INTRODUCTION

1. Introduction

Whenever the term computer comes to the mind, it takes us to the virtual field of untapped opportunities. We know that 21st century is being considered as the “Century of Technology”, and this century cannot be thought of without computers. Computers are the evident part of our daily life and they have effect onto over daily life directly or indirectly, and education is also not untouched from computers. Computers today have the traverse coverage in the education as a field. Today computers are not only being utilized for playing video games at home, but also being utilized in the every facet of life, from smallest thing like making of a needle to the largest things viz. construction of mammoth structures are now being done with the help of computers, through architectural designs, models of building, their feasibility and every small and large things are now done with the help of computers.

Computers are also used in the field of research pertaining to any domain of research viz. Economics, Management, Human Resources, Population Growth studies, Census studies, Family Planning, Psychology, and others. Computers now a day are also being put upon to compose music, generating the sounds of various instruments, voices of human beings, animals’ voices and so on.

In today’s era, when it comes to education, it is not complete without computers. Computers are used for both the education and for managerial purpose in any organization. The ability of using the computers and related technology efficiently and effectively defines the abilities and skill coverage of an individual, which also do defines the individual personality to get to tackle the various technology based problems within the domain he/she is working. Computer literacy also defines the comfort level of any individual with his/her literacy from the elementary education of computers to be skilled enough in the field of programming, web designing, hacking, cyber knowledge of the individual. Another important aspect of computer literacy is to know about the various applications of the computers, their usage and their
utilization in the domain the user is using the application, plays a vital role and is used as a significant asset throughout the globe.

When it comes to define the “Computer Literacy”, the definition may vary from individual to individual, and group to group. Generally, a literate is considered the one (in the jurisdiction of books) who can read any random or arbitrary book in their instinctive way of language, looks for exploring the new words of the language to get to have better understanding of the pertaining language. In the similar way, an experienced computer professional, who is the expert of the same do consider the self-teaching ability (i.e. to learn the capricious new programs they are faced up or the tasks they are encountered to) to be in touch to the computer literacy. Generally a person, who is considered to be the “computer literate”, is the one who has a bit more knowledge and ability of using specific applications (generally Microsoft Internet Explorer, Microsoft Outlook, and Microsoft Word) for the various very well defined specific and simple tasks, mainly through memorization repetition, also called through rote learning. (This can be considered analogous in case of a child student(s) claiming that they “can read” as because they have memorized various small children books through the rote memorization. The real problem can come when a “computer literate” professional comes in contact with a totally new program for the very first time, and the computer professional will require a strong personal support or reassurance i.e. “hand-holding”). Being a professionally “literate” and “functional” in the domain (computers) are usually taken to means the same thing. These professionals or “professionally literate” persons are also used for exercising and practicing to carry out tutorials to the students. They are used for instructional games and simulation games, the pen and pencil are now being replaced with the dedicated drawing software and institutions specialized in their domain. These tools are very much specialized and expert in their domain that they can be used for many associated and similar allied jobs that usually are to be carried in a single day or on every day in the domain.

As it is pertinent to say that the current society is now much more dependent on the transfer of information or we should say the information technology in general as the
technology now has become an omnipresent and omnipotent, we can say that there is the need to develop the self-capable device which should be able to do self-study, which can support the class room teaching.

In this way, we can say that the present age of technology and computers can be very useful in the every facet of life, especially in case of India, where the computer literacy is so cheap and people are not that much aware about the importance of the same, it is growing with the fastest pace here in India in the advanced cities, where the peoples do understand and give weightage and importance to computer literacy.

In the year 1999, Dr. Sugata Mitra and his contemporaries came with the concept of “hole in a wall bordering” in an urban slum in national capital New Delhi in Kalkaji area, in which they installed an Internet-connected personal computer and left it in the urban slum area of Kalkaji in New Delhi, with a hidden camera filming the area. Through this experiment, a freely accessible computer, which was fixed in the wall was put up for use for anyone. This wall computer proved to be an instant hit among the slum dwellers, especially the children. Children with no earlier experience started learning the computer at their own. What they (Dr. Sugata Mitra and colleagues) observed with the help of the hidden cameras that the children with no earlier experience started learning the computer at their own and they were also playing with the computer and were using it as an aid, and learned themselves to operate and to use the device at their own, and furthermore they started teaching each other to how operate the same. The practical famed with the name “Hole in the Wall” explicates that, “in the absence of supervision of formal teaching, children can teach themselves and each other- if they are motivated to curiosity”. Mitra, the Chief Scientist at NIIT, Delhi. He is now a professor of educational technology at Newcastle University, Australia called it "Minimally Invasive Education”.Dr. Sugata Mitra believes that “self-organized learning will shape the future of education”.

This experience of “Hole in the Wall” encouraged Dr. Sugata Mitra to propose the following hypothesis: “The acquisition of basic computing skills by any set of children can
be achieved through incidental learning provided the learners are given access to a suitable computing facility, with entertaining and motivating content and some minimal (human)guidance."

Feeling boosted by the success of the experiment in the Kalkaji, New Delhi. Dr. Sugata Mitra and his team set up the freely accessible computers in a town of Madhya Pradesh, Shivpuri and also in a village in the Uttar Pradesh, Madantusi, where the experiment of Kalkaji now got its famous name “Hole-in-the-Wall”. The results of these two places (Shivpuri in Madhya Pradesh and Madantusi in Uttar Pradesh) were similar to the Kalkaji experiment, and confirmed the same pattern of self-learning and usage of computer as an aid not only for themselves but also as to teach their colleagues, the learning they have grabbed by the way of experience with the computers. These experiments proved that the children of these areas learned the computer skills at their own. Dr. Sugata Mitra defined this as a new way of learning for the children of those areas.

After the experiment conducted by Dr. Sugata Mitra, many other programs were conducted about the same field in the urban areas. Usually no one do think about the rural areas, where the people and children are not even acquainted with the computers, and do not realize the importance of same in the today’s real life, by the means they all are lacking in various aspects of life and are not able to do their daily life requisites pertaining to technology, especially to computers, and have to be highly dependent onto others for their basic life requisites on computer literacy.

Looking at the success of the Hole in the Wall experiment, Dayalbagh Educational Institute, Dayalbagh, Agra also looked to have the same kind of practical in the villages of Agra District, considering the experiment of Dr. Sugata Mitra and is working on computer literacy program along with the medical camps especially during National Service Scheme (NSS) camps. Dayalbagh Educational Institute (DEI) also conducted the program, similar to the Hole-in-the-Wall, in the session 2011-2012 for a nearby school in NaglaHaweli, which is a state government run Basic Education School.
1.1 Emergence of the Problem

Edwards & Bruce, 2002 make plain and comprehensible statement about the internet and technology and says that today in the era of technology the quench for the thirst of knowledge has become much more aggressive. The Internet has segregated the world in the two halves; Computer Illiterate and Computer Literate. Peoples’ who are lacking the computer and information technology skills are feeling unable to keep the speed to the society. Today at home, the internet has started playing a pivotal role by providing many facilities of learning like e-mails, e-books, e-tickets, and e-banking are some of the commonly used internet based daily life facilities. One can have the whole world under the single click of a mouse, where one can look to express himself/ herself through the usage of technology and internet tools of social media, blogs, internet chatting, personalized websites, etc. Edwards & Bruce, 2002 further explains that other than hunting the job on the internet and looking for the best fit for the organization through the internet, one as an individual or as an organization can look forward to find out the best possible solutions available in the virtual world of internet.

We know that none of the field is left untouched to the technology and computers, and when it comes to the field of Education and Social sciences, it is also seeing the deep rooted integration of technology. It is the need of the hour to get to have the technology and programs which can enable the students or children of today’s era to get to grab the know they want to have at their own, to learn themselves, and also to discuss in between themselves to have the web of knowledge in between the students and children.

When the researcher, during the course of review of literature in its domain of pedagogical sciences, found out about the experiment Hole in the Wall in the medical camp of Dayalbagh Educational Institute itself in the session 2011-12, the researcher decided to go through the same and did look to have this topic to be the interested enough to have his doctoral research work topic. Inspired by the mentioned experiment of computer literacy for village children, the researcher thought to study the effect of this program on the various cognitive and non-cognitive attributes of children.
1.2 Defining the Research Problem

A Study of effect of “Hole in the Wall” experiment of computer literacy on attitude of village students towards using cyber resources, level of consciousness and social awareness.

1.3 Justification of the problem

In the present age we see that the technology is playing an important role in every sector of our life so we have to give the high wattage to those learning strategies which can make a marvelous effect on the learning process of the students. In foreign countries a lot of work is being done to improve the condition of education system. As far as India is concerned, very little work has been done in the field of computer education. Work regarding to the computer in education is still in experimental stage. In order to extend computer literacy program and to appear a background for instruction of elective computer courses at the high level, in various stages many secondary schools have been equipped with computer sets with the active assistance of Govt. of India and other agencies like IIT. Many facilities are provided for necessary training of advanced training to the teachers, with a view that in turn, They would provide computer training to the students in their respective schools. In this field I.I.T Delhi started ‘Hole in the wall Program’ and this program is also being done by Dayalbagh Educational Institute (DEI), Deemed University, Agra along with the medical camp on every Sunday for village students as National Service Scheme (NSS) activity. The researcher himself visited the camp organized by DEI which gave insight the researcher to do some efforts to know the effect(s) of Hole-in-the-Wall experiment of computer literacy program on cognitive and non-cognitive variables on the village students and the usefulness of this program. Thereafter, the researcher studied many studies related to the computer literacy program and found that many more other research works that have been conducted in this field of education does not show the effect of computer literacy on cognitive and non-cognitive variables. To seek answer of the question that ‘is Hole in the wall experiment lead impact on children’s attitude towards using cyber resources, consciousness and social awareness? The researcher decided to study of
effect of “Hole in the Wall” experiment of computer literacy on **Attitude of village students** towards using **Cyber Resources, Level of Consciousness, and Social Awareness**.

### 1.4 Profile of Study Area

District Firozabad, which is also known by its ancient name “Chandwar Nagar”. The current name of district was given during the Mughal period, during the regime of King Akbar the Great by one of its main person Firoz Shah Mansab Dar in 1566.

Firozabad is having its own historical importance from various aspects of history during, Mughal period, British period, and also during the freedom fights of India. Father of Nation, Mahatma Gandhi visited Firozabad1929, and in year 1935, Semant Gandhi visited the city, whereas in 1937 our first Prime Minister Pt. Jawaharlal Nehru came to the place and in 1940 Netaji Subhash Chandra Bose also came to Firozabad.

The Current District of Firozabad was established in the year 1989, dated 5 February, 1989. It is situated at 78 degree of east and 27 degree of north, and the height above the sea level is 164.467 meters. The boundaries of district Firozabad lies with districts Mainpuri and Etawah in east, district Etah in North, and District Agra in west, whereas the holy river Yamuna make its boundary situated in south. The area of Firozabad is covering the 0.8 percent of the state Uttar Pradesh, the most populous state in India, whereas the population it has is about 2,498,156 (Census, 2011) with the sex ratio of 875 and literacy rate is 71.92 and density of the district is 1038 per square kilometer as per the Census 2011. The district population mainly lives in the rural areas covering 73.6 percent of the population, whereas rest of the population 26.4 percent lives in urban areas. The district is having mainly the plain area coverage, having a bit slope from north-west to south.

The present study was conducted over about ten villages of tehsil ‘Tundla’ which is the biggest block of District Firozabad, there are about 99 villages in this block. This study covered students of age group 10-13 years. Here the researcher select the sample units from
two schools, where the basic facility of computing and other which were required for conducting the experiment, was available as an aid for the students. Here, these ten villages covered the current research work and the students belong to these villages studies in these two schools, so the researcher selects these schools for the present study. The researcher himself provided the basic computing facility required for the current research work at his own to get to have the pertinent results, pertaining to the current research work.

1.5. Defining of the terms used

1.5.1. Cyber

The present scenario is the period of computers. It is difficult to imagine schools, colleges, offices etc. without computers. The world has become a universal village with the innovation of network systems. Information exchange is made possible within seconds from one end to other end of the city, country or world. It makes the contemporary world towards the technological encroachment. Earlier students were search libraries to depth study of the subject, nowadays they surf only internet. This has opened the door to the huge store house of knowledge. The term "Cyber" is considered to be a prefix used to explicate a person, thing, or idea as an invincible part of the computer and information. In the present study word cyber was used as a resource by which the students can get some knowledge through computer in Hole in the Wall program.

1.5.2. Computer literacy

It is defined as the knowledge and ability to use computers, related technology efficiently, with a range of skills covering levels from elementary use to programming and advanced problem solving. Pertaining to the current study, the computer literacy means to provide M.S. Office and internet on the provided computer so that the students can operate the functions of M.S. Office and access internet according to their interest.

1.5.3. “Hole in the Wall” Experiment

Hole in the Wall experiment (started by Dr. Sugata Mitra in 1999 in Kalakji area New Delhi in India) is a program of computer literacy in which the computer was fitted in the
boundary wall and the village students were allowed to use computers and gain basic knowledge.

1.5.4. Consciousness

The term consciousness is impossible to define except in terms that are unintelligible without a grasp of what consciousness means. Many fall into the trap of equating consciousness with self-consciousness. It is only necessary to be aware of the external world. Consciousness is a fascinating but elusive phenomenon: it is impossible to specify what it is, what it does, or why it has evolved. But in general we can say that consciousness is awareness, aware to know that you know. It is composite of feelings, thoughts, and emotions in various dimensions.

1.5.5. Social Awareness

Socially aware means you have the knowledge of social system made by society. It means knowledge of react in different social situations, and effectively modify your behavior with other people and society members sat different places like home, workplace, school etc.

"Social competence consists of relationship skills. It involves responsiveness, especially the ability to elicit positive responses from others; flexibility, including the ability to move back and forth between primary culture and dominant culture (cross-cultural competence); and empathy, caring, communication skills, and a sense of humor." -B. Benard.

Social awareness is the active process of seeking out information about what is happening in the communities around us. A greater awareness of social norms and problems leads to better understanding and better solutions.

1.6. Objectives of the study

1. To study the attitude towards using cyber resources of village students.
2. To study the level of consciousness of village students.
3. To study the social awareness of village students.
4. To study the effect of Hole in the Wall experiment of computer literacy program on attitude towards using cyber resources of village students.
5 To study the effect of Hole in the Wall experiment of computer literacy program on level of consciousness of village students.

6 To study the effect of Hole in the Wall experiment of computer literacy program on social awareness of village students.

1.6.1. Secondary Objectives:

1 To study the effect of Hole in the Wall experiment of computer literacy program on attitude towards using cyber resources of boys and girls.

2 To study the effect of Hole in the Wall experiment of computer literacy program on level of consciousness of boys and girls.

3 To study the effect of Hole in the Wall experiment of computer literacy program on social awareness of boys and girls.

1.7 Hypotheses of the Study

1 There will be no significant effect of Hole in the Wall experiment of computer literacy program on attitude towards using cyber resources of village students.

2 There will be no significant effect of Hole in the Wall experiment of computer literacy program on attitude towards using cyber resources of boys and girls.

3 There will be no significant effect of Hole in the Wall experiment of computer literacy program on level of consciousness of village students.

4 There will be no significant effect of Hole in the Wall experiment of computer literacy program on level of consciousness of boys and girls.

5 There will be no significant effect of Hole in the Wall experiment of computer literacy program on social awareness of village students.

6 There will be no significant effect of Hole in the Wall experiment of computer literacy program on social awareness of boys and girls.

1.8 Delimitation of the Study

The present study was delimited in the following manner:-

- The present study was delimited to 100 students only.

- The present study was delimited to Tundla Tehsil of district Firozabad schools only.
• The present study was delimited to 10-13 age group students.
• The present study was delimited to junior class students only.

1.9 Variables of the Study

In the current research work there are three dependent variables and one independent variable as follows:

1.9.1 Independent Variables:

Hole in the Wall experiment of computer literacy.

1.9.2 Dependent Variables:

Attitude towards using cyber resources, Level of consciousness and social awareness.

![VARIABLES OF THE STUDY](image)

1.10 Significance of the Study

As we know that any work conducted in private or government sector shall be useful for some group that can get benefits in their domain. As Dr. Sugata Mittra started his experiment in Kalkaji, New Delhi, in which his team found out a marvelous effect onto the cognitive development of the slum children, later this program was expended by many organizations due to its usefulness in the educational and other training programs.
In this way the researcher conducted this experiment in remote area for the poor students to explore new knowledge for their betterment. The results of the study shall lead the researcher to make a better program for the learning of the students and be useful for the improvement of computer literacy program. Results shall also be found useful for the school administration as the results can lead the administration to get to decide their focus areas for the students they are having in their institutes to get to give various skills set to their students. The results of the study shall also play a significant role for the various Non-Government Organizations (NGOs), which are conducting such programs for the students to get to have the students a boost in their cognitive and cognitive factors. Some software development companies can also look to analyze the results which have come out through the current research to get to have developed computer softwares and programmes for the different school level (Primary, and Junior High school).

1.11 Research Process

As to achieve the desired objectives of the current research work in relation to the research problems on the Hole in the Wall experiment in the selected study area, the researcher has conducted the study through the means of developing a research process specific to the research problem, which commence the details of the research methodology and technology significant to the current research work. Research Process, explicated in the current research work, is suitable to give an overall conducive representation of the current research work, consisting, series of steps and actions, mandatory for successfully carrying out research, in order to achieve the purpose of the current research. The research process followed in the current research do consist of various steps and techniques as defined in the figure (1.2 )given below, which explicates the closely related various steps and related activities used in the research process.
A Study of effect of ‘Hole in the wall’ experiment of computer literacy on attitude of village students towards using cyber resources, level of consciousness and social awareness.

Considering the current research work, there work some important review of literature was being done on the basis of the following Dependent and independent variables.

**Objectives of the Study**
1. To study the attitude of village students towards using cyber resources.
2. To study the level of consciousness of village students.
3. To study the social awareness of village students.
4. To study the effect of “Hole-in-the-Wall” of computer literacy program on attitude of village students towards using cyber resources.
5. To study the effect of “Hole-in-the-Wall” of computer literacy program on level of consciousness of village students.
6. To study the effect of “Hole-in-the-Wall” of computer literacy program on social awareness of village students.

**Hypothesis of the Study**
1. There will be no significant effect of “Hole-in-the-Wall” experiment of computer literacy on attitude of village students towards using cyber resources.
2. There will be no significant effect of “Hole-in-the-Wall” experiment of computer literacy on attitude of boys and girls towards using cyber resources.
3. There will be no significant effect of “Hole-in-the-Wall” experiment of computer literacy on level of consciousness of village students.
4. There will be no significant effect of “Hole-in-the-Wall” experiment of computer literacy on social awareness of village students.
5. There will be no significant effect of “Hole-in-the-Wall” experiment of computer literacy on social awareness of boys and girls.

100 Village students, studying in the Inter college and Junior High School (where basic computing facility was available) of Classes VIth, VIIth and VIIIth lying in the age group of 10 to 13 years, were being considered as the pertinent sample for the current research work and setup for Hole in the Wall experiment established by researcher.

**Data Collection**
Data was collected through distribution of questionnaire to the students of the above said criteria.

**Analysis of Data**
Analysis of collected data was being done through the descriptive analysis along with the significant statistical analysis through the relevant tools.

**Interpretation and Report**
Graphical tools and tables have been applied to present the tabulated significant results pertaining to the current research work.