Journal of Software Engineering Research
Jan-June 2011, *Copyright © Mind Reader Publications*
www.journalshub.com

Impact of Information Technology on Rural Students in Puducherry Region

T. Uvaraj
Junior Research Fellow
School of Education
Pondicherry University
Pondicherry

Abstract

This Study explores the Impact of Information Technology on Rural Students with a spoke model of data-cum-voice communication in a group of four villages in the Kalapet Commune of Pondicherry Union Territory. The Researcher invoked one main center and sub-centers in all the selected villages, supported with computer and provides connectivity to the Internet through dial-up telephone lines. The field worker in the selected villages creates locally useful content and the queries of the students of the selected villages are collected and transmit the information to the Center. An important feature of this Impact Research is the giant sense of ownership that the students and the involvement of the village communities have developed towards their quires to the center. The other key feature is the active participation of rural women in the management of the village center as well as in using it. An ideology of close guidance and consultancy between the Research and the rural student users has been evolved and the information is realistically assessed. Quantitative data are collected and arranged chronologically. On the whole, the impact of the village students has been positive in the usage of he centers supported with technology. There is also significant development in the usage of the technologies to communicate the quires to the center.

Key Words: Information Technology, IT Center, Internet, Voice Recording.

Information and communication technologies (ICTs) were found to have great potential to contribute information sharing. An International Rural Development in 2002 conducted an analysis of the range of issues involved in the rural students and rural communities' development. The discussion concluded that ICTs would have a major role to play in promoting sustainability in rural development in the developing world. To facilitate the sustainability in the rural areas, it is decided to implement the technology awareness and usage especially in the young minds of the future society. The goal of the researcher is to make the rural areas to get access to the modern technologies and keep pace the modern ways of sharing the information. The approach to disclose of new technologies in rural areas is to disprove: "whatever a poor family can gain benefit from, the rich can also gain benefit; the reverse does not happen". Thus' the use of ICTs was considerer essential for the success of rural development. The other critical issue was the need to involve rural girls to get access the modern technologies and benefit from them.

Objectives of this Study

- To enable rural families access the modern information and communication technologies.
- Training educated youth, especially girls, in rural areas.
- Training the rural youth in the organization and maintenance of a system.
- Conducting impact assessment based on surveys, rural appraisal, and other appropriate methods of data gathering.

Methodology

All activities were preceded by a set of detailed surveys of the rural schools in the selected villages for incidence of poverty, status of literacy and education, and the state of telecom infrastructure. It has been found that only 10% of the resident population were accessing to the computers. These reveal the digital gaps between the rural and urban. The clear picture of the rating of various information sources by the rural students and communities was also generated.

Participatory rural appraisal (PRA) was used as a method to identity information needs in the rural areas. PRA was also used to assess how far the community was willing to go in for accessing the local center.

Technology for gaining access to the Internet was based on a hybrid of 2-way VHF radio and the wired public telephone network. This approach provided an integrated voice and data communication capability. Through intercom every village center could be connected to this hybrid network. The master wireless system was placed in the main system. Dial-up accounts to the Internet were also established here. This was made the researcher to interface with the villagers. Village centers were set up in places where the community offered secure space, free of cost. All the selected villages are on the coast with 98% of the population involved in fishing. The total population of the 4 villages is approximately 3020 with about 47% illiteracy. The names of the village centers are: Kalapet, Chinnakalapet, Pillyachavadi and Kanapathy Chettykulam. A register is used to log use of the center by the local residents. Training was also imparted in basics of management, and in handling queries from illiterates.

Training Details

- Average time for gaining familiarity with basic operations 2 weeks
- Time taken to transact data on wireless 3 sittings
- Time taken to gain preliminary knowledge of HTML 1 week
- Word 2003: 2 days
- PowerPoint 2003: 1 week
- Use of Win 2003 keyboard for Tamil Fonts 10 days

The Researcher conducted the training programs and helped generate a number of locally relevant databases. They also provide the equivalent of a helpline for the village operators in training related issues. A considerable part of information is accessed from the local sources, on the web or otherwise. A critical portion comes from the web, from national and international sources. All of them are transformed into locally useful material, in format (voice/digital audio, in some cases) and in language (Tamil, spoken by 98% of the population).

Results

The value addition center in Kalapet and centers in 4 villages have been fully functional with activities related to information dissemination, data provision and feedback collection. The number and type of users in these centers are provided below:

Total Number of Users	:	15651
Females	:	2832
Asset less Families	:	4571
Illiterates	:	392
Persons below 14 yrs age	:	4421
One-time users	:	3674

It is significant to note that asset less; ultra-poor families are among the major users. About 18% of the users are women, which is much higher than the proportion of women users in village public reading rooms (less than 3%). This combined figure also conceals the fact that the proportion of women users in older centers is much higher. These two results are indicators of the success of the project approach emphasizing the participation of women and the asset less families. The pattern of usage indicates those educational purposes (such as use of CD-ROMs) and accessing government sector data are the two most important uses of this system.

Conclusions

- Development entrepreneurship fosters sustainability
- Pro-active intermediaries with minimal skills accelerate success
- Empowering beneficiaries has its own value
- Technology won't achieve empowerment alone
- Sensitivity to the context should be positively prescribed
- Success is a moving target, so our aim should be flexible
- Global concepts have local application when sensitively applied.
- Evaluation is time-sensitive, patience is a virtue
- Replications of principles are superior to replications of practices
- New knowledge is still needed.

The main issue of research relates to sustainability in a context where most users tend to be ultra-poor. Formation of partnerships between local bodies and the local administration appears to hold the key. Development of applications, such as an online system for community banking, will contribute to the economic sustainability of the operations. This has prevented applications-oriented services from being offered at low cost. There is hope that all this is set to change soon.

References:

[1] Butterfield, W. (1998). Human services and the information economy. Computers in Human Services, 15 (2/3), 121-143.

[2] Crook, W. & Brady, M. J. (1998). Computer-assisted instruction in the classroom: using a web shell. Computers in Human Services, 15 (2/3), 193-208.

[3] Folaron, G. & Stanley, M. (1998). Integrating library research skills into the BSW curriculum via e-mail. Journal of Teaching in Social Work, 17 (1/2), 3-14.

[4] Forster, M. & Rehner, T. (1998). Part-time MSW distance education: a program evaluation. Computers in Human Services, 15 (2/3), 9-22.

[5] Freddolino, P. P. (1998). Building on experience: lessons from a distance education M.S.W. program. Computers in Human Services, 15 (2/3), 39-50.

[6] Jennings, J., Siegel, E. & Conklin, J. (1995). Social work education and distance learning: applications for continuing education. Journal of Continuing Social Work Education, 6 (3), 3-7.

[7] Miller-Cribbs, J. E. & Chadiha, L. A. (1998). Integrating the Internet in a human diversity course. Computers in Human Services, 15 (2/3), 97-110.

[8] Roosenboom, P.G.M. (1995). Solving the problems of computer use in social work. Computers in Human Services 12 (3/4), 391-394.