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AVAILABILITY OF INFORMATION TECHNOLOGY EQUIPMENT FOR INSTRUCTIONAL PURPOSES IN ILORIN METROPOLIS SECONDARY SCHOOLS

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Abstract

Information Technology (IT) equipment are a prerequisite for an effective IT development. This surely assessed the adequacy of the available computers and telephones in secondary schools in Ilorin metropolis. Using 30 randomly selected secondary schools, it was found that only two schools had computers for instructional use (6.67%) while 17 schools had telephone lines (56.67%).

The study also revealed that qualified personnel were inadequate in addition to apparent lack of preparedness by the government, schools and students for IT development. Measures for improvement were suggested including the establishment of an IT division under the planning section of each Ministry of Education.

Introduction

The importance of information in the coordination of activities within an organisation cannot be over-emphasized. The more complex the organization's structure is, the greater the need for accurate and timely information to coordinate the different sections and departments. This view was further buttressed by Murdick and Ross (1971) with the opinion that:

Information is absolutely essential to the survival of an organization. As organizations grow, the pressure of scale, complexity and an increased rate of change make adequate information processing capacity inevitable, if effective control, consequent upon coordination of individual activities, is to be achieved (p.69).

Thus the information needed for effective management of secondary education programmes cannot be provided from natural memories. Effective information technology, capable of processing, disseminating and retaining information over long periods of time, becomes necessary.

Today's school administrators cannot afford to be left out in the new information technology as well as have considerable political, organizational and communication skills needed to translate complex technical information into concepts that staff and students in the schools can understand and utilize, towards goal attainment.

Ideally, information technology in schools should be- for both instructional and administrative purposes. However, this study was focused on the locale of this study has computers for processing data on students and other school personnel, material and financial resources, for planning and other school personnel, material and financial resources, for planning and other administrative purposes.

Concept of Information Technology

Information refers to analyzed or processed data that meaningfully informs the recipient about a situation and as such empowers efficient action. It is concerned with the use of evaluated data for a specific problem and for a certain individual at a certain time to achieve a definite goal. Information, according to Ononogbo (1990), is that which is communicated, or as a patterned relationship among those events which add to knowledge, or intelligence and can be evaluated in terms of their relevance to decision-making. Hence the main function of information is to reduce the amount or range of uncertainty under which decisions are made.

Sarnbo (1992) opined that only relevant information increases knowledge, reduces uncertainty and is usable for the intended purpose. Hence good information is that which in addition to relevance and accuracy, is communicated in time to the right person and through an appropriate channel of communication, thereby, stressing the importance of information technology. Information technology (IT) is defined by Cole (1996), quoting the Department of Trade and Industry in Britain, as :

the acquisition, processing, storage, and dissemination of vocal, pictorial, textual and numerical information by a microelectronics-based combination of computing and telecommunications (p.243).

Simply put, IT refers to a computer-based technology for the storage, accessing, processing and communication of information. In effect, IT involves the devices needed to capture, process, store and retrieve information, and devices for transmitting the information from one place another by digital or analogue means (telecommunications) until the information gets to the end-users.

Telecommunications means transmitting information over long periods by means of electric cables- telephone and telegraph -or by means of radio waves via transmitters satellites etc (Cole. 1996)

Most studies on IT are foreign-based and focused on higher education (Mchieson. 1994). Mollov and Schwcnk (1995) on effects of IT on strategic decision-making, it was found, among others, that the use of IT improved both the efficiency and more importantly, the effectiveness of the decision-making process. It was then concluded that IT is a decision aid.

At the secondary school level, a lot of decisions have to be taken on curriculum improvement, instructional programme implementation, staff and student personnel services, finance and equipment and programme evaluation. Decisions on these academic and administrative activities are better taken using reliable and timely information provided by an effective IT.

Information Technology (It) and Information Equipment

Information technology (IT) requires some equipment for the transformation of data into information, storing, retrieving and communicating this information to the end-users. These equipment include the computers for storing, processing and retrieving the information and communications equipment such as radio, television, telephone, telex, Facsimile and satellites. Through these communications equipment, information is transmitted in the form of voice, data, graphic/image and video communications. Telephone enables voice communication electronically between distant locations. Data in form of words, symbols, numbers of graphic/images can be transmitted electronically through digital communications (facsimile through a telephone line, E-mail between computers, and video communications (teleconferencing) through satellites.

Stressing the importance of these information equipment, Hazzan (1999) opined that without computers, their peripherals and other communications equipment, no organization could access information offered through worldwide web. For the secondary school level, the basic information processing, storage and communication are the computers and telephones.

Computers are at the centre of information technology, acting as a pivotal modem in a combination of communicating systems. They are a means of storing, manipulating and transmitting virtually all forms of information. Thus, Dyer, Davies and Giaquc (1990) opined that computers form the basis of the information revolution. Computers provide a new dimension of data processing and allow much more sophisticated and imaginative systems of information How to be developed. They can do work faster and more economically than any other equipment. They are more accurate than people or than any other machines in use, especially in the areas of research and analysis, and mechanized information flow.

Among the functions than an electronic computer can perform are arithmetic operations, data comparism, data storage, data retrieval and accurate data processing. Specifically Computer is both an aspect of teaching method as well as an object for study in itself. Aliyu (2000) enumerated some of the functions that computer can perform in the classroom as mastery learning, data handling, simulation exercise, problem-solving using logic and child controlled environment.

Telephone is one of the means of linking the points at which information is generated and at which it is needed. Telephone wires are used to transmit data between the sender and the receiver. Because telephone links are based on electronics, they are an obvious resource that are used in the development of information technology. However, telephone links to computers need a modem that would convert the worlds /voice to digital signals.

Evaluation of Information Technology (It) in Secondary Schools

The use of information obviously is a special concern of IT. A school receives as input from its environment, students financial support and information. Such information would include legal requirements and societal expectations with regards to the school's instructional programmes. This information is taken into consideration as the programme are planned and delivered towards the school's performance (quality of

graduates). Therefore, IT plays a vital role in the ability of the schools to be accountable for resources provided and results achieved.

Thus, the computer and other information equipment perform the important role of information capture, processing dissemination and eventual utilization for improvement of the school system. There is thus the dire need to introduce computer education into the curriculum at the secondary school level in Nigeria.

The major challenge to the introduction of information technology to secondary schools is the political will. This political will on the part of the government would ensure that computer education is incorporated into the school curriculum. Then, with political will. This political will on the part of the government would ensure that computer education is incorporated into the school curriculum. Then, with the co-operation of all the stakeholders in education, the necessary equipment and other enabling environment would be provided.

In a survey carried out by this author, an inventory of the basic information equipment was taken in 30 randomly selected secondary schools in Ilorin metropolis. These basic equipment were the computers and telephone facilities. The findings revealed that only two secondary schools designated science schools had computers (Queen Elizabeth School 6, and Government Secondary School 5). This represented only 6.6% of the sampled schools. There were 7 others science schools in Kwara State making a total of 9 out of 235 schools (3.83%). In addition 17 out of the 30 schools had functional telephone facilities (56.6%). Moreover, two schools with computer facilities for instructional purpose taught computer education in junior secondary level (JS 1 - 3) only. Further analysis revealed that the number of computers available in the two schools could not provide adequate interactions of students with the systems (student population of between 400 and 820). In addition, computer education was made optional in these science schools. Moreover, the quantity and quality of personnel available to teach Computer Education in the two schools were inadequate (one certificate holder in computer in one school and one certificate holder in computer science in the other school). This might be responsible for the apparent lack of interest of students in the subject. For instance, only three students registered for computer science in the 2001 Junior Secondary School Certificate Examination in Queen Elizabeth School, Ilorin.

One other important issue generated from the survey is the question of how prepared the government, the schools and the students are for the new information technology. Schools are generally sluggish to changes. In fact, most of the time, schools are forced to change. Or how does one explain the fact that most computer science-students at higher institutions of learning are products of outside efforts from commercial computer outfits? Instead of schools to respond to people's yearnings and aspirations on information technology for application to the society at large, the interest and necessary efforts are generated outside the school system, in this way, good innovative ideas usually pass the schools by.

It can be deduced from the foregoing analysis that though telephone facilities were fairly adequate in the schools, computers were in very short supply. This finding corroborated that of Alabi (2000) that electronic management information system (MIS) equipment were in short supply in Nigeria universities. In addition to the vast opportunities of computer education already highlighted, telephone facilities assist in information capture and dissemination. Information sharing between the schools and the parent Ministry or Board and among the schools as a system is facilities. Form interactions with the administrators of schools with telephone facilities, these were acquired through the help of the Parent facilities, these were acquired through the help of the parent Teachers Association. Hence, in spite of the recognized importance of information equipment such as computers and telephones in IT development, secondary schools in Kwara state are not adequately equipped. However, the few available telephone facilities, could be up-graded to form the basis for full introduction of IT in secondary schools, toward networking, which is the goal of IT.

Conclusion and Recommendations

From the result of this study, the two basic information proceeding and disseminating equipment, computers and telephones, are insufficient to provide secondary school graduates with basic information technology knowledge and skills. Thus the following suggestions are made for improvement.

Computer education should be included in the curriculum of secondary education in the country. This curriculum should be implemented up to senior secondary three, and made compulsory for all students. In this regard, the interests of students should be aroused and sustained through effective teaching by qualified personnel. The curriculum could be implemented in phases, first at junior level, then extended to the senior level. Such a policy would require a lot money to procure the necessary equipment.

To ensure success therefore, specific allocations should be earmarked for the implementation of computer education, on a continuous basis. The support of other stakeholders in education-parents,

communities, private individuals -should be sought in this direction. The allocation should be prudently managed to procure the necessary equipment - computers, telephones qualified personnel, as well as the required enabling environment such as electricity, generating plants, uninterrupted power supply (UPS), and cool environment. Provision should also be made for networking between the different departments and the principal's office, between the schools and the ministry or board of education, and among the schools. This networking would ensure direct access of accurate and timely data for planning and co-ordination. This should be the basis for the planning section of the Ministry of Education. This division should align IT with school goals and come up with a standardized information format for the schools.

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international networking for worldwide information web.

Towards this direction, there is the need for the establishment of a division of IT, possibly under

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