Total
Not available	4.4	9.8	2.4	16.6
Not enough	23.3	23.4	16.4	63.1
A lot	2.6	16.6	1.1	20.3
Total	30.2	49.8	20.0	100.0

About 60% of the respondents have been reported to have little or no knowledge of computers. It is a serious problem because with this drawback the objective of having computers in primary school may not be achieved successfully. However, the school can overcome the problem by organising activities such as exhibitions or seminars on

computers. From the survey, 78.9% of the respondents have never been to such activities and 49.9% of them are from rural areas.

The survey has also focused on respondents who have some knowledge of computers or have undergone some training on computers. The figures show that 60% of the respondents learnt about computers from their respective schools. A small number (11.3%) of them spent their own money to get extra skills from private training centres. It shows that the community, students as well as their parents, are counting on schools to provide the training and to equip their children with the appropriate skills. From the observation, this is true as parents either cannot afford the extra expense for the training or are contented with the present achievement of their children.

Most of the respondents (95%) agree that computing subjects should start at the primary level. Respondents are also asked about the impact of computers on their learning process. The positive response to that question is overwhelming, whereby, as the Table 4.0 shows, 96.8% said that computers would make an impact on their learning process. Respondents are very confident that computers will greatly improve the standard of education in the country.

Table 4.0 The impact of computers on learning (%)

Impact	Urban Schools	Rural Schools	FELDA	Total
No impact	1.3	1.1	0.8	3.2
Little impact	3.7	4.4	3.2	11.4
Strong impact	18.5	31	11.4	60.9
Very strong impact	6.7	13.5	4.4	24.5
Total	30.2	50	19.8	100.0

Respondents also suggested that students should be exposed to computing subjects as early as possible. Primary schools being the earliest stage of formal education are the most appropriate place to expose the students to computers. As Table 5.0 indicates, 62.8% agree that introductory courses in computers should start at primary level while 33.8% of the respondents strongly agree that the courses should start at that level. The figure is very encouraging as the Ministry of Education is actually planning to introduce computers in primary schools.

Table 5.0 Computing subject start at the primary school level

	Urban Schools	Rural Schools	FELDA	Total
Do not agree	2.0	0.8	0.6	3.4
Agree	17.2	30.6	15.0	62.8
Strongly agree	10.8	18.4	4.6	33.8
Total	30.0	49.8	20.2	100.0

Computers have become part of our lives. The need to know and study about them has grown proportionately with its development. Somehow most of the respondents are aware of this where 78.2% said computers are important or very important in their daily activities. However, most of them are not keen to update their knowledge through the latest news (refer Table 6.0). Only 13.6% of the respondents constantly read information on the latest development in computers in the newspapers or magazines. Finally, the majority of the respondents (91%) do not own a PC (refer Table 7.0).

Table 6.0 News update (%)

	Urban Schools	Rural Schools	FELDA	Total
Never	5.2	11.8	4.7	21.7
Sometimes	21.0	32.6	11.0	64.6
Always	3.8	5.5	4.4	13.7
Total	30.0	49.9	20.1	100.0

Table 7.0 Respondents who own a PC at home (%)

	Urban Schools	Rural Schools	FELDA	Total
Yes	5.0	3.6	0.3	8.9
No	25.2	46.0	19.9	91.1
Total	30.2	49.6	20.2	100.0

RECOMMENDATIONS

- 1) The main factor that contributes to the effectiveness of computer usage is the availability of the computer system. As no specific fund is allocated for this purpose, the Ministry concerned as well as the state education department and the school authority should provide some allocations for a computer system in schools.
- 2) The Education Ministry, through the teaching colleges, should provide qualified instructors to teach and supervise the computing programs in the schools.
- 3) The school authority should promote the setting up of computer clubs. A guide line for its activities should be provided by the Ministry for standardization.
- 4) The school should hold special classes for Year 5 and Year 6 students to equip

them with basic computing skills. The program will familiarize them with computers and computer-related activities.

- 5) The school should increase computer-related reading materials in the library.
- 6) The TV Pendidikan (TVP) programs should be expanded to cover an introductory programmes in computing.
- 7) The school should consider a restructuring of the PIBG. As the survey indicated the importance of this association, it is necessary to include the following computer-related activities among the PIBG activities:
 - i. increase the campaign to sponsor PCs for the schools.
 - ii. organize extra computing classes during school breaks.
 - iii. present computer-related gifts for outstanding students.
 - iv. launch a campaign to make the community aware of the importance of computers in education.

CONCLUSION

The advent of computers has affected education in the country in many ways from all aspect of the educational perspectives. It significantly changes the process of teaching and learning and it has brought both students and teachers to see things in ways they have never seen before. The evolution has resulted in positive consequences. It is consistent with the country's vision to become fully industrialized by the year 2020. The new perspectives in the educational system will prepare the new generation for the ever changing technological development in the country.

The rapid development of computing technology in Malaysia has given an impact on the country's education system. Educators in the country should take advantage of this opportunity and apply it in the teaching methodology and at the same time produce a good and effective learning environment.

REFERENCES

- Amir Awang, *Teori-teori Pembelajaran*, Fajar Bakti, Petaling Jaya, 1986
- Atan Long, *Pendidik dan Pendidikan*, Fajar Bakti, Petaling Jaya, 1984
- Baker, F. *Computer Managed Instruction: Theory and practice*, Educational Technology, Englewood Cliffs, NJ., 1978
- Flake, J.L. *et al.*, *Classroom Activities for Computer Education*, Wadsworth, Belmont, Ca., 1987
- Gerneh, V.S. and Ely, D.P. *Teaching and Media : A Systematic Approach.*, Prentice Hall, Engelwood, N.J., 1971

Godfrey, D. and Streling, S. *The Element of CAL*, Porcepic Press, Toronto, 1982

Hawkrige, David G. *New Information Technology in Education*, John Hopkins Press, Baltimore, MD., 1983

Hollinshead, Betty & York. *Games and Simulations : The Real and The Ideal*, Nicole Pub., New York, 1981

Kamaruddin Hj. Kachar, *Perkembangan Pendidikan di Malaysia*, Kumpulan Budiman, Subang Jaya, 1988

Smith, C. *Microcomputers in Education*, Ellis Horwood Ltd., West Sussex, England, 1982

Sniederman, B. *Software Psychology : Human Factors in Computer and Information Systems*, Withrop Pub., Cambridge, Mass., 1980

Vermette, S.M., *et.al.*, *Attitudes of Elementary School Students and Teachers Toward Computers in Education*, Educational Technology, January 1986