UNIVERSITI PUTRA MALAYSIA

THE STATUS OF COMPUTER ASSISTED SCHOOL ADMINISTRATION AND STRATEGIES FOR ITS FURTHER DEVELOPMENT IN NEGERI SEMBILAN SECONDARY SCHOOLS

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AND STRATEGIES FOR ITS FURTHER DEVELOPMENT
IN NEGERI SEMBILAN SECONDARY SCHOOLS

By

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Chairman   : Dr. Gan Siowck Lee

Faculty   : Educational Studies

The tangible advantages of computer use in terms of efficiency and effectiveness have led to an increasing number of schools in Malaysia using computers in administration. Schools, however, are only working on their own initiative. There is as yet no central support or policy for computer assisted school administration (CASA). Experiences in countries more advanced in CASA development almost invariably attest that if schools are left to venture on their own, they are most unlikely to reap the full benefits of CASA. The need for definite strategies for CASA development is apparent.

This study presents a descriptive account of the extent of school administrative computing in secondary schools in the state of

Negeri Sembilan. In addition, school principals' perception of factors regarded as important for implementing school administrative computing were sought. These findings, together with insights gained from relevant literature reviews on CASA implementation successes in other countries, formed the basis for recommending strategies for further development of CASA in secondary schools in Negeri Sembilan. Such strategies should also be of relevance to other states as well as to CASA development nationwide.

The data were gathered by a survey questionnaire sent to all secondary schools in Negeri Sembilan and also through visits and interview sessions conducted in four selected schools. A descriptive account of the computer installations and applications used is given. Also, the relationships that exist between the five "blocks" as depicted in Visscher's Framework for Analysis of School Information System is discussed in the context of CASA development in Negeri Sembilan secondary schools. These "blocks" refer to five aspects of a school information system viz. design and development, quality, use, other factors affecting use and impact of use.

Amongst strategies recommended for further CASA development are: (1) adopt some applications presently in use as "interim" standards, (2) integrate a school information system with the central information system being developed now, (3) provide training for potential users, (4) encourage schools to form computer

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project teams, (5) include computers for administrative purposes in standard equipments list to all new schools, and (6) include basic "school administrative computing" in training courses for all school administrators and teacher trainees.

Suggestions for further research include: (1) thorough case studies of schools more successful in implementing school administrative computing, (2) perceptions of users other than principals on factors regarded as important for CASA implementation, and (3) strategies that would enable administrative computing to complement instructional computing.

Abstrak tesis yang dikemukakan kepada Senat Universiti Pertanian Malaysia sebagai memenuhi sebahagian daripada keperluan untuk Ijazah Master Sains

STATUS PENTADBIRAN SEKOLAH BERBANTUKAN KOMPUTER
DAN STRATEGI UNTUK PERKEMBANGAN SELANJUTNYA
DI SEKOLAH-SEKOLAH MENENGAH NEGERI SEMBILAN

Oleh

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Faedah kecekapan dan keberkesanan yang boleh diperolehi daripada penggunaan komputer telah menyebabkan banyak sekolah di Malaysia menggunakan komputer dalam pentadbiran sekolah. Walau bagaimanapun, sekolah-sekolah hanya bertindak atas inisiatif sendiri. Masih belum ada sokongan atau dasar pusat untuk usaha pentadbiran sekolah berbantukan komputer (computer assisted school administration - CASA). Pengalaman di negara-negara yang lebih maju dalam bidang ini jelas menunjukkan bahawa jika sekolah-sekolah dibiarkan bertindak secara bersendirian, mereka tidak mungkin memperolehi sepenuhnya faedah-faedah daripada penggunaan komputer ini. Adalah wajar mengadakan strategi yang tertentu untuk perkembangan CASA.

Kajian ini menghuraikan kedudukan kini pentadbiran sekolah berbantukan komputer di sekolah-sekolah menengah di Negeri Sembilan. Di samping itu, didapatkan juga persepsi pengetua-pengetua tentang faktor-faktor yang dianggap penting bagi menjayakan usaha menggunakan komputer dalam pentadbiran sekolah. Dapatan ini serta dengan fahaman yang diperolehi daripada kajian lepas tentang usaha-usaha yang berjaya melaksanakan CASA di negara-negara lain, digunakan sebagai asas bagi menghasilkan cadangan - iaitu, strategi-strategi untuk perkembangan CASA selanjutnya di sekolah-sekolah menengah di Negeri Sembilan. Strategi-strategi yang dicadangkan juga dapat disesuaikan untuk negeri-negeri lain dan untuk perkembangan CASA di seluruh negara.

Data kajian ini dikumpul melalui satu soal selidik yang diedarkan ke sekolah menengah di Negeri Sembilan dan juga melalui pemerhatian dan temubual yang dijalankan di empat buah sekolah terpilih. Huraian mengenai kelengkapan komputer dan penggunaannya di sekolah disertakan. Perkembangan semasa CASA di sekolah-sekolah menengah di Negeri Sembilan juga dihuraikan. Perkembangan ini dilihat dalam konteks hubungan yang wujud di antara lima "blok" seperti yang diketengahkan dalam Kerangka Visscher untuk Menganalisis Sistem Maklumat Sekolah. "Blok" yang tersebut merujukkan kepada lima aspek sesuatu sistem maklumat sekolah - iaitu, rekabentuk dan pembangunan, kualiti, penggunaan, faktor-faktor yang mempengaruhi penggunaan dan kesan penggunaan.

Antara strategi-strategi yang dicadangkan untuk perkembangan CASA selanjutnya ialah: (1) menetapkan beberapa aplikasi yang sedang digunakan sebagai "standard sementara", (2) menggabungkan satu sistem maklumat sekolah dengan sistem maklumat pusat yang sedang dibangunkan, (3) memberi latihan untuk bakal pengguna, (4) menggalakkan sekolah menubuhkan pasukan projek komputer sekolah, (5) membekalkan komputer sebagai alat pentadbiran asas di semua sekolah baru, dan (6) memasukkan perkara "komputer untuk pentadbiran sekolah" dalam program latihan semua pentadbir sekolah dan pendidikan guru.

Cadangan-cadangan yang dikemukakan bagi kajian di masa depan termasuk: (1) kajian kes di sekolah-sekolah yang lebih berjaya menggunakan komputer dalam pentadbiran sekolah, (2) persepsi pengguna-pengguna selain daripada pengetua terhadap faktor-faktor yang dianggap penting bagi menjayakan CASA, dan (3) strategi-strategi lain yang perlu supaya penggunaan komputer dalam pentadbiran dan penggunaan komputer dalam pengajaran menjadi saling melengkapi.

CHAPTER I

INTRODUCTION

Background of the Study

Computer Assisted School Administration (CASA) refers to the use of computers for administrative and management activities in schools (Visscher, 1991a). Computers are used to store, process, retrieve and disseminate data and information. The tangible advantages of computer use in terms of efficiency and effectiveness have led to wide utilization of computer technology for the operation and management of school activities.

The United States is the country that pioneered CASA. Some school districts there, especially the large ones, began to use some forms of electronic data processing as early as the mid-1950s (Bozeman, Raucher & Spuck, 1991). The first applications were initiated there in the 1960s when the first school business application (e.g. finance and payroll) were implemented (Visscher & Spuck, 1991). Since then many countries have followed suit.

Today, the United States, Great Britain, the Netherlands and Australia are in the forefront of CASA development. In the State of

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New South Wales, Australia, more than 2,200 schools are using a high-quality standardized school information system, OASIS (Dale & Habib,1991). In the Netherlands, the Dutch Government finances the development of the SCHOLIS project; the majority of Dutch schools now use the computer as a school administrative tool with 92% of them using computers for word processing and registration and compilation of student data (Visscher, 1991b). In Great Britain the primary goal is to provide every school of 200 or more pupils access to CASA by April 1993 (Bird,1991).

Development in the United States, on the other hand, has proceeded in a different way because of its decentralized school structure. There are now a large number of state or school district projects on school computerisation. The U.S. is now planning to develop sophisticated decision support system and to integrate software, database and instructional and administrative computer applications (Bozeman, Raucher & Spuck, 1991).

There are also documented reports on development of CASA in Hong Kong, Israel and Mexico (Fung, 1991a ; Telem ; Reyes & Murray-Lasso, 1991).

In 1974, LAMSAC (Local Authority Management Services and Computer Committee) U.K. published a report titled "Towards a Computer Based Education Management Information System" in which it

concluded that computerisation could offer a number of benefits to an education service. These benefits can be summarized as: (1) better quality of information, (2) saving of time and effort, (3) improved decision-making, (4) better communication, and (5) better control and allocation of resources.

Cheever et al. (1986) contended that computers with appropriate capabilities, used in an intelligent manner, were capable of contributing greatly to the process of instruction and the procedures of administration. They pointed out five main promises of computer utilization viz. (1) more effective and efficient resource utilization, (2) improved management of people, places, things and time, (3) facilitation of performance evaluation and needs assessment, (4) better clarity and timeliness of communication, and (5) expanded instruction methods and improved instructional outcomes.

Perhaps the most important reason as to the emergence of computer as a valuable tool to be used in school administration was stated by Spuck and Atkinson (1983). They were of the opinion that microcomputers, when properly used could assist administrators in saving time ordinarily consumed in routine tasks and thus provided additional time for working directly on other vital leadership functions.

Jepson (1988) concurred that with computers, time now used in performing repetitive tasks and in manual research, both in the school office and the classroom, could be organized so that personal and collective productivity were substantially increased, thereby releasing the human mind for creativity.

In Malaysia, schools are venturing on their own in CASA. There is as yet no central policy or support on school administrative computing. Experiences in other countries have shown that if this is allowed to continue, it is most unlikely that schools will be able to enjoy the full benefits of CASA.

This is especially true in the context of the Malaysian educational system. Education in Malaysia as a whole comes under the Ministry of Education which manages a comprehensive school system from primary to university, regulates syllabuses, controls national examinations and in general supervises the development of education in the country.

The Ministry of Education is organized into four distinct levels viz. federal, state, district and school. The Ministry, at federal level, translates National Education Policy into educational plans, programmes and projects in accordance with national aspirations and objectives. It also sets guidelines for the implementation and management of educational programmes. The State

Education Department is responsible for the implementation of educational programmes, projects and activities in the state. The District Education Office is an extension of the State Education Department and forms the linkage between the schools and the State Education Department. It helps the State Education Department in supervising the implementation of educational programmes, projects and activities in the schools of the district.

Given the centralized organizational structure of the Malaysian educational system as mentioned above, it is easy to realize that for any educational programme to succeed in Malaysian schools, it is vital to have central approval and support.

Watts (1985) observed that **CAA** (Computer Aided Administration), using microcomputers that originated in the schools and as such was almost inevitably, amateurish, ad hoc, not easily generalized, bug-ridden, and unintegrated. The time has certainly come for issues of CASA to be addressed by the educational authorities in Malaysia.

Statement of the Problem

There is now a need for more efficient and effective information administration and management in all government ministries and private sectors. Under the Sixth Malaysia Plan (1991 -1995), the use of computer technology for developing a more effective monitoring network will be emphasized for up-to-date data gathering and dissemination of information (Kerajaan Malaysia, 1991; Berita, 1992). Education is no exception. The Ministry of Education has started a computerisation project for administrative purposes aimed at the many divisions in the Ministry , the State Education Departments and the District Education Offices. This project is at present in its early stage of implementation. Meanwhile, computerisation in schools is, however, very much left to the schools' own initiative and effort.

An impressional observation is that some schools have achieved a certain degree of success; most others are either not making any headway since having started or have yet to make any effort at all in this direction. With the number of computers now finding their way into secondary schools in the country, it is obvious that the potential of using computers for school administrative purposes (CASA) has not been fully tapped.

To address the issue, this study proposes to assess the status of administrative computing in all secondary schools in the state of Negeri Sembilan. It also attempts to identify factors which principals in these schools perceive to be important for successful implementation of CASA. These findings, together with insights gained from literature reviews on CASA development in other countries, then form the basis with which this study proceeds to propose strategies for further development of CASA in schools in Negeri Sembilan. The proposed strategies should also be of relevance for study, reference, comparison and application in establishing CASA in other states as well as developing CASA nationwide.

Objectives of the Study

The main objectives of the study are to investigate the extent of CASA in all secondary schools in the state of Negeri Sembilan and to propose strategies for further CASA development. The study will reveal the status with regard to CASA, the successes achieved, the problems encountered hitherto and the aspirations of the school administrators concerned. The study will also establish those factors that principals of these school perceive to be of importance for the successful implementation and use of CASA.

Specifically, the study tries to establish the following:-

1. The extensiveness and stage of development of CASA in secondary schools in Negeri Sembilan.

2. The available computer applications and the degree to which they are being used in these schools.

3. The principals' opinions on clerical work burden in schools.

4. The principals' perceptions of factors influencing the implementation and use of administrative computing.

5. Whether principals of the following "types" of schools differ in their perceptions of these factors -
(a) schools with computers and using them to assist administration, (b) schools with computers but not using them to assist administration, (c) schools with no computer.

6. The problems encountered in using computers to assist school administration.

7. The principals' evaluation of administrative computing in schools.

These findings, together with insights gained from literature reviews on CASA development strategies in foreign countries, then enable strategies for further development of CASA in schools in Negeri Sembilan to be established.

Significance of the Study

It is time the State Education Departments and the Ministry of Education address the issues of school administrative computing immediately. It is imprudent that the matter be left unattended until the central information system involving the Ministry, the State Education Departments and the District Education Offices is set up in two or three years' time. Experiences in other countries have shown that tremendous effort will be needed by then to convert existing individual school data files into usable formats. Schools will also be resistant to give up their programmes already in use, or run an additional system just for supplying information to the Department or Ministry. The objective of networking the schools with the Department or Ministry will then be defeated (Fung, 1991b). It is therefore strongly felt that a central policy and an action plan are woefully overdue. Towards this end, it is hoped that the results of this study which provide a status-quo picture of CASA, albeit in only one state, will draw the attention of the education planners concerned to the seriousness and urgency of the matter.

In addition, an analysis of the factors that principals of these schools perceive to be of importance for bringing about a more extensive and effective implementation of CASA will provide useful information. Such information will be the pointers if and when the

State Education Departments and the Ministry of Education decide to draw up an action plan for CASA state or nationwide.

In the mean time, schools which intend to start using computers for administrative purposes could also refer to the findings of this study. Hopefully it enables a smoother implementation process. Schools would also be able to avoid some of the pitfalls others have experienced.

It is also hoped that this study may, contribute towards the scarce local collections of literature on school administrative computing. Nevertheless, the ultimate objective of this study is that it can help improve the practice of school administrative computing and consequently school effectiveness.

Limitations of the Study

This study is to be conducted on all secondary schools in the state of Negeri Sembilan. It is appropriate to consider here if the findings obtained are representative of the status of CASA in all secondary schools in the country. This is particularly relevant because some of the follow-up actions are to be anticipated from the federal level.

The answer to the above question cannot be truly ascertained without actual empirical data. However, given the uniformity of our secondary school education system, the relatively new experience of CASA and the fact that Negeri Sembilan secondary schools do have their fair share of computer clubs and classes compared with schools in other states in the country, the results of the findings should be a good indicator of the status of CASA in secondary schools in other states as well as nationwide.

This study will concentrate on administrative computing in secondary schools. Primary schools are not included for the following reasons:

1. A 1990 Ministry of Education Survey reveals that comparatively, more secondary schools have computers and they have more computers than primary schools (Shukor Rahman, 1993).

2. There is also a plan to finally equip all secondary schools with computer facilities. Secondary schools are therefore better facilitated to embark on computerisation projects.

3. The administrative functions in secondary schools are comparatively more complex than those in the primary schools. The need to computerise is greater.