Provision of Computer Education in Public Secondary Schools of Karachi

Musarrat Aftab[1]

A B S T R A C T

Purpose: The study attempts to analyze the present status of computer education in public secondary schools of Landhi Town, Karachi and make recommendations for improving the quality of computer education in public schools. Methodology: The population of the study consisted of all the teachers and students of public secondary schools in Landhi Town, Karachi. Twenty teachers and fifty students were randomly selected as sample of the study. They were required to fill up the questionnaire. The data was analyzed using the percentage method. conclusion: Major findings are: the students were interested in getting computer education, however the physical and teaching facilities of computer education were not up to the mark; computer laboratories were not capacious enough to accommodate all the students; there was a shortage of computer teaching staff; the internet facility was not available in the schools; and there was no proper arrangement for computers, which required maintenance and update in accordance with the new software and hardware developments. Suggestions: In the light of the findings of this study, several recommendations were made to improve the condition of facilities for the students of public secondary schools.

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1. INTRODUCTION

1.1 Background

The innovation of computer has influenced all the areas of life. The computers and the technologies related to this field have become an essential part of life. The computers have altered our sense of space and time. The world is now a smaller place. The computers have become an indispensable need of offices, departments of science and technology, industries and commercial areas. In advanced countries, computers are now an effective means of teaching and are in effective use both in formal and informal educational settings.

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[1] Musarrat Aftab Ph D Scholar, Iqra University Karachi, musarrataftab@hotmail.com

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The learning process, with the help of the information provided by the computers, can be enriched in many ways. The lengthy and complex calculations can be carried out at a great speed consuming nothing at all. The entire outside world can be brought in the classroom. Computers have enriched teaching and learning at all levels of education at present times. Without computer know-how in the modern times, graduates are deemed ill prepared in their jobs and in practical life. In the classrooms, the computers can improve learning in all subjects, whether understanding and practice of mathematics, or correcting spellings, language, to stimulate science experiment.

The computers help teachers build concepts and understand level of their students in shorter time. From the view point of modern life, availability and use of computers in a school is an effective means of ensuring better education. However, only the presence of computers in most of the schools in Pakistan does not mean an improved teaching and learning process. A good computer education program can bring about improvement at various levels. The computer education can be used to provide urgent feedback to the students to motivate their interest in learning; understanding and application in a subject. In the third world countries, Information Technology can function as an important resource for improving the life conditions and empowerment of people. In the new century, a developing country like Pakistan has no other choice except to introduce and work with Information Technology, which provides a major opportunity for the developing countries as it increases their pace of development process and enables them to compete with other developing countries. The people living in the rural areas of Pakistan are also becoming acquainted with information technology. The internet is being brought to the villages through email and mobile technology. Internet is becoming more and more popular source of research in the schools, colleges and universities in Pakistan including public and private organizations.

1.1.1 Statement of the problem

Education has been accepted as the basic right of every child and depriving him of this basic right, cannot be appreciated individually as well as socially. Education is a continuous process for the development of total and balanced personality of an individual.

Education not only affects the human beings but also gets affected through the developments in different fields, especially industrial and technological developments. For example, education was delivered through traditional methods in the past, but now, education is being delivered through modern techniques such as computer. The computer is one of the modern tools and is being increasingly used in the learning process. In the present times, it is assumed that the computer literacy is an indicator of a literate person and a literate society. Computer education has been introduced in school education as a compulsory subject in both public and private schools in Pakistan. The general perception is however that the private schools are imparting better computer education than public schools. The researcher has decided to study the present status of computer education in public schools with special reference to physical and teaching facilities of computer education.

1.2 Purpose

1.2.1 General Purpose of the Study

The overall purpose of this study is to analyze the present status of computer education in public secondary schools in Landhi Town, Karachi.

1.2.2 Specific Purposes of the Study

The specific purposes of the study are:

- To assess the physical facilities of computer education in public secondary schools of Landhi Town, Karachi
- To analyze the teaching facilities of computer education in public secondary schools of Landhi Town, Karachi

1.3 Hypotheses

H1: Physical facilities of computer education in the public secondary schools of Landhi Town, Karachi are inadequate.

H2: Teaching facilities of computer education in public secondary schools of Landhi Town, Karachi are not up to the mark.

1.4 Organization of remaining Paper

Section 2 details review of literature. Section 3 is about methodology, which gives details of data collection and instrument used. Section 4 analysis data. Section 5 gives findings. Section 6 discusses the findings. Section 7 concludes the papers and finally section 8 suggests for further improvement.

2. REVIEW OF RELATED LITERATURE

The importance of Information Technology cannot be denied. Educational institutions consider it as a basic element of curriculum. The schools that can afford computers in their classes teach, with the help of computers. Computers are being used in different schools at different levels. The use of computers in the classrooms is not a new concept, as "technology has played a role in education ever since some enterprising teachers used a handy stick to draw pictures in the dirt for an eager student" (Willis, Johnson and Dixon 1983:1).

It is difficult for developing countries to improve their network system but "information technology holds the promise of generating the economic efficiencies required to attract the investments that are engine of growth around the world" (Talero and Gaudette 1996:1). Developing countries must adopt this strategy (information technology) in their educational institutions so that they may compete with the global economy. The best way is to bring a revolution of information technology in the curriculum of the schools. Once this is integrated, a change will be seen in the standard of education. The professionally qualified teachers are considered the greatest asset for any developing country, because they are the people who accomplish the major task of improving the standard of education. A developing country like Pakistan is also trying to include this latest technology in its curriculum.

Since the beginning of civilization, all the technologies have been a part of learning but the introduction of information technology brings a novelty in the process. It is a "Process of transmission and a renewal of experiences from generation to generation" (Dewey 1996:1). The untiring and utmost endeavors of the researchers have tried to bridge the gap between theory and practice.

The effects of industrial revolution gave rise to the growth of technology. The progress attracted the attention of the educationists eager to bring a change in education. Woodhouse and McDougall (1986) and Downes and Fattouros (1995) stressed the needs of computers. They justified it by giving three reasons. According to their own perceptions, computers do things differently. This variation adds value and worth in teaching. Absence of variety will prove fruitless in teaching. Computers give better and accurate results. It leads to

accuracy. Consistency in the work is of great help in teaching methodology. Secondly, they were of the opinion that computers perform in a better way and even impossible things are made possible with their help. Bigum (1997:27-48) talks about the fact and it is also presumed by most of us that the introduction of computers might have a bad effect on the profession of teachers but there is no reality in it. It will not be a deprofessionalisation of teaching; only the role of a teacher will be changed as it relates to "the changing work of teachers as they justify computers in schools and classrooms and the problems for teacher professionalism inherent in adopting rationales for computers in schools".

It has been proved that computers enhance the learning abilities of the students but the effective role of a teacher is also vital. While adopting computer technology, the role of a teacher is to act as a model or facilitator. He or she should feel that students' enjoyment is being enhanced, their performance is being improved and their skills and knowledge is being empowered.

Computers play a beneficial role in the social as well as educational settings. Keeping in mind this important factor, it is essential that teachers keep up with the changing trends and also update their knowledge so that they may have complete control over computers. (Latour 1992:232) believes that "When humans are displaced and deskilled, non-humans have to be upgraded and re-skilled".

Computer as one of the most effective educational tool in the present educational scenario, encourages students to think and act in a very broad spectrum, Olds (1986) says, it helps solve students' day-to-day problems in a more effective and easy way. Not only the students but teachers also have lots of expectations from this non-human device. Teaches also are benefitted equally. Curriculum developers and others who are involved in planning process of curriculum will notice a drastic improvement in the curriculum, after it is implemented.

The Pakistani World of tomorrow needs citizens who are updated, upgraded, who are well aware of all the latest technologies, who are able to handle the problems, and who have an authority to get the solution in a befitting manner. But it is a matter of great concern that in Pakistan, a few of them are learning through this technology. They are taught theoretically; no practical involvement is being seen. Computer is one of the best and effective audio visual media. It gives knowledge and it is an effective tool of communication as well as entertainment. Its know-how is an eligibility criterion for all the jobs. Our future generations need to reach the full potential. They could be more productive, more energetic more beneficial if they are provided with this latest technology. A day will come when they will introduce electronic innovations with their own efforts.

3. METHODOLOGY

The strategy of research adopted in this study is that of Survey. The population of the study consists of all the teachers and students of public secondary schools of Landhi Town, Karachi. It was not possible to carry out a census of the whole population due to limited time. Therefore, 25 teachers and 50 students were selected. The systematic random sampling design was adopted. Two tailor-made questionnaires consisting of 10 questions for teachers and 10 questions for students were prepared. The items of the questionnaires were based on the review of the related literature, opinions of the experts and the personal judgment of the investigator. This procedure ensured the content validity of the questionnaires.

A pilot study based on two questionnaires having 12 questions for teachers and 12 questions for students, was conducted on a small sample of 10 teachers and 20 students as a pre-test. The sample selected was supposed to be similar to the one to be included in the final sample. The final drafts of the questionnaires were tried out on the selected sample in order to refine each question of the questionnaires for expression,

meanings and timing through treatment. The questions of the questionnaires were modified and some of them were dropped. The questionnaires were personally administered by the investigator to the respondents. Although this procedure was rather time consuming, however it did yield a high rate of return and provided an opportunity to the investigator to answer and clarify any question by the respondents about the questionnaires. The overall response rate was 100%.

4. DATA ANALYSIS

The data was organized on a tally-sheet and the tables regarding different variables were prepared. The data analysis technique used for the analysis of questionnaires was quantitative, which involved simple percentage method and graphical representation. Tables with percentages were used for the description of data in accordance with the hypotheses.

Testing Results of Hypotheses

Hypotheses	Response		
	Yes	No	No Response
01	10.2 %	84.4%	5.4 %
02	16.2 %	77.2%	6.6 %

Referring to the above table, both hypotheses are accepted.

5. FINDINGS

- The computers have not been provided as per requirement of the students in public secondary schools, Landhi Town, Karachi.
- There is no proper arrangement for computers, which require repair.
- The internet facility is not available in the schools.
- 66% of the schools are without proper computer laboratories even though they have computers.
- Only 6% of the schools are having p-4 computers where as 94% of the schools have P-2 and P-3 systems.
- 70% of the schools are suffering from shortage of trained computer teachers.
- 80% of the students of matriculation are not able even to operate MS Office.
- 72% of the students are not interested in getting theoretical computer education.
- 78% of the students are interested in getting practical education of computer.
- The provision of formal computer training has not yet been made available for in-service teachers.

6. DISCUSSION

The first point of result is that, the facility of Computer lab is provided to 23% of the total schools and the rest of 77% schools have no computer lab. It means majority of the schools are running without computer labs and the teachers are imparting only theoretical aspects of computer education rather than practical education in this modern age. This indicates that majority of the students are getting knowledge without any new technology. It is not only the loss of the students, but also that of the country. If the government and non-government organizations join hands to provide the required facilities, the educational process can be

improved. The generation of today is our asset. It's the duty of state to provide latest technology so that the future of our youth is not spoiled.

The second important aspect brought forward by the result is that the computers have not been provided as per requirement of the students. All computers are not functional. There is no proper arrangement for computers many of which require repair. This means that the teaching of computer science is suffering badly. The education department should solve this problem on priority basis, so that the students may become skilful in this technology and able to compete with the modern world.

Third, one is an alarming point that the Internet facility is not available even in a single school, whereas Internet is an effective and important source to enhance the knowledge in the present time. The students of public sector schools are deprived of this new technology to date and the traditional teaching process is going on in our schools. No novelty is being observed in our teaching methodologies.

Another out come of this study is that there is a shortage of trained computer teachers in the schools and the provision of computer training has not yet been ensured for in-service teachers. A student can learn through computer however, that does not mean that the role of teacher in learning process is less important as the teacher plays a valuable role by enabling his pupils to learn a proper use of this new technology. The students cannot get maximum benefits of modern technology without the help of teachers. Due to the shortage of trained computer teachers, the teaching of computer science is being badly affected. This is the reason why majority of the students are not able even to operate MS Office.

7. CONCLUSION

In the light of the findings of the study the following conclusions were drawn.

- Computer plays a vital role in improving the standard of education. It is necessary for teachers as well students in the 21st century. In the wake of globalization, it has become very important to take the help of computers so that the students of today are able to face the challenges of the time.

- With regard to 21st century, it is said and believed that the students without this skill will not be able to compete in the job market. Students skilled in this technology will have many job opportunities.

- This technology is being introduced gradually. (Different obstacles and shortage of funds could be the main reason). We can say that it is still very new for many schools. Very few schools have adopted this latest technology, but the educators do not consider it as a magic bullet. They are still in search of new and un-unique teaching methodologies. Different approaches are being tested and utilized to improve the standard of education.

- Information technology is one of the fastest growing technologies. Every one of us wants to learn it with interest, but untrained teachers and shortage of funds create hurdles. There is a lack of existence of information technology in government schools. Realizing its importance, very few private schools are able to manage this facility successfully.

- As information technology is the need of the hour, it is imperative that teachers be given professional training and seminars be conducted regularly and properly so that the students are able to learn/improve their computer skills fully and completely. The demand and need of this latest technology in education has been realized well today. People were unaware of it in the past decades. Computers will definitely play crucial role in the lives of our students, in improving standard of education in our classes and

schools. Our educational system is vague and dismal. It is neither meaningful nor relevant. Our educational system will improve only with the help of information technology.

8. RECOMMENDATIONS

- In the light of the findings of the study, the following recommendations are made:
- The computer laboratories should be established systematically at public schools.
- Furniture and all required equipments should be provided to create the learning environment in the schools.
- There should be a proper arrangement for computers which require repair.
- Internet service should be provide to each school for better education
- Latest computer systems should be provided rather than out dated ones.
- Trained teaching and non-teaching staff should be provided for effective learning process in the schools.
- Computers should be introduced in schools at primary level so that the students become familiar with the computers in an early age. This way will facilitate them in their future professional life.
- For the purpose of developing interest in teachers to get computer education and to get their knowledge updated, monitory incentives should be given.
- Seminars and workshops should be arranged on regular bases for up dated knowledge and skills.
- If the government and non-government organizations join hands to provide the required facilities for promoting computer education, the educational process can be improved. The generation of today is our asset. It is the duty of state to provide latest technology so that the future of our youth is not spoiled.

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