

An Online Magazine for and by Children:
A Quasi Experimental Study

Kaustubh Nande

Academic Associate, Communications Area
Indian Institute of Management, Ahmedabad

Dr. Manisha Shelat

Lecturer, Faculty of Journalism and Communication
The Maharaja Sayajirao University of Baroda

TABLE OF CONTENTS

Sr. No		PAGE
1	ABSTRACT	IV
2	INTRODUCTION	1
3	REVIEW OF LITERATURE	8
4	METHODOLOGY	10
5	ANALYSIS OF DATA	17
6	RESULTS	18
7	CONCLUSIONS AND RECOMMENDATIONS	20
8	REFERENCES	23

ABSTRACT

The objective of the study was to help children conceptualise and develop an on-line magazine and observe changes in their skills and confidence as communicators due to their experience of developing this online magazine. A single group Post-test Post-test design was used for this study. A natural sample consisting of 23 students studying in standard six of Amrit Vidyalaya, Kalol, India was selected.

The data collection was organized in three phases: Conducting the pre-tests, administering the treatment, conducting the post-tests. Paired samples t-tests were computed with the pre-test and the post-tests scores. Other statistics like measures of central tendency, correlation coefficients and range were computed for all the three tests.

An evaluation questionnaire consisting of six questions was administered to 24 students of class sixth of Baroda High School, Alkapuri, Vadodara after the launch of the magazine on www.amritvidyalya.org website.

The effect of the treatment has been positive in all the tests, however statistically only the Computer Test-1 showed significant change. Moreover, there is a direct indication from students' writings that they have had an enriching learning experience and the treatment has had a positive impact on them.

INTRODUCTION

The computer is an innovation, which has radically transformed the realms of our world. Its impact now, is felt even more because of the invention and evolution of the Internet. The importance and the use of this medium in development and education need not be overemphasized. Internet has great potential, provided the flow of knowledge and access are properly and equitably channelised.

The digital divide:

The digital divide here refers to the information, infrastructure and knowledge gap that exists between the industrialized countries and developing countries as well as the gap that exists among different groups within a country. In India one can easily observe the influence of gender, socio-economic structures and domicile on public access and use of Internet. It is the disconnect between the "haves" and "have-nots" in terms of access to information and knowledge resources that contributes to the social and economic development of the world over (ITU 2003).

When taking a closer look at the actual reality of the Third World one is forced to be cautious of the radical improvement offered by new information and communication

technologies (ICT's). In most developing countries infrastructure is often seriously underdeveloped and the cost of using it is generally high. Unless the problems of basic infrastructure can be imaginatively solved in a sustainable way, there is little point in maintaining any illusion about the widespread application of the Internet in developing countries.

The cost and need for equipment is another important obstacle. Current patterns of distribution and production of content also reflect and reinforce the heavily asymmetrical nature of global communication structures in mass media (Uimonen, 1997)*.

New gaps are emerging, notably in terms of access to the Internet. These are harder to measure because they are not just about access, but also about the 'quality' of the experience. For instance, international Internet bandwidth (or IP connectivity) is a good measure of users' experience with the Internet. The greater the bandwidth, the quicker the response times. The 400,000 citizens of Luxembourg between them share more international Internet bandwidth than Africa's 760 million citizens. Thus, even though Africa has some five million Internet users, many of them

* Paper presented at the annual conference of the Internet Society, INET 97, Kuala Lumpur, 24-27 June 1997.

may be restricted to using just e-mail and may not be able to browse the World Wide Web. (ITU 2003)

Regardless of the many obstacles faced, the hard reality is that given the growing importance of information and communication technologies in the global market, it is virtually impossible for developing countries not to resist resetting some of their priorities, if they are to avoid global exclusion. Creating the necessary infrastructure and developing the prerequisite human resources is however a daunting task for poor countries. And doing so will necessitate investment which most needy countries can ill afford.

If all sacrifices are to be worthwhile, it is crucial that socially beneficial applications of these new technologies like the Internet are pursued.

Empowerment: Through Technology and Expression

In developing countries like India where education needs of only a select are met, the remaining need to be empowered with the skill of using the technology rather than just acquiring it. Many efforts are made by the government and other agencies to help schools acquire the necessary technology, but little effort is put into 'empowering' young students to use it as a knowledge base.

Keeping the Indian scenario in mind, the students have less time, more choice, and more information. If we look at the present Indian scenario even students who have access to Internet find it difficult to use it optimally to their benefit. With a wealth of information at their fingertips and a range of media to acquire information, students are not trained to be discerning users. The thrust on completing prescribed syllabus and competing for exam scores leave little time to use Internet creatively or for expressing their own ideas. Commercial newspapers, which generally give some platform for the kids have limited space. Broadcast media are even further inaccessible for children. Thus, media available to children for fulfilling their expressive needs and offering a two-way successful communication are very few.

From exploring diverse information to starting a newsgroup of their own, the Internet gives young people a varied choice for expression of their ideas. However, for this access is a key factor. Even after access is granted the 'appropriate' and responsible use of 'that' access is of utmost important. Therefore, we must emphasize that the development of the communication network is essentially a human process, not merely a technological one.

Rationale of the study:

Looking at all the above points in a proper perspective we can say that there is a need to channelise internet to empower the human resource at hand in the form of young students. It is not just the physical use of the medium but generating appropriate content is equally important. Having the technology and accessing it effectively are two different things.

Today much technology and infrastructure can be established. However, the ability of the individuals to use the medium for their freedom of speech and expression has to be cultivated. It takes great amount of effort in terms of training people, to use the technology and sustaining its use for further growth. There is clearly a need for avenues that fulfill all the expressive needs of the children and to make them proactive global citizens confidently expressing their voices.

An online magazine is one such medium that fulfills this need as it offers virtually unrestricted expression of their ideas. With its speed, global reach and the power of instant feedback it makes for a complete communication channel. Normally in small towns like Kalol, students have very limited opportunities for exposure to new technologies and for exploring their own potential.

By helping these children understand the appropriate use of Internet we can certainly hope to make them more responsible and open towards themselves and society in general. Thus, there is a need to undertake a study that analyses the development and use of on-line magazine for proper content formulation and message delivery mechanism that results in enhanced communication.

Objectives of the study:

1. To help children conceptualize and develop an on-line magazine.
2. To study changes in skills and confidence of children as communicators because of the experience of developing an online magazines.
3. To study the audience response to the online magazine.

Delimitations of the study:

Twenty-three students of class sixth of Amrit Vidyalaya, Kalol is the study sample. The selected sample is of children aged eleven to twelve years residing in taluka headquarters (Kalol town) and having modern facilities of a full-fledged computer lab. Thus, results are generalisable only to a comparative study sample with similar setting and facilities. The results cannot be generalized to all schools of Kalol. As the sample size of the study is small,

proper care needs to be exercised in drawing any generalizations from the study.

REVIEW OF LITERATURE

The researcher initially browsed through bibliographic indexes and dissertation abstracts but it was only on the Internet, that the researcher found some relevant literature. Action projects were available more than pure research projects and systematic documentation was found only in few websites.

Three websites namely www.thinkquest.org, www.galileo.org and midlink online magazine(www.ncsu.edu/midlink) are cited. All the cases cited in the paper are websites that the researcher found similar to the study undertaken.

The above-mentioned websites mainly focus on students' interaction and experience of building a website. They generally deal with a particular educational theme. There is no mention that these projects are formal research projects. Nevertheless, they are valuable references for this particular study.

ThinkQuest website is a collection of websites made by students of different age groups. The students are selected from all over the world and are assigned guides for that particular project. The guide supervises the progress of the students and assists them in executing complicated ideas through the medium of a website.

Midlink is another such magazine. The British Broadcasting Corporation (BBC) has included Midlink magazine in the Childrens' section, of its Internet guide. In December 1996 the website was selected by World Wide Web Associates as a top ten winner. It was also selected by Lycos, a search engine as a top five percent website.

METHODOLOGY

A single group Pretest-Posttest Design is used for this study. It involves two measurements, one before a treatment (X) and the other after the treatment. The change in the scores of pretest and posttest gives us the level of gain after the treatment. The design falls into the category of a quasi experimental design where

- ▣ We take the group as it exists and treat it as a treatment group and
- ▣ There is no control group

This design is commonly used for program evaluations where the goal is to determine the effectiveness of a particular program. Moreover, it is also used to supplement ongoing qualitative aspects of a pre - post design. It has been used to cause minimal disruption in the school structure and its schedule.

Sample:

The purpose of the study made the researcher to adopt a natural sample. A natural sample is the one, as it exists in the natural setting. Here the design does not use random assignment and random selection for the sample population.

Students of standard sixth aged between ten and eleven of Amrit Vidyalaya, Kalol were chosen for the purpose of the

study. The natural sample contained 23 students consisting of seven girls and 16 boys.

Kalol lies in one of the most backward districts of Gujarat, the Panchmahals. Panchmahal Steel Limited, a corporate business house supports Amrit Vidyalaya. The school has a good computer lab and many modern facilities that are a rarity in other schools of Kalol. Thus, Amrit Vidyalaya gave the researcher an opportunity to study children in a rural setting with urban facilities.

Research tools:

All the tools were developed by the investigator as no appropriate tool were readily available.

The students were asked to fill up a 'Background Questionnaire', which was used to collect information about the independent variables. The questionnaire had a mix of open ended and close-ended questions. It was observed that, the students were not very responsive during the very early stage of research. Therefore, the answers to the questions that were not clear in the questionnaire were collected by a short informal interview.

Keeping the age of the students and context of the study in mind, the students were given an essay to write in the class. The theme given to them was 'My Online Magazine'(Essay pre). This topic was particularly chosen to

get their perspectives, views and ideas about the way they envisioned and thought about the entire project. It also helped to evaluate their writing skills, style of expression and command over English language. All the essays were assessed and evaluated by the researcher on four criteria namely grammar, vocabulary, originality and creativity in ideas and substance about the magazine. More weightage was given to the latter two as they were found to be more vital to the objectives of the research.

The computer test was devised to test their ability and knowledge about computers. The test was divided into two parts called CT-1 and CT-2. Computer Test One (CT-1) was designed to test existing knowledge about computers and other basic softwares. Computer Test Two (CT-2) dealt with the students' general understanding of the Internet. Parts of the questions for the computer tests were taken from the course book of National Institute for Information Technology (NIIT) for sixth grade students. The other questions were devised by the researcher with the guidance of the computer teacher of the school and the researcher's guide.

The data collection was organized in the following three phases: conducting the pretests, administering the treatment and conducting posttests. Qualitative data

collection was carried out throughout the period of experiment.

The 'Background Questionnaire' and the computer tests were tested on two sixth standard students of Baroda High School, Vadodara.

Respondents found it easier to select answers from the multiple-choice question but had difficulty answering too many open-ended questions. Hence, some open-ended questions were reframed as multiple-choice questions in the background questionnaire.

The respondents found the computer tests very simple, but at the same time, they could not answer three open-ended questions properly. So two open ended questions were reframed as multiple-choice answers and only one was retained. The researcher took care to frame a range of questions which could be answered by an above average student as well as a below average student. The questions were selected and framed depending upon the level of difficulty. Care was taken to have a good mix of easy and difficult questions.

After the above-mentioned process, the pretests were administered on the 23 students of Amrit Vidyalaya, Kalol on 21 July 2002.

The treatment:

After completion of the pretest, the students began the next phase. Here they were exposed to various issues and skills related to website development and communication by the researcher. For the content of the magazine many brainstorming sessions were held. The inputs during the treatment can be classified and briefly stated as follows:

1. **Lecture sessions:** In the lecture sessions the students were given a theoretical understanding of the working of a computer and the Internet. The lectures were devised and delivered by the researcher himself. Other teachers were also consulted before starting with the lecture sessions.
2. **Reader - a small compilation:** A small twelve page reader titled 'Internet' was distributed among the students. The compilation is a chapter taken from the course book of Aptech computer education. The contents of this compilation were brief and simple for the level of sixth standard students. It also had some good examples, which the students could relate to.
3. **Web development procedure:** Towards the end of the theory sessions a brief explanation of the entire web development procedure was demonstrated to the students

using a television screen attached to a personal computer. The students took notes during these sessions.

4. Content development: Initially students made a list of topics they wanted to cover through the magazine. The list was grouped under various categories. They further refined the categories and finally arrived at the categories of poems, stories, facts, jokes and brainteasers.

5. Practical exercises: Practical experience was given to the students by giving them some elementary exercises that had been demonstrated in the theory classes. Major doubts were clarified at this stage. They were explained the various practicalities of developing and saving their work systematically in the computer during these hands-on sessions.

A small workshop on preparing publicity material and advertisements for the online magazine was also held. Students came up with interesting print, radio and television ads for their magazine.

6. Actual hands-on work for online magazine production: Students wrote and typed all the content for the online magazine. They scanned pictures, formatted the text and graphics, and did the layout for each of the

pages. The students had some difficulties at this stage, but the researcher was always available to attend to their problems.

The posttests:

The posttests were conducted in a similar manner as were the pretests. The same computer tests CT-1 and CT-2 were administered. The students were also given an essay to write entitled 'My entire experience of developing Amrit online magazine' (Essay post). The background questionnaire was not administered at this stage.

Recording of Qualitative data:

From the day of the first visit to the school until the end, the investigator maintained a record of observations. It included recording students' behavior informal chats among students and with investigator during lunch and tea breaks; teachers' comments; and the overall atmosphere of the each session (whatever the investigator found striking from his subjective angle).

Photographic documentation was also done.

DATA ANALYSIS

Each respondent in the sample was given a roll number as his numerical code. The students saved all their work in the computer with the roll number and the name of the file. This helped the investigator to quickly evaluate the work and reduce subsequent bias.

Paired samples t-tests values were computed from the pretest and posttest scores. Moreover, other statistics like measures of central tendency, correlation coefficients and range were computed for CT-1, CT-2, essay (pre) and essay (post). Statistical Package for Social Sciences (SPSS) was used for data analysis.

Feedback is one of the important components of any basic communication model. An evaluation questionnaire consisting of six questions was administered to 24 students of class sixth of Baroda High School, Alkapuri in Vadodara city. Before administering the evaluation questionnaire students were asked to browse the website and read the magazine carefully.

RESULTS

1. The computed t-test value of -5.298 for CT-1 was found to be 'significant' at 0.01 level of probability and 22 *df*.
2. The computed t-test value of -0.711 for CT-2 was found to be 'not significant' at 0.05 level of probability and 22 *df*.
3. The computed t-test value of -0.973 for Essays was found to be 'not significant' at 0.05 level of probability and 22 *df*.
4. The overall difference between the means of before and after scores was positive in all the three t-tests.
5. The students clearly state they disliked the theory sessions and like the practical sessions. Majority of the students agreed they had learnt lot from the project.

In the evaluation of the www.amritvidyalaya.org website majority of the students liked the content, graphics and the overall design of the magazine. Many suggestions about improving the magazine were given.

There is a clear indication that almost all students think that the content of the magazine is appropriate for them except two students. In addition, a large number of students think that the website is good in design.

Content and Graphics top the list as the most appealing things about the website. Evaluation of the website suggests that majority of the students judged the graphics in the website as good. However, more students favored content over graphics.

CONCLUSION AND RECOMMENDATIONS

Statistically the effect of the treatment, though very small, is positive in all the three tests performed. Moreover there is a direct indication from students' writings, that the treatment did have a positive impact on them. Although it cannot be concluded for certain that it was the treatment alone that caused this change. Moreover students found themselves more skillful and confident as communicators, as inferred from their essays (post). Their excitement and a sense of achievement on launching of the magazine were palpable and contagious.

The experience clearly showed that given access and guidance the children in rural and small town areas are capable of using new technologies creatively and would benefit by them.

Statistical analysis may or may not show changes at conventionally accepted significant levels but it is an inadequate tool to evaluate the complex thought process of students. Even if statistical analysis shows a significant difference the change could be short lived. On the contrary, it is possible that the seeds for change may get planted but yet not manifesting in the immediate statistical evaluation.

The issue of sustainability of the magazine is of prime concern and importance. As trained students move ahead to further classes, the incoming new students need to be trained again. For this purpose a proper teacher-training program that deals with use of ICT in education and development is an urgent requirement.

For this purpose, a program on the lines of ThinkQuest for Tomorrow's Teachers can be developed and skillfully adapted to local conditions. ThinkQuest for Tomorrow's Teachers (T3) is a teacher-preparation program that is funded in part by a 'Catalyst' grant from the U.S. Department of Education's Preparing Tomorrow's Teachers to Use Technology (PT3) initiative. The program committee works closely with a growing consortium of colleges and universities to help prepare a new generation of classroom teachers to meet the needs of 21st century learners.

Such a program will not only ensure the sustainability of the magazine but will also enhance teaching and training skills of teachers. An additional advantage would be of greater interactive learning.

The use of a communication medium can be as diverse as our thoughts. An effort should be made to use the Internet and the World Wide Web as a medium that expresses greatest diversity in every sphere of life. The information and

communication revolution has much to do with the realities and aspirations of everyday people.

On a broader scale the success of the Information and Communication Technologies (ICTs) should, less be measured in terms of sheer numbers of connected individuals, and more so in terms of accessibility and contribution to social progress.

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