



Using Telecentres in Support of Distance Education

KNOWLEDGE SERIES



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introduction

In India, distance education students at Indira Gandhi National Open University's Telelearning Centres learn through satellite-delivered telelectures and teletutorials, online chat with tutors and peers and course material on the Web.

In rural Uganda, the Nakaseke Multipurpose Community Telecentre uses information and communication technology (ICT) to collect and distribute indigenous knowledge of traditional birth attendant practices, organic farming and the medicinal properties of plants.

In Paraguay, the “Amic@s” telecentres provide basic and civics education in the poorest neighbourhoods of Asunción, allowing people – including street children – to email, videoconference, browse the World Wide Web and design web pages.

In the vast state of Western Australia, the 90-centre WA Telecentre Network supports secondary, tertiary and governmental distance education programmes, after-school homework clubs and ICT-based programmes for seniors.

In Canada, Community Skills Centres in British Columbia offer online training for managers, workers, teachers, emergency services personnel and small business.

Telecentres or “telecottages” are helping those at the margins of the knowledge economy gain and apply new understandings and skills. Telecentres may be seen as a socially responsive example of “think global, act local.” With an ever-growing dependence on technology, there is a danger of ever-increasing disparity in access to education, training, information, and employment opportunities. Telecentres act as an equaliser, allowing the disadvantaged to log onto a world of opportunity.

A BRIEF HISTORY

The telecentres movement began in the 1980s in Scandinavia, and has since spread to North and South America, Europe, Africa and Australasia. Some telecentres are networked; some have links to satellite centres, “tele-hubs” or mobile centres serving smaller communities within their regions; some are purely standalone. Most owe their origins to international donors such as UNESCO, the International Telecommunications Union (ITU), International Development Research Centre (IDRC) and the U.S. Academy for Educational Development (AED). Corporate donors include Siemens, Sagem, Ericsson and DaimlerChrysler. In Australia and Canada, federal or state government agencies also play a role. National partners are typically ministries of education and other government departments, colleges and universities, telecom providers and non-government organisations (NGOs). Local partners are either community

organisations or commercial managers who manage and fund the centres beyond the pilot stage.

Telecentres are still evolving and learning how best to serve their communities. Providing the technology is one thing. Forming strong partnerships, harnessing community support, ensuring quality educational services and placing everything on a sound business foundation are quite another. Readers wishing to learn more about telecentre management in general are referred to The Commonwealth of Learning's *Telecentres: Case Studies and Key Issues* (www.col.org/telecentres).

telecentre TELECENTRE SUPPORT FOR DISTANCE EDUCATION

Telecentres bring knowledge and technology to the socially and geographically disadvantaged. They broker programmes and services with governmental, educational and private providers, or initiate these themselves. According to local needs and circumstances, telecentres provide:

- Non-formal adult and community education
- Counseling, enrolment, tutoring, library support, study support and examination supervision for formal accredited study
- In-service training for professionals and para-professionals, public sector employees, business and industry
- ICT training aimed at generating employment and business enterprise
- Government and community information and online news services
- Online discussion and working groups.

LOCATING & ACCOMMODATING THE TELECENTRES

The expectation is that local communities will provide accommodation for the centres. Telecentres need to be in high-profile locations near shops, markets or other places where people go about their daily business. They must be readily accessible to the disabled and to the elderly. In some communities they may be located in schools or libraries, but not everyone looks upon these places as welcoming; it is sometimes more appropriate to base them in shops, post offices, local government offices, community centres or childcare centres.

As some users may need to access the centres late at night or on weekends, entry should ideally be by swipe card or keycode, 24 hours a day, seven days a week. However, security issues may need to be weighed against issues of accessibility.

"WOMEN'S DAY" AT THE KUMASI TELECENTRE IN GHANA, RUN BY THE CENTRE FOR THE DEVELOPMENT OF PEOPLE. MORE THAN SEVENTY WOMEN FROM ALL WALKS OF LIFE ATTENDED THIS ONE-DAY EVENT. THEY WERE SHOWN ICT APPLICATIONS AND THEIR POTENTIAL BENEFITS FOR WOMEN, AND GIVEN FREE EMAIL ACCOUNTS AND AN INFORMATION PACKAGE ON CD-ROM OR FLOPPY DISK. MANY OF THESE WOMEN BECAME REGULAR USERS OF THE CENTRE.



RECRUITING AND TRAINING MANAGERS AND STAFF

A great deal depends upon the calibre of the telecentres' managers and the salaried/ voluntary staff. The managers must have good marketing, community liaison, entrepreneurial, financial and people management skills. The telecentre staff and the locally recruited or online tutors must be fully conversant with the educational philosophy and methods of distance learning. They must be sensitive to the learners' needs and skilled in providing ICT training, supporting the learners, and encouraging community enterprise.

Outside major cities, it may be difficult to provide training for the managers and staff; once trained, they may be tempted away to better salaries and working conditions. Nevertheless, it is essential that all staff be given initial training and then kept up to date on the latest ideas and practices. Staff may observe experts and best practice, access journals and books or study online. Local institutions and regional support groups provide courses and on-the-job training, and staff may take accredited programmes. For examples, see the e-skills National Training Organisation Publications list (www.e-skillsnto.org.uk/cgi-bin/e-skills.pl/publications.html) or the European Commission-funded Telmet project (www.telmet.org/small%20world%20training%20outline.htm).

TECHNOLOGY AND INFRASTRUCTURE

Telecentres provide wired, wireless or satellite connectivity and quality-assured portals to the global network. They are typically equipped with networked computers, Internet access and software for word-processing, spreadsheets, databases and multi-media learning. Common accessories include printers, photocopiers, binders, laminators, telephones, fax machines, radios, videocassette players and television monitors. Some are also equipped with CD-writers, scanners, data projectors and mobile phones.

To access the Internet, telecentres need:

- Computers or computer networks with modems (modem is a contraction of modulator-demodulator), to modulate the outgoing stream of digital data bits and make them compatible with the analogue telephone network, and to demodulate the incoming bit stream
- Dial-up PSTN (public switched telephone network) or faster PDN (public data network) connection, or a leased line with even higher bandwidth or bit rate (greater carrying capacity)
- An account with an ISP (Internet service provider), preferably one offering a PPP (point to point protocol) account for Internet/World Wide Web access by multiple PC (personal computer) users; a UUCP (Unix to Unix Copy) account (which enables the ISP to treat the mail account as a single entity and all emails to be centrally processed by the UUCP server); domain name registration (to give the centre its own unique web address); and web hosting (storing the telecentre's website on a server connected to the Internet, 24 hours a day, seven days a week).

Telecentres can provide affordable PC/Internet-based audioconferencing, audiographics (computer conferencing combined with sound) and desktop videoconferencing via PSTN. Where the infrastructure exists and the higher investment and connection costs can be justified, centres can be equipped for higher speed, higher performance ISDN (integrated services digital network) videoconferencing or one-way/two-way video satellite television.

In choosing technologies, it is important to carefully consider:

- Educational requirements
- Costs of acquiring, servicing and repairing the equipment
- Charges for the phone calls and Internet access (high costs will deter use)
- Quality of the power supply (Uninterruptible Power Supply or UPS is highly recommended)
- Compatibility with existing systems, and security.

Where universities, colleges, schools, hospitals, and government and other community organisations require similar services, it may be possible to share facilities and costs.

PROVIDING TRAINING IN THE TECHNOLOGY

Technology can enhance access, offer faster interaction and provide enriched learning environments. But it cannot empower those who lack the knowledge and skills to exploit it, or guarantee success in learning outcomes. Much time and effort is needed to build awareness of, and competence in, technology and its educational applications. Methods include open-house demonstrations, hands-on sessions and ongoing training in typing, file management, word processing, desktop publishing, emailing, conferencing and browsing the now estimated 1.3 billion sites on the Web.

First-time users need face-to-face and hands-on training. Most websites and computer applications are in English, so they also need the necessary language skills. Those who are less proficient may be partnered with the more experienced; those who are able and willing to learn independently, or with minimal supervision, may use self-tutoring manuals or computer programmes. Computer games, online chat with family and friends and casual Web browsing can also help familiarise users with computing. But there should always be someone to hand for those times when equipment and systems crash, confound or confuse.

CREATING EDUCATIONAL AWARENESS

Strategies for attracting people into the centres, showcasing facilities and services, and demonstrating learning opportunities include:

- Advertising through print media, radio, television and the Web
- Recruiting community leaders and opinion shapers, to spread the word
- Organising talks for local interest groups
- Mounting special events, such as "women's weeks" and open days
- Providing pay phones and library services
- Opening up book exchanges or newspaper reading rooms
- Offering free or discounted trials of the available technology.

Most people learn best when they are motivated and convinced of the relevance of the learning. Their attitudes to learning and technology may also be influenced by educational background, language, gender, age, health, mobility, social or employment status, income, or family circumstances. Many people need to be reassured that they can succeed. Online, resource-based or self-paced learning may seem quite intimidating to those whose only prior experience is the traditional classroom, where the teacher was the esteemed source of all knowledge and learners were expected to know their place. Some potential learners may have negative memories of their schooling, may lack self-confidence or self-discipline, and be deterred by the idea of taking ultimate responsibility for their education.





LEARNLINK, AED, WASHINGTON, DC

Women, however, have been found to be particularly effective in fostering community interest in telecentres and telelearning. They appear to have a better understanding of community dynamics and a greater ability to describe the opportunities and benefits of the services, simply and realistically.

ASSISTING WITH ENROLMENTS

Telecentre staff can guide would-be learners through websites and brochures that list courses and entry pre-requisites; staff can also help with filling in application forms (many of which are available online) for return by mail, fax, or the Internet.

SUPPORTING DISTANCE LEARNING

Distance education offers learners freedom in what, when, where and how they learn, but many first-time distance learners will not know how to deal with this responsibility. They will be unfocused in their aims and uncertain of their commitment. To avoid disillusionment and dropout, telecentre staff must be pathfinders along the unfamiliar road of independent learning. Staff can help learners cope with the technology, point out useful local resources and resource persons, encourage the formation of self-help groups and interaction with online teachers, tutors or trainers.

Technology can support virtually every aspect of distance learning:

- *Course outlines*, providing educational and administrative details, lecture notes, study guides and reading lists, delivered through print or electronically
- *Teaching material* and on-campus lectures, in print, on audiocassette, videotape, CD-ROM, satellite or the Internet
- *Independent and guided study material* in print, online, CD-ROM or audiovisual learning packages
- *Interactive lectures and seminars*, enabling learners to question and be questioned on their reading and assignments via audioconferences, audiographics or videoconferences
- *Assignment writing* facilitated by the advanced drafting capabilities of the computer, and *assignment delivery and feedback* via the Web
- *Tutorials and peer learning*, enabling learners to share their thoughts, experiences, findings and concerns in person at the telecentres or through audioconferencing, text-based/ video chat, electronic whiteboards (where there is need to share documents and graphics), computer conferencing or videoconferencing
- *Private study*, supported by quiet study areas within the centres – something learners many not have in their homes or workplaces
- *Library and database searches* through CD-ROMs and the Web, and *library and inter-library loans* arranged through email
- *Practical work and research* using computer and Internet-based simulations/case-based teaching and learning tools
- *Laboratory work, field studies and hands on learning* brokered with local schools, hospitals and other workplaces.

Technology can be used to import the best courses and course materials, reduce feelings of isolation in remote learners and create virtual learning communities. However, there are always technological or cost limitations to what particular telecentres can provide. Electronic delivery may be cheaper and more convenient for providers and more speedy and reliable for the end user, but the Internet connection costs or costs of printing downloaded copy may be too heavy a financial burden for some telecentres and learners. Asynchronous online interactions may suit those who can only log on at particular times, but the group dynamics and pacing is quite different from face-to-face environments; learners will need constant reassurance that any confusion experienced is part of the process.

FUNDING PROGRAMMES AND SERVICES

Achieving financial sustainability is one of the greatest challenges faced by telecentres. Education and training are sound investments for the individual and for society, but in most countries the expectation is for institutions and learners – rather than governments or the general taxpayer – to bear all or most of the costs. This is a very significant issue in poorer countries and communities. Whether seed funded from public or private sources or operating as public-private partnerships, telecentres need sound business and financial planning to ensure that they can meet ongoing costs. These include salaries, consumables, telecommunications charges, equipment maintenance and upgrading. A balance must be struck between cost recovery for self-sufficiency, and affordability for maximum participation.

Telecentres can generate income by:

- Charging partner and provider organisations annual or per capita fees for use of facilities
- Undertaking fee-for-service ICT training, product development or service provision for public and private agencies
- Obtaining grants for community development or job creation programmes
- Operating community, family and individual membership schemes, and charging non-members for their use of the telecentre.

Telecentres can share infrastructure, development and support costs, achieving economies of scale by partnering with government agencies, NGOs and community associations, educational and health providers, or business and industry. They can also provide programmes and services for multiple target groups; for example, some African and Canadian telecentres cooperate with hospitals in providing telehealth and telitraining services.

FOLLOW-UP LEARNER FOLLOW-UP

Most learners expect to improve their work performance, prospects, or opportunities for further learning. Telecentres can assist by advertising jobs and courses, arranging for work experience opportunities, and by encouraging ICT-based enterprise or "teleworking." Sometimes known as telecommuting, teleworkers use computers, phones, fax and the Internet to market and provide services

telecentres



WA TELECENTRE NETWORK

THE COMMONWEALTH OF LEARNING

THE OGERUP TELECENTRE SERVES A COMMUNITY OF 400 PEOPLE IN WESTERN AUSTRALIA AND IS PART OF THE WA TELECENTRE NETWORK. PRIOR TO ITS OPENING IN 1998, THE ONLY AVAILABLE PHOTOCOPIER WAS IN THE LOCAL PRIMARY SCHOOL, THOSE WANTING TO LAMINATE DOCUMENTS HAD TO TRAVEL 175 KM TO THE NEAREST LARGE TOWN, MOST DISTANCE EDUCATION STUDENTS HAD NO INTERNET ACCESS, AND THOSE WITH HOME COMPUTERS HAD TO MEET HIGH CONNECTION CHARGES. ALL OF THESE PROBLEMS WERE RESOLVED WITH THE OPENING OF THE CENTRE.

for customers or employers in far off locations. Common applications are word processing, desktop publishing and printing, Web and multi media design, software development, abstracting, editing and proofreading. Also common are data input, bookkeeping, accounting and invoicing, as well as operating call centres, booking agencies or translation services. These activities entail flexitime, part-time work and job sharing, and may be based in the telecentres or at people's homes and other places of work.

MEASURING SUCCESS

If there is one major weakness in the telecentre movement, it is the limited amount of formative or summative evaluation. It is vitally important that telecentres conduct community surveys, organise focus groups and seek feedback from learners, stakeholders, education and training providers. They should also monitor costs and usage to ensure that the centres are:

- Overcoming social, economic, cultural and geographic barriers to learning
- Cultivating responsive links with, and meeting the needs and expectations of, their communities and other stakeholders
- Brokering supply and demand in education and training
- Increasing awareness of, and access to, ICT and other educational and training resources
- Integrating modern, ICT-based communications with more traditional ways of communicating
- Fostering lifelong learning, ICT competence, and capacity for change

In order to:

- Achieve quality and equality in product and service delivery
- Encourage self-development and enhance job prospects
- Make an impact, economically, socially or politically
- Be cost-effective, cost beneficial and sustainable.

Telecentre performance should be measured against the terms of memorandums of understanding, contracts, or resource and performance agreements. This information must be shared with all stakeholders through annual reports, to publicise achievements and gain support for improving policies, resources, programmes and services.

CONCLUSION

It is vital to ensure that learning and information are available to all, regardless of user circumstances; community-based telecentres can provide people with the information and literacy skills to maximise

their learning opportunities. However, telecentres should not be seen as a quick solution to every social or economic problem. Telecentres must be carefully designed according to established needs, sound business planning and realistic expectations of what can be achieved within a certain timeframe.

As telecentres have to operate with tight budgets and under difficult circumstances, partnerships with public, private and community organisations are often the most beneficial and sustainable. These partnerships help justify the costs of equipping, managing and operating the centres with a wider range of programmes and services, and help ensure that the managers, staff and volunteers are appropriately trained.

Although establishing and gaining acceptance and support for telecentres can be a slow and frustrating process – particularly in communities with little or no tradition of self-development, education or technology – an established telecentre will succeed in providing distance learning support if it has:

- A people-oriented developmental, rather than a technological, focus
- Active, influential management committees and entrepreneurial managers
- Clearly defined target groups, measurable goals and performance standards for enhancing learning
- A sound business plan
- Strong partnerships with government, NGOs, education and training providers and businesses
- Locations and opening hours suited to the target users' lifestyles
- Well-maintained, durable and user-friendly technology
- Stable and reliable telecommunications and power supply
- Affordable programmes and services matched to community needs
- Well-trained and appropriately acknowledged managers, staff and community volunteers
- Ongoing monitoring of programmes, services, costs, revenue and usage
- Regular accountability reports to stakeholders.

Telecentres are essentially about linking resources, knowledge and people without physical proximity. Telecentre support for distance learning will be most effective where they are connected in a unified, coherent and innovative national or regional system for educational and social reform.



Knowledge Series Knowledge Series Knowledge Series Knowledge

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USEFUL WEB SITES

- Community Technology Center's Network USA
www.ctcnet.org
- International Development Research Centre's (IDRC) Acacia telecentres initiative in Africa
www.idrc.ca/acacia/telecentre.html
- International Telecommunication Union (ITU)
www.itu.int
- Kitimat Community Skills Centre, British Columbia
www.sno.net/kcsc
- Learnlink USA
www.aed.org/learnlink
- Nakaseke Telecentre
www.nakaseke.or.ug
- Remote Communities Services Telecentre, Newfoundland and Labrador
telecom.esa.int/artes/artes3/fileincludes/projects
- Learning Network, Queensland (formerly Queensland Open Learning Network)
www.lnq.net.au
- Telework Telecentre and Telecottage Association
www.tca.org.uk
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www.e-skillsnto.org.uk/sfia
- Telmet Project (Telework Training Methodology):
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www.telecentres.wa.gov.au

USING TELECENTRES IN SUPPORT OF DISTANCE EDUCATION

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The Knowledge Series is a topical, start-up guide to distance education practice and delivery. New titles are published each year.

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