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

A SUMMARY
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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 on our daily life directly or indirectly, and education is also not untouched from computers. Today computers have the traverse coverage in the education as a field and they 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. construction of mammoth structures are now being done with the help of computers, through architectural designs, models of building, their feasibility, cement mixtures 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.

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 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”.

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. The Faculty of Education, 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 Nagla Haweli, which is a state government run Basic Education School.

Emergence of the Study

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 above mentioned experiment of computer literacy for village children, the researcher decided to study the effect of this program on the various cognitive and non-cognitive attributes of children.

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
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 weightage 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.

Definition of the term used
Cyber

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.

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 internet according to their interest.

“Hole in the Wall” Experiment

“Hole in the Wall” experiment 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.

Consciousness

The term 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

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 modifies your behavior with other people and society member 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.

**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.

**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.

**Hypotheses of the study**

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

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

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

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

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.

**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.

**Variables of the study**

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

**Independent Variables:** “Hole in the Wall” experiment of computer literacy.
**Dependent Variables:** Attitude towards using cyber resources, Level of consciousness and social awareness.

**Controlled Variables**

The extraneous variables and techniques of control

<table>
<thead>
<tr>
<th>Extraneous variables</th>
<th>Technique of control</th>
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</thead>
<tbody>
<tr>
<td>A. Variables related to subject</td>
<td></td>
</tr>
<tr>
<td>1. Age</td>
<td>Constancy (10-13) years</td>
</tr>
<tr>
<td>2. Intelligence</td>
<td>Constancy (average intelligence)</td>
</tr>
<tr>
<td>3. Motivation</td>
<td>Constancy</td>
</tr>
<tr>
<td>B. Variables related to situation</td>
<td></td>
</tr>
<tr>
<td>1. Temperature</td>
<td>Constancy</td>
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<tr>
<td>2. Humidity</td>
<td>Constancy</td>
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<tr>
<td>3. Noise</td>
<td>Constancy</td>
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<tr>
<td>4. Lighting level</td>
<td>Constancy</td>
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<td>5. Culture</td>
<td>Constancy</td>
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<tr>
<td>C. Variables related to sequence</td>
<td>Elimination</td>
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<tr>
<td>1. Practice</td>
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**Method of the study**

The researcher employed **Experimental method**. According to John W. Best “Experimental research is the description and analysis of what will be or what will occur under carefully controlled conditions”

**Sample of the study**

The researcher selected ‘Tundla’ tehsil of Firozabad district for selection of sample units. Researcher selected 100 (50 boys and 50 girls) village students of 10-13 years age group lives in different villages of dundla thesil and studied in two different schools in Tundla Tehsil. For sample selection researcher used purposive sample method.

**Tools used**

In this phase the researcher used three self made scales. That are given below-

1. Attitude Scale Towards Using cyber Resources.
2. Level of Consciousness Scale.
2- Social Awareness Scale

Intervention phase/design of the study

In this phase the researcher made an experimental design to conduct the experiment which shows that the researcher administrate the scales at first stage and then he conduct his experiment for a fix period of time. When he finished his experiment he again administrates the same tools on same sample. The design of the study can be visualized by the following figure

![Design of the study](image)

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Scales were administered at pre-test stage</th>
<th>Treatment (Hole in the wall Experiment)</th>
<th>Scales were administered at post-test stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Level of consciousness scale</td>
<td>30 days (one hour per day)</td>
<td>1 Level of consciousness scale</td>
</tr>
<tr>
<td>2</td>
<td>Attitude towards using cyber resources scale</td>
<td></td>
<td>2 Attitude towards using cyber resources scale</td>
</tr>
<tr>
<td>3</td>
<td>Social Awareness Scale</td>
<td></td>
<td>3 Social Awareness Scale</td>
</tr>
</tbody>
</table>

Statistical Techniques Used

In the study the researcher used Skewness, Kurtosis, mean and standard deviation in descriptive statistics and Critical Ratio was used in inferential statistics.

Findings of the study

The researcher discussed the findings according to the objectives of the study that are presented in the following manner.

Findings related to study the attitude towards using cyber resources of village students.

The calculated values of skewness and kurtosis at pre and post experiment stages are nearly equal to standard value of normal probability curve so it can be said that data collected on the attitude towards using cyber resources scale is normal in nature. For improvement of the percentage it can be described that after experiment percentage of students were increased towards the high category of percentage. In this way positive change was seen in attitude
towards using cyber resources of village students due to the effectiveness of Hole in the wall experiment of computer literacy. No significant difference was found between male and female village students’ attitude towards using cyber resources. Therefore it can be said that both male and female village students have equal attitude towards using cyber resources at pre-experiment and post-experiment conditions.

**Findings related to study the level of consciousness of village students.**

Values of skewness and kurtosis at both stages are near to standard value of normal probability curve so it can be considered that data collected on the consciousness scale is normal in nature. After experiment percentage of students moved towards improvement on level of consciousness scale. In this way positive change was seen in level of consciousness of village students due to the effectiveness of Hole in the wall experiment of computer literacy. No significant difference exists in consciousness of male and female village students. In other words it can be said that both male and female village students have equal consciousness.

**Findings related to study the social awareness of village students.**

In this finding skewness and kurtosis at both stages are near to standard value of normal probability curve so it can be considered that data collected on social awareness scale is normal in nature. After experiment percentage of moderate category students moved towards improvement in their social awareness. In this way positive change was seen in social awareness of village students due to the effectiveness of Hole in the wall experiment of computer literacy. No significant difference exists in social awareness between male and female village students. By inspection of mean of social awareness of male and female village students it is cleared that both groups are sowing positive improvement in their social awareness.
Findings related to study the effect of Hole in the Wall experiment of computer literacy program on attitude towards using cyber resources of village students.

The mean value of the village students was increased at post stage and the critical ratio value was found significant. In comparison of male between pre and post stages mean value of post-stage was seen higher than pre-stage. In the same way, comparison of female between pre-stage and post-stage it was found that mean of post stage is higher than pre-stage. So it is clearly showing that after hole in the wall experiment the attitude towards using cyber resources of village students was increased significantly.

Findings related to study the effect of Hole in the Wall experiment of computer literacy program on level of consciousness of village students.

It is concluded from the calculated values of mean and critical ratio that after hole in the wall experiment of computer literacy, positive effect on consciousness was seen. So the consciousness of village students was increased. The comparison of consciousness of male students between both stages showed that their consciousness increased after experiment stage. The consciousness of female increased but it was not found statistically significant. In other words it can be said that the consciousness of female village students increased but it could not cross the standard value of NPC.

Findings related to study the effect of Hole in the Wall experiment of computer literacy program on social awareness of village students.

On the basis of difference value between pre-experiment and post-experiment mean values of social awareness of village students, it can be concluded that after hole in the wall experiment the social awareness of village students increased. And analysis showed that the social awareness of male village students also increased. The positive modification in social awareness of female village students from pre-experiment to post-experiment was clearly showing the effect of hole in the wall experiment of computer literacy on social awareness.
Conclusion

It is concluded from the above findings and discussion that no significant difference was found in attitude towards using cyber resources, consciousness and social awareness between male and female village students in pre-experiment and post-experiment condition. It means gender is not an significant factor to effect the attitude towards using cyber resources, level of consciousness and social awareness of village students. In the beginning of research the researcher asked himself will Hole in the wall make an effect on the attitude towards using cyber resources, level of consciousness and social awareness? The findings of this study proved that Hole in made an positive effect on the variables.

It increased the attitude, consciousness and social awareness of the village student. Brenda H. Loyd, et.al (2014) also found significant effect on the computer attitudes of the students. And Naser Jamil Al-Zaidiyeen (2008) also discussed the findings of his study where he found positive attitude towards using ICT, and a significant positive correlation between teachers’ level of ICT use and attitudes towards ICT. In this way it can be said that Hole in the wall experiment increased attitude towards using cyber resources, level of consciousness and social awareness of village students and it gives a easy tool to the village students to learn themselves.

Educational implications

Some educational implications have be derived from the findings of the present research, which are presented below-

Benefits for Researchers:- Researcher who is going to conduct a study to see the effect of computer and other technology which may be helpful in improvement the educational system can see the results of this study and use the techniques for control the situation in the field of his study. And he can study on the other variables in the same field.

Benefits for Students:- The results of the study show significant relation between hole in the wall experiment and attitude towards using cyber resources, consciousness and social awareness. So it is useful for students to learn one and more skill at the same time. As we know
that this is known as technological age and students have to perform many role at the same time to success.

Benefits for teachers:- This study indicated the significant and positive influence of hole in the wall experiment on attitude, consciousness and social awareness. So teacher can get insight to teach the class by giving directions from cyber resource through smart phone, laptop, computer etc. If the teachers use such type of technology in his teaching, he may be a facilitator and students will try to learn themselves.

Benefits for Educationists and Curriculum Planners :- The result shows that consciousness and social awareness also positively influenced and no gender difference is showing that gave equal opportunities of hole in the wall experiment to male and female students to active learning and behavior modification. Therefore educationists and curriculum planners should have provision for computer aided programs in education for new generation.

Suggestions for further researches

No one study is final in any area of research. It is an on-going process every time. Thus, the researchers does not claim that these findings as final. Research work also needs further researches to cross-validate the findings of the study. From the curiosity of investigator some suggestions for further researches are stated below-

1 The researcher can study on big sample size.

2 A study of Hole in the wall experiment can be done on different levels of education.

3 A comparative study of Hole in the wall experiment on rural and urban students can be done.

4 The study of Hole in the wall experiment can also be studied in relation to school learning, culture and academic achievement of the students.

5 The study of Hole in the wall experiment can be done on other variables related to teachers and students.

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