An Evaluative study to determine the role of Computer Education in selected Private Secondary Schools in District South of Karachi.

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Abstract

The study evaluated the current Role of computer education in selected private secondary schools of Karachi and recommended suggestions to enhance the quality & role of computer education in private secondary schools of Karachi. The sample of the study contains feedback of 30 computer teachers and 120 students of selected private secondary schools in Karachi. The selected teachers and students were required to fill the given questionnaire that focused on their current knowledge about computers. The collected data was analyzed by using the percentage and mean method. It has been observed that even though the physical and teaching facilities are not up to the mark in schools yet students have taken a keen interest to gain computer education. This research also revealed that the space in computer laboratories is very limited and insufficient to accommodate the strength of the class. Hence, providing little or no scope for all students to avail this facility. It has been noted that there is a lack of qualified computer personnel which is why computer education has been found to be backward in many schools. Our findings put forward the following matters of concern: 78% students are not interested in theoretical computer education. We believe that computer, as a subject should be made part of the primary curriculum so as to providing exposure from a very young age to students. We also strongly recommend the establishment and set up of a fully furnished and fully-equipped computer laboratory with trained computer professionals and I.T department set up to maintain and update the system. The implementation of the recommendations stated would highly benefit students, teachers, as well as the education system overall hence contributing towards the future of education.

Keywords: *Role of Computer Education, Private Secondary Schools.*

Introduction

The introduction of computers in the field of education has portrayed man to be 'unthinkable' while machines have been thought to be 'thinkable'-quite the opposite considering that computers was the invention that was the result of man's perception. The history of computers in the field of education has been characterized in different ways. Many times it has been addressed to as an **"accidental revolution"**. It has also given a new meaning to the phrase *'Necessity is the mother of Invention'* changing it to ***'Invention is the mother of necessity'***.

There is no doubt Private Secondary school have huge contribution in the Education Sector beside the school supporting Government.. In today's world, the use of computers and telecommunications has made swift movements in the field of finance, businesses, goods and services boosting the economy. In the 21st Century human life is greatly influenced by computers. It is an essential part of our daily life which has made the sense of space and time more understandable. In other words, computers have become more accessible in a short span of time and have reduced the space and have made it more convenient for us to contact any person within few seconds. It wouldn't be wrong to say that the world has become a global village. Computers have become an unavoidable requirement at offices, business centers, research departments and industrial areas as well. **"**It can be used as an interesting aid for different classroom activities to enable the students to actively participate and use it as an effective tool for conducting simpler research work, projects and publication work that is judged as highly proactive activities.-Dr. Mathew Thomas**.** This quote states how computer has provided us with very efficient and effective methods of learning it has proven to be very helpful in preparing a support for students as well as being an aid for interactive learning hence creating a more activity base environment for students as lack of computer knowledge and zero interactive learning has been seen as a drawback for individual in the practical life. Computers have also made a huge contribution towards improving teaching and learning process in class rooms. It has made the practice and understanding of subjects of mathematics, language, science experiments as well as correction of spellings much easier. Computers have opened doors to a vast portal of teaching techniques which help to build concept and cater to the needs of every student to their own level of understanding, hence improving the quality of education. However, most schools in Pakistan lack the basic facilities of computer which lead to under developed educational systems. The main point that management of schools fail to understand is that the presence and use of computers can promote improvement and growth in schools

In the classroom computer education is a vital source in motivating students and enhancing an individual's appeal in the application, the understanding and the knowledge of subjects in daily life. In the modern era, Pakistan being a developing country needs to accept and work hand in hand with computers, so as to seize the opportunity to increase the movement of expansion and compete eye to eye with extra upbringing countries.

The progress of Pakistan is no more limited to the urban areas only; instead the use of computers has widely spread to the rural areas as well. Villages have started to get acquainted and familiar with technology through the effective use of cell phones and email facilities. Computers and the internet are now a popular medium of research and studies in educational institutions.

Role of Computer Education

The computer Education has a great role in daily life of human being and now .It is important for every individual today, to have basic knowledge about the education of computers as it forms a part of the secondary school.

Private Secondary Schools

Private Secondary Schools are those schools, which are managed by any group or individual known as Private schools or Non-Governmental schools.

Statement of the Problem

An important fact today is that, "Education is the third eye of human beings" therefore, human rights are always stressing on the basic rights of every child to provide them with primary education at least. "Knowledge is power. Information is liberating. Education is premise of progress, in every society, in every family." (Kofi Aannan) the above quote states it is indeed a reality that education is the root of development of a balanced mindset of an individual.

An educated individual not only benefits himself but also works as an asset to develop all aspects of life. In the past education were only limited to traditional teaching methods but due to advancement in the field of technology, modern techniques such as computer have been integrated in day to day teaching methodology. It is because of this beneficial factor that computer education is now a compulsory subject of the educational curriculum. A person possessing computer know how is considered to be more valuable in today's world. However, it is perceived that private schools are more established in providing better computer education therefore, it is important to analyze the current status of computer education in private schools emphasizing especially on physical and teaching facilities of computer education. The range of

the study was limited to selected Private Secondary schools functioning in the district south of Karachi.

Review of Literature

The need of Computer has reached all around the globe, which plays a very important role in our lives today. In the 20th century, the use of computer is utilized by 3.2 billion in a 2015 research. Maintaining 55.1% of the world's populations as of June 2018 has internet access and 44.8% having computer access around the world. The education of computer studies enables an individual to utilize it for strategy work, calculations, work based presentations. This by the help of it has developed the business world vastly. It is a basic need for today's world as it is needed for employment purposes even if it is an effortless job as well, as it is needed for trains, machines, even a placement at the bank.

Not forgetting also helps in domestic purposes such as budgets, calculations and handling task with confidence. In today's time, the importance of computer cannot be overlooked. It has become an undeniable necessity in today's curriculum. Educational Institutions that can afford to install computers carry out I.T integrated lessons. The use of computers varies from institution to institution and level to level. You may think that the usage of computers in the field of education has been a new idea but it is nothing new. You may be wondering how but ever since the time of civilization teachers made use of stones and sticks to explain diagrams and lessons hence they were the technology used back then.

An author (Vijay Kumar, 2016), wrote an article on how is technology important in education When Technology is used by teachers it enables them to find conclusions of their daily life problems from various fields. It helps to create an educational syllabus, learning materials etc. it helps create innovative syllabus to help the students in better performance. It helps in receiving and providing education for teachers as well as students. Various learners can connect in platforms to obtain information. Under Develop countries find it difficult to improve their networking system due to the lack of facilities at school levels. So, for the education development, it is really important to teach students in schools about computers, the internet and its benefits that help them in higher education and in life. Education play very important role in our life and career development . (Vijay Kumar, 2016). It is important that under develop countries inculcate the best possible techniques using a computer, in the curriculum so students may able to be directed and focused in their ambitions.

The trends of poor performing under develop students and teachers, rating it as a backward country compared to developing countries. In spite the various steps taken by the individuals for betterment. Classroom technologies narrow education gap in the developing countries. The gap that exists among urban, rural or poor countries can be made lesser by the help of technologies which enables them to learn more and be influenced in other customs and leanings.

Computer education begins in schools, which help students to cope with modern technological life and assist with further studies in life. There are reasons as to why a software industry has developed and flourished side by side of playing a vital role in education. This is a vital curriculum for students in schools these days it helps in considering the use of technology and the role of computer technology playing an important sector in education. "We need technology in every classroom and in every student and teacher's hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world." - David Warlick.

As stated in the quote by David Warlick the inclusion of computer in the curriculum will raise the standard of education as well as provide an exposure to the outer world. Qualified teachers are an asset for developing countries as their accomplishments plays an important part in increasing criteria. Pakistan being a developing country has already taken the initiative to include modern techniques and computer in their curriculum. The primary aim of computer science is to provide students the foundations for the future work and professions in computations and problem solving. Also maintains with problem solving skills which is the foundation of the present computer education more importantly having to cope with the upcoming challenges that erupts in a day to day time.

It is because of the effects of industrial revolution that many educationists have emphasized on the necessity of computers in the field of education. They stated that computers add variety and do things differently. The advantage that computers provide accurate results would be beneficial in the educational field as well. They also state that teaching methodology will be most effective and fruitful if maintains variety and consistency. (Bigum, 1997) had the presumption that the introduction of computers would have a negative effect on teachers but of course, none of that proves to be true. The installation and integration of Computer will not affect the profession of teaching but will only elate 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".

A computer is a useful tool for advancing educationally in traditional and non-traditional ways. Colleges and universities offer online courses for adults who are looking to obtain a degree without quitting their job. – (Tony Myles, 2015).

The above states that working members can easily obtain any information without quitting their jobs by the help of a computer; it also helps young students to access information needed to submit projects. It is easier to just sit at one country and learn about other countries culture and traditions.

 Over the past decade technology has been used in a variety of ways and for an array of purposes. As new technologies have emerged they have often times replaced or have been used concurrently with earlier technologies, thus dramatically changing the nature of the way the technology has been used in the classrooms. It is important to note that not all of computer usage in schools during the decade are focused on teaching of basic computer skills, those educators who envisioned a more student centered curriculum and learning environment did attempt to employ computers in different ways among subjects other than the computer subject. (Jyoti Bhalla, 2013)

The use of Computer enhances the learning abilities of students but it does not compare to the effective role a teacher plays which is indeed vital in the classroom. In the process of integrating Computer in daily lessons a teacher's role is upgraded to that of a facilitator. The use of computers should instigate a sense of knowledge empowerment, improvement of performance and classroom satisfaction in the students which should be closely observed by teachers.

The purpose of education is to impart the cultures, values and knowledge of the past in today's generation along with laying the groundwork for the children. In order to prepare them for the challenges of tomorrow which is why the inculcation of computers i.e. the language of knowledge in the education sector is significant in bringing the much needed growth in Pakistan. It has been observed that various educationalist provide opportunity to the students *to* support their research to improve the quality of education. Through different research articles students may able to have better understanding about topic and teachers can guide them about their issues of clarity about research articles.

Computers have revolutionized the way we live and work. There is hardly any field in which computers do not play a very significant role. Education too has grown beyond learning from textbooks. The internet is a much better treasure trove of information. (Joe Evans, 2017)

Computer have great impact on our daily life there is no any such area in computer could not provide us help to go head. The society's future depends on technology since it is a way of life in the 21st century having an important role in every path. Every part of education / information needed is easily available through the internet which makes it very dependable for today's world to manage daily routines to business presentations which is the reason why computer has modernized our way of life.

"Robust *computer* science *curriculum* is necessary for our society's future" (Alison Derbenwick Miller, 2014). One needs suitability for performing any required action. If an individual can obtain an advantage of home study that is an assets in today's world as it an essential requirement for a society's future.
The education industry has transformed into an online education system. Since it has no classrooms, no hassle of timings, attendance etc. Distance learning is made easier and a reality as it has reached worldwide. The issue of travelling from place to place has been solved as one can easily access through the internet accessibility. Even if the lecturer and learner are not in one place it is made possible to communicate within their own comfort zones and convenience.

Pakistan being a developing country needs more people who are computer literate and well-aware of the latest technologies, people who can solve problems in a more effective manner. The matter of concern here is that not many people are getting acquainted with modern methods and technologies. Pakistani society is still following traditional methods of teaching and learning and i.e. the theory method. In today's time where practical learning is much more effective, computers provide the best opportunity for audio-visual practical learning.

Another important factor is that computers are beneficial not only for the educational aspect but also in the social settings which is why teachers should carefully plan lessons keeping in mind new trends and methods so that they may be able to be in command of computers.

The world today is progressing more and more towards a computer- dependent society. In fact every modern technology, whether directly or indirectly is reliable on application of the

knowledge of computer. In today's era, computers are considered to be the most effective educational tool that presents students with a broader range to explore their creativity and enhance their knowledge. (Olds 1986) says, "it helps solve students' day-to-day problems in a more effective and easy way". Yes, Olds is correct in his statement but it is also true that computers have helped teachers as well with the curriculum, lesson plans and new teaching techniques. The implementation of these modern day techniques bring about major improvements once implemented.

As mentioned by (Jeffrey J. Selingo,2018) Predictions about higher education's future often result in two very different visions about what is next for colleges and universities. In one camp: those who paint a rosy picture of an economy that will continue to demand higher levels of education for an increasing share of the workforce.

The future generation however if provided with the right knowledge and technology today will be more productive and will be able to create their own innovations in future.

In regard to the future computers which is going to play a major role which will incorporate in ever day life and all we do, which is predicted to be highly used in many areas. Although already effected it is said to be more influential in the future.

As for humans at the place of work will be trouble-free which will result in less stress as the computers will be doing all the work that the human is asked to and the individuals just has to release the commands to the machine, which is also a negative impact as the computers will be taking over the human in the future. No doubt it is a convenient source as a human can just work from home without going to work itself. In thought of communication with computers there is a high chance of it being as advanced that the machine might just ask the question in the future.

Plenty of schools have been using electronic learning known as Asynchronous learning which a web is based training. The assignments and homework can be done at home and emailed to the teacher instead of going to the school just for an assignment. If the children i.e. the younger generation are taught at a younger age it will make them more skilled at electronics and the use of it, which will result in large impact as to how the projects are viewed.

Finally computers at home which is a less recognized at the moment but a major role having automatically put the bread in the toast with no lever or to wait till its done, as it will be automatically toasted. Being noted when it's done rather than waiting for it to be uneatable is an advantage to a human. Also to open the door and the computer will automatically recognize your voice having opened the door for you rather than the traditional way. This being just a glimpse of how computer has major role in our future society.

Purpose of the Study

- To examine the use of computer resource in today's education.
- To study the effects and changes by the usage of computers.
- To increase the knowledge and understanding of computer education.

Hypothesis

Sr.	Null hypothesis	Alternative hypothesis
1	There is no significant difference between the mean score of outcomes in the students who are taught through computer-based resources.	There exists a significant difference between the mean score of outcomes in the students who are taught through computer-based resources.
2	There is no significant difference between the mean scores of effectiveness of teaching conducted by male and female secondary school teachers who have command over computer-based skills.	There exists a significant difference in the mean scores of effectiveness of teaching conducted by male and female secondary school teachers who have command over computer based skills.

Research Methodology

The method applied to gather data is the Survey Research Method. Due to the lack of time and availability of resources, a sample population of 150 people will be taken in consideration in total. This consists of 30 Computer teachers and 120 students.

The design of the questionnaires was that of an adopted one. It consisted of two custom-made questionnaires of 15 query each for both teachers and students. The questions were based on reviews of related literature, expert opinions and personal judgments of the investigator himself. The content validity of the questionnaires was ensured through this procedure.

Before the final study was conducted a pilot study based on two questionnaires consisting of 15 questions each for teachers and students was carried out on a small sample of 10 teachers and 20 students. The sample for this pre-test was similar to the main sample that was to be used for the actual survey. The final drafts were then tried out on the selected samples in order to review the questions for meaning, expressions and time management and during this review; questions that were unclear to respondents were improved in order to provide the respondent with a better understanding so as to gain maximum accuracy of response. Though this was a time consuming procedure it provided an opportunity for the investigator to clarify and answer any queries about the questionnaires.

Data analysis

Descriptive Analysis

Table –I: Number of Responses

Respondent	Response (YES)	Response (NO)	Non-Response	Total Responses
Students	16	86	18	120
Teachers	05	23	02	30
Total	21	109	20	150

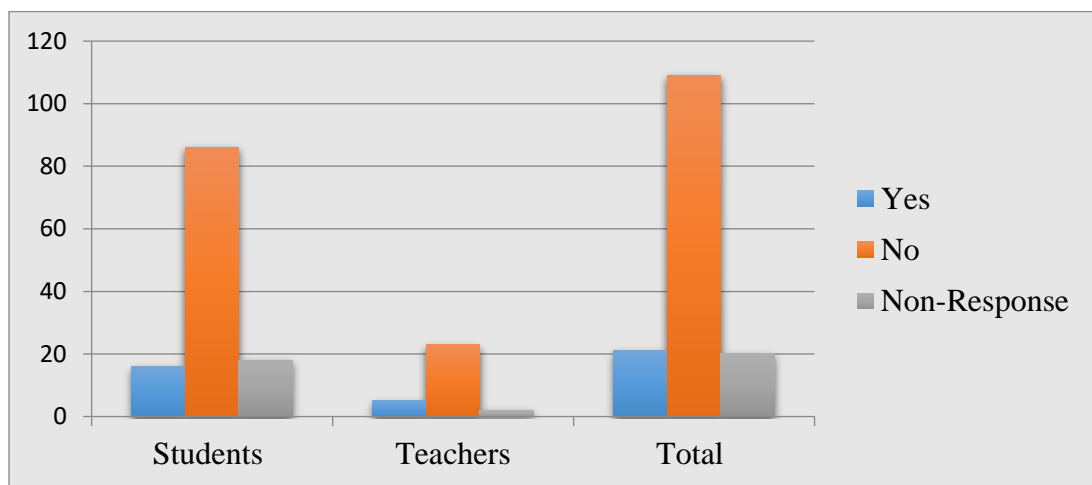**Figure 1** *Bar Graph of Number of Respondents*

Figure 1: Responses of teachers and students.

Table I shows that most of teacher and students response negative about using of computer and technology during teaching and learning. And most of school teachers and students said that schools do not have a well-equipped computer laboratory although they have installed computers.

Table 2 Percentage of Responses

Respondents	Response	
	Yes	**No**
Students -120	13.33%	71.67%
Teachers -30	16.67%	76.67 %

According to Statistical data of Table II, .Only 16.67% of the teachers were positive and 76.67% of the teacher's response were negative. Whereas 6.66% teachers did not respond.

As per statistics 13.3%, response of the students were positive. Whereas 71.7% student's response was not positive when 15% had no response.

Conclusion

Referring to the data collected and through visualization and analysis, we fail to reject our proposed hypothesis. Therefore it is concluded that there is no impact of usage of computer resources on students performances, as well as teachers with commanded computer skills seems to fail in producing better students' scores.

Findings

As per students and teachers responses, the following findings were observed:

1. Computers have not been provided according to the students' needs in the Private Schools.
2. There are no arrangements made for repairs of computers.
3. Schools lack the facility of internet.
4. It has been observed that 33% schools do not have a well-equipped computer laboratory although they have installed computers.
5. 94% of the schools have P-2 and P-3 computers whereas only 6% of the schools have
6. P-4 computers installed statistics reveal that only 70% of schools have un-trained computer professionals.
7. Another matter of concern here is that 80% of Matric students are unable to operate MS-Office.
8. It has also been studied that 78% students are not interested in theoretical computer education.
9. 50% of students have shown a keen interest in practical learning of computer studies.
10. Teachers have not been provided in-house professional computer training.

The very first point that has emerged from this study is that only 23% of schools are equipped with computer labs the rest 77% have no access to computers or even a computer laboratory set up. This indicates that most schools are not updated with computers and students are only being taught through theoretical means instead of practical methods in today's time. This means that majority of students are being educated without modern day technology. The lack of technology is a big loss for the students as well as for the country. It is very important for government and non-government organizations to take the initiative to install new technology in schools in order

to improve the standard of education. The private sector schools needs to understand that the children of today are the future of tomorrow and should be provided with the latest technologies and latest learning techniques so as to enrich their future

Another aspect that has come into light is that every student has not been provided with a computer to work on. Not only is this but there no establishment of an I.T department to oversee the maintenance, repair and up gradation of computers and its software. This proves to show that the study and teaching of computer science is afflicted. If we, expects students to compete with the modern world in future then along with the education department the government should make arrangements to check and balance latest technology and computer education so as to instill in them the skills needed to compete in the professional world.

One of the other more upsetting factors is that schools do not have the internet facility. In today's world, internet is the strongest tool which can boost the knowledge of students. Today's generation is very familiar with modern day technologies and would definitely take more interest in the studying with it. Adding this in teaching strategies will not only give way to modern teaching techniques but will also provide variety in teaching methods.

"Technology is just a tool. In terms of getting the kids working together and motivating them, the teacher is the most important". As quoted by Bill Gates, it is true that technology is an important factor in today's education but that does not in any way reduce the importance of a teacher. The role of teachers in this technological teaching method is to encourage and guide students to make complete and skillful use of modern technology. It is because of this lack of trained computer teachers that the education of computer science is badly affected and most students fail to operate MS Office. Lastly, another drawback that has been observed is the lack of trained computer teachers and no prominent steps have been taken to ensure the initiation of a training program for teachers.

Conclusion

On the basis of the study conducted, following are the points concluded.

1. Computers are the most important tool in today's world and in order to upgrade the standard of education in the 21st century for both teachers and students it is important to install computers and use them effectively in the classroom. In this time of the rise of

globalization we need to provide our youth with the necessary facilities in order to compete with the outer world.

2. Computer education will open doors to better job opportunities in the job market. A computer literate person is more in demand than a person with no computer education and skills.

3. In Pakistan new technology is being introduced step by step. Very few schools have the computer and internet facility while many others are still filtering new and ineffective teaching methods. Different methods are being tested in the hope of improving the standard of education.

4. The lack of trained computer teachers and shortage of funds are a major factor for the slow paced progress in the education sector. Private schools have taken the initiative to integrate Computer in their curriculum while government schools are still suffering because of the lack of computer technology.

5. Workshops, seminars and training programs should be conducted on a regular basis so that they may enhance teachers' computer knowledge and give meaning to our rather vague and meaningless teaching methodologies.

Recommendations

After deep study concerning the facilities of computer education in private and schools of District South Karachi, the following recommendations were put forward:

1. Computer laboratories should be systematically set up in private schools.
2. The schools should be fully furnished and equipped to provide a proper learning environment.
3. An I.T Department should be established for the repair and updating of computers.
4. Internet connections should be established to provide better learning opportunities.
5. In order to generate effective learning process in schools, latest computers should be installed.
6. Computer education should be introduced as part of the primary curriculum so that children may get familiar with the technology and also be able to get a better understanding of computers so it may prove to be beneficial in the future.

7. Monetary incentives should be provided to teachers so as to ignite an interest for computer studies.

8. Workshops and seminars should be conducted so as to enlighten and provide latest computer knowledge to teachers.

The youth is our future and it is therefore the responsibility of the government to provide private schools with the latest computers and invest from time to time in new technologies so that effective learning can be generated.

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