An outreach venture: bringing computer literacy to rural women in Malaysia

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Abstract

With each IT/ICT development, the digital divide grows wider between the information "haves" and the "have-nots". In the effort to narrow the gap and to facilitate the adoption of ICT by rural residents, an outreach training course through the Community Communications Development Program was initiated to provide hands-on training in computer literacy to cultivate interest and appreciation in the importance of ICT knowledge and skills.

The training was conducted on-site using a mobile unit equipped with 16 computers and peripherals, and was stationed in a selected area for 5 days. Training was divided into morning and afternoon sessions with 15 trainees per session to provide them with one computer each. The men attended the morning session, and the women the afternoon sessions. They were taught for a total of 16 hours on how to operate a basic computer system, Microsoft Word and the Internet facilitated by 3 trainers. The participants had little or no knowledge on IT/ICT and many had never touched a computer before. At the beginning the women had more fear due to their lack of confidence in handling the so-called sophisticated machine than their male counterparts. Compared to the men, women took a longer time to learn keyboarding skills but they had more patience and stronger learning perseverance. There was no difference between rural men and women in terms of attitude and willingness to learn and use the new technology.
Keywords: gendered digital divide, computer literacy, rural women, mobile training, community communications development program.

1 Introduction

The development in information technology (IT) and the convergence between information and communications technology (ICT) and multimedia has brought

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about many changes and new approaches in the way people work, conduct businesses and communicate. With each ICT development, a phenomenon called the 'digital divide' grows wider. The digital divide refers to the disparities between the "haves" and the "have-nots" in terms of the availability of and access to information and technologies. Digital divides exist both within countries and regions and between countries. It transcends locality, race, gender, age, language, culture and religion.

The digital divide affects a large number of the remotest villages which will have no chance of tapping into the global store of knowledge in Malaysia. Thus the digital divide describes the gap caused by various factors, between those who have access and those who do not have access to computer facilities, information literacy or even basic computer literacy skills. Women in general have a lower literacy rate and most are in the deepest part of the divide, so are thus further removed from the information age than men whose poverty they share.

More and more concern is being shown about the impact of those left on the other side of the digital divide because the restrictions will be magnified as the progress of IT enhancement accelerates.

2 ICT development in Malaysia

Malaysia has made an enormous inroad into the digital society to advance its economic and social development. The efforts, included among others, the creation and reinforcement of enabling environments such as a rapid investment expansion on IT infrastructure and the installation and integration of national IT development strategies into its overall economic and social development plans. The use of IT for development poses great expectations and challenges for the country because IT is not simply a series of technological advancement and innovation for enhancing the material well-being of people but may open up a new horizon of human civilisation which promises society further improvement in economic, political, social, cultural and spiritual dimensions.

In terms of the extent of ICT usage, both personal computers (PC) and Internet penetration are showing phenomenal rates of growth from 610,000 and 18,000 subscribers in 1995 to 2.2 million and 1.5 million in 2000, respectively (see Table 1). PC ownership in 2003 was 4.2 million which accounts for 16.7 percent of the total population of 25 million while the number of internet subscribers and internet users increased to 2.1 million and 8.4 million, respectively in 2003. The Malaysian government's pro-IT policy also helps play a big part in taking the campaign forward: for example, the big drive towards computer ownership under the slogan "one home one personal computer", and the songs being aired over national television networks and radio stations, promoting the needs of harnessing IT. Everybody seems to know the word IT.

Access to a computer is known to be associated with higher level of computer literacy (Gattiker and Hlavaka [5]) and, as shown in Table 1, the growing numbers in computer ownership, Internet subscribers and users certainly suggests an increasing level of computer literacy in Malaysia. Expectedly, computers are used mostly for word processing and Internet browsing and the

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Internet users in Malaysia are mostly young males and urban dwellers belonging to the middle class and above, working in both public and private sectors**.**

Table 1: Selected ICT indicators 1995 and 2000.

Indicator	1995	2000
Newspaper circulation per 1000 population	162	159
Telephone lines per 1000 population	161	204
Telephone subscribers	3.33m	4.65m
Personal computers (units installed)	610k	2.2m
Personal computers per 1000 population	29.5	95.7
Mobile phones	873k	5.1m
Number of Internet subscribers	18k	1.5m
Number of Internet users (Source: Eighth Malaysia Plan)	30k	6.0m

Of course there are also many definitions of computer literacy (Mitra [8]; Loyd and Gressard, [7]) with some being either too narrow or too broad. For example, Mitra [8] defined computer literacy as amount of computer knowledge acquired in the past and the length of computer usage, while the measure of computer literacy level by Loyd and Gressard [7] includes the amount of time spent on the computer, computer ownership as well as the number of computer courses taken. In this paper, computer literacy refers to computer experience and use, and computer knowledge acquired through formal or informal training.

3 Gendered digital divide

Why should ICT and IT discriminate against women? One obvious reason is that IT is seen as very hardware based. The computer is a sophisticated machine. The language of technology both reflects and shapes culture contributing to and sustaining gender disparities in relation to participation (Cukier et al. [3]). Research has shown that males dominate in the use of computers (Geissler and Horridge [6]). Even in a situation where male and female are given equal access men are more likely to be the main computer user than women (Becker and Sterling [1]).

The other problem that is faced with the gendered digital divide is the training on use of the technology. Women may have the hardware but they have the most trouble with using the software. It is still widely thought that older people are naturally wary of computers and that women lack the interest to learn. In many cultures, when training is available, it is directed at men only or the emphasis remains upon the male. Computer games were designed by and for males resulting in boys and men getting more computer experience. Women have additional handicaps. It takes time for them to learn keyboarding skills and often at home the husband and children get the right to access the keyboard before them. At a higher level, Busch [2] found that among undergraduate students, not

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only had male students had more computer experience in programming and computer games than female students, they also had previously received more encouragement from parents and friends. Furthermore, much of the discourse regarding IT still equates IT with computer science and electronic engineering, which tend to be male dominated. This has the effect of reinforcing and perpetrating the exclusion of women (Cukier et al. [3]).

Recognizing the importance of ICT as a medium for gathering and distributing shared knowledge, gender equity must be embraced in all facets of life if the new IT is to be fully effective. It is important that women have equal access to IT, thus there is a need to address to the pressing need for and possible avenues to turning the digital divide into digital opportunity through digital bridging.

4 Bridging the digital gap

To help promote access to communications and internet connectivity to the rural areas, the Malaysian Communications and Multimedia Commission (MCMC), the regulator for the converging communications and multimedia industry, includes in its mission the Community Communications Development Program (CCDP).

The objective of the CCDP is to increase communication access to network services and facilities to underserved areas that will not only enable the local communities to help narrow the digital divide, but also provide the local economic activities to be marketed via a new medium, that is over the World Wide Web. While the CCDP is fully funded by MCMC, its development and implementation involves a collaborative effort between MCMC, local councils, state governments, and NGO's. The program coverage is nation wide beginning with the state of Perak, which was officially launched sometime in mid 2003 under the Kedai.Kom projects. Kedai is a Malay word for shop and there are altogether 54 Kedai.Kom sites in this state equipped with high powered broadband Internet access via VSAT satellite dish. The sites are selected within a five kilometre range of the nearest town or village with an active community but which lack communications access, and a strong and active Village Development and Security Committee to ensure success and sustainability of the program.

Each Kedai.Kom is provided with 5 PCs, telephone, a printer, and is managed by an operator, selected from among the local entrepreneurs. The operator is required to provide a safe and comfortable shop/premise with constant electricity supply to place the computers and related equipment. All operators are required to attend training on how to manage the Kedai.Kom, conducted by MCMC in collaboration with the service provider and training provider prior to opening their Kedai.Kom. The service providers commissioned by MCMC are Time.Com and Maxis Communications for providing and maintaining the infrastructure and hardware, and The Foundation for Women's Education and Vocational Training, an NGO, for conducting the training of the operators as well as the local residents at their respective villages.

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The ultimate objective of the implementation of the CCDP is for the local communities to own the project, thus each Kedai.Kom would be considered a success only if it is fully utilised by them, and service providers, support the project with quick response so that the Internet access is always available. A necessary requirement for this active participation begins with training in computer literacy that cuts across gender and generation.

4.1 Outreach training program

For each of the 54 Kedai.Kom sites, the training for the rural communities consists of various phases over a period of 5 years. This presentation only covers the first phase of the training program which aims at providing exposure to the world of computers and ICT, as well as cultivating interest and appreciation on the importance of ICT knowledge and skills. For each training site, a mobile unit equipped with 16 computers and peripherals is stationed in a selected premise, usually a community hall, for 5 days. Training is conducted in two sessions, 15 participants for the morning and 15 for the afternoon session so at to provide one computer for each person. They are taught on how to operate a basic computer system, Microsoft Word, Internet, E-mail and Homepage with the use of an LCD projector, assisted by 3 trainers, for a total of 16 hours. Participants are awarded a certificate of attendance at the end of the training period.

At the beginning, when registration was on a first come first served basis, there were very few women participants. And even among those who had registered, they would not come at the slightest excuse or they would replace with their schooling sons or daughters at the last minute. Although both men and women had no computer knowledge or experience, and for many of them it was their first close encounter with a computer, the women showed more fear of working with the PC. Compared to the men the women were a shy lot and had much lower confidence in using the computer. Realizing that the problem could be due to the mixing of gender in the same session, the training group was separated accordingly, the morning session for the men and the afternoon session was reserved for women. The timing was perfect because the women would have completed their family duties and house chores by about noon. The learning content for the women was also modified to include cooking recipes, and fashions which appeal to them. The response was very encouraging and through word of mouth both sessions were equally full in terms of attendance and sustainability throughout the five day period.

5 The outcomes

Since the launching of the Kedai.Kom about 1,500 rural folks have received basic training in computer literacy, of which almost half were women. Among the 54 Kedai.Kom operators, 11 are women which make up about 20 percent. From the observations made at the few training sites, consisting of 131 male participants and 120 female participants, it was found that the women were shy at the beginning and took longer time to learn to use the computer than the men,

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but they showed stronger learning perseverance and longer concentration span. The participants range from 16 to 65 years with the respective age groups shown in Table 2 and the majority of them had not gone beyond secondary schooling.

At the end of the training, participants were asked to fill an evaluation form which contains, among others, three questions relating to their understanding of the course and competency in using the computer. The participants were provided with a rating scale of 1 to 5, 1 refers to the lowest rating and 5 the highest. The result shown in Table 2 indicates that the participants rate themselves quite high in terms of their understanding of the topics taught, confidence level and interest, as well as their willingness to use the knowledge and skills. There is no significant difference between male and female participants although higher means for the female are observed on two of the questions.

It was also found that the favourite topic among women is the application Microsoft Word where they prepare recipes using the different fonts, Word Art and Clip Art and send it to another fellow participant as an attachment via email. Among the male participants, browsing through the Internet to search for sports websites and news seem to be their favourite part of the course. It is encouraging to see that more than fifty percent of the rural men and women who attended the training are in the age groups 35 years and older, and almost all of them indicated that they would like further training to enhance their knowledge and skills in the use of computers and information technology.

Table 2: Outcomes of computer literacy training.

Variable/question	Male N=131	Female N=120
Age: 16-24 years	35.9 %	29.2 %
25-34	19.8	17.5
35-44	18.3	21.7
45 and above	26.0	31.6
(Rating scale: 1 = lowest, 5 = highest)		
How do you rate your understanding of the topics taught?	4.08	4.16
Has the training increase your interest and confidence in using the computer?	4.20	4.48
How do you rate your willingness to use the knowledge/skills in the future?	4.10	4.06

6 Conclusion

Bringing information access and connectivity to the rural community is the only way to help bridge the digital divide between the information ‘have’ and the ‘have nots’. There is no difference between rural women and men in terms of learning on how to use the technology, given equal opportunity. These rural

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women certainly have moved themselves well from kitchens to the keyboards. Although they took longer time to learn keyboarding skills and develop confidence, they showed stronger learning perseverance. IT had helped generate the kind of enthusiasm that money cannot buy.

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