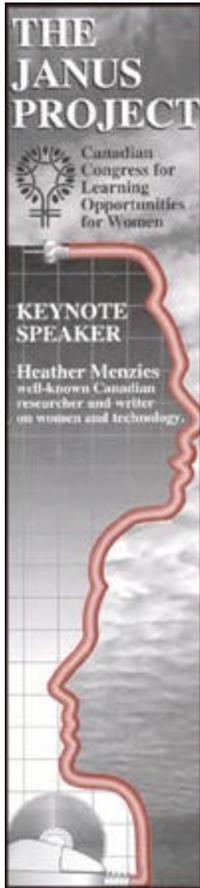


THE JANUS PROJECT WORKSHOP

New Learning
Technologies
& Women

March 21 - 22, 1997



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CANADIAN CONGRESS FOR LEARNING OPPORTUNITIES FOR WOMEN

THE JANUS PROJECT: Promises and Prospects of the New Learning
Technologies
for Adult Learning Opportunities for Women

Education and Information Sharing from the Ground Up

PROGRAM

Friday, March 21, 1997

- 7:45 - 9:00 a.m. Registration and Sign-in (La Salle College, 6th Floor)
9:00 - 9:15 Opening and welcome
9:15 - 10:30 Keynote Address
Woman-centred learning in a digital universe
by Heather Menzies
- 10:30- 11:00 Break
11:00 - 12 :00 noon Presentation of the Discussion Paper
**NEW LEARNING TECHNOLOGIES:
Promises and Prospects for Women**
by Jennifer O'Rourke and Linda Schachter
- 12:00 - 1 :30 p.m. Lunch (will be provided)
1 :30 - 4:30 Small group discussions (Room locations to be announced)
4:30 - 6:00 Reception (Hotel du Fort, Louis XV Room)

Saturday, March 22, 1997

La Salle College, 6th Floor

- 9:00 - 10:00 a.m. **A gendered perspective on access issues.**
by Leslie Regan Shade
- 10:00 - 10:30 Break
10:30 - 12:00 Presentations on the quality of the educational experience offered by the
new learning technologies:
An educator's perspective: Mavis Bird
A learner's perspective: Miriam Ticoll
A workplace perspective: Vasso Vahlas
- 12:00 - 1:30 p.m. Lunch (will be provided)
1:30 - 3:45 Small group discussions
4:00 - 5:00 Closing plenary (La Salle College, 6th Floor)



CCLOW
Canadian Congress for
Learning Opportunities
for Women

CCPEF
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Registered charity no.
N° d'enregistrement de la
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Our Mission

Founded in 1979, the Canadian Congress for Learning Opportunities for Women (CCLOW) is a national, feminist voice for women's education and training in Canada with networks in every province and territory. Our goal is to achieve social, political, and economic equality for girls and women through improved and expanded learning opportunities. CCLOW further recognizes that equity in education and training must go hand in hand with pay equity, employment equity, the recognition of and respect for diversity, and the restructuring of work and family life.

CCLOW believes that women's contributions to the economy and society are, and must be considered to be, an investment in Canada's future. This means a restructuring and re-evaluation of work and family life. We support a quality of life whereby every person has access to meaningful work, quality education, and an adequate standard of living. The economic potential of all Canadians must be valued, recognized, and supported.

We support: (1) formal, non-formal, lifelong, and experiential learning; (2) education for adults based on feminist principles of equality and inclusion; (3) every woman's right to an education; and (4) every woman's right to safety.

CCLOW works at both the local and national levels, and in collaboration with other women's groups to advance women's equality by:

1. Researching women's learning issues.
2. Advocating for the expansion and improvement of educational and learning programs; and consulting with governments and institutions.
3. Developing innovative programs and learning resources which increase women's access to learning opportunities.
4. Organizing public education activities.
5. Networking and undertaking cooperative activities.

6. Sharing and exchanging information through networking and by producing print and electronic publications.
7. Exploring new ways of making decisions based on consensus and consultation.

*A national voice for women's education and training in Canada
Un porte-parole national de l'éducation et de la formation des femmes au Canada*



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WELCOME TO JANUS WORKSHOP PARTICIPANTS

March 20, 1997

On behalf of Board of Directors and staff of CLOW, I would like to welcome you to Montreal and the Janus Project Workshop.

CLOW initiated the Janus Project because we wanted to gain a better understanding of the promises and prospects of the new learning technologies for adult learning opportunities for women. The discussion paper commissioned for this project is not intended to be the definitive work on the issue. We ask that you use it as a springboard for further exploration of the many important issues imbedded in this topic. We welcome your reactions and responses. Our goal for this workshop is to begin public debate and discussion.

We hope this workshop proves to be informative, stimulating, and enjoyable. If there is anyway we can be of assistance to you, during your stay, please let us know.

Sincerely,



Bernnitta Hawkins,
Executive Director



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ACKNOWLEDGEMENTS

CCLOW wishes to acknowledge and thank the Office of Learning Technologies (OLT), Human Resources Development for their financial contributions towards this project.

CCLOW also wishes to thank many people for the invaluable help they gave this project

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From CCLOW:

Members of the Technology & Women's Learning Working Group:

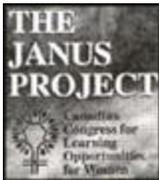
Danielle Dumas, Pam Evans, Linda Shohet, Pamela Dos Ramos, and Pat Webb

Staff Members: Dianne Palachik, Maime Huggins and Christina Starr

Members of the Board of Directors: Lynn Fogwill, Pat Webb, Betty Butterworth, Cathie Cookson, Gail Gosse, Catherine O'Bryan, Jo-Anne Stead, Cheryl Senecal, Joanne Lindsay, Eleanor Ross, Betty Donaldson, Jackie Stalker, Suzanne Bailly, Linda Shohet, Danielle Dumas, Doris MacDonald, Judith Grant, Pam Evans

Organization of Immigrant and Visible Minority Women of Canada; Vasso Vahlas of the Canadian Research Institute for the Advancement of Women; Ruth Scher of Canadian Union of Public Employees; Mary Odorico of the Women's Bureau, Human Resources Development

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Room Assignments



Friday, March 21, 1997

Access - Community	1615
Access - Institution	1515
Opportunities for Learning	1715
Quality of the Learning Experience	1815

Lunch for both "Access" workshops is in room 1614.

Lunch for "Opportunities for Learning" and "Quality of the Learning Experience" is on the 2nd floor.

Saturday, March 22, 1997

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THE QUESTION FOR THE SMALL GROUP DISCUSSIONS

What are the three most important issues in each of the following topic areas that need to be explored further and moved forward?

- ⇒ Access-Community
- ⇒ Access-Institutional
- ⇒ Opportunities for Learning
- ⇒ The Quality of the Learning Experience



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HEATHER MENZIES

Writer/Producer

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Heather Menzies is a writer, a mother, teacher, gardener, peace and social-justice activist and an adjunct professor at Carleton University (where she teaches a course called "Canada in the Global Village.") She is the author of six books, the latest being the best-selling Whose Brave New World? The Information Highway and the New Economy.

Woman-centred learning in a digital universe

Heather will begin by drawing parallels between the broad social transformations occurring with globalization and the transformation of learning that's occurring through digitization and virtual learning environments. She will end by suggesting some elements of a woman-centred learning model which can be used to critically assess the new technologies (and new monopolies of knowledge associated with them) and possibly serve as a practitioners model for action.



LESLIE REGAN SHADE

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Leslie Shade is finishing her PhD this year at McGill University's Graduate Program in Communications. Her dissertation, to be defended in April, is titled "Gender and Community in the Social Constitution of the Internet." Her consulting work concentrates on the social, policy and design issues surrounding new technologies. Clients have included the Government of Ontario (E- Connections, a feasibility study on the use of e-mail in non-profit organizations in Ontario); Status of Women Canada (report on the use of the Internet in women's organizations across Canada); Network Services Development Group of Industry Canada (a technical evaluation of SchoolNet); and Industry Canada/Faculty of Information Studies, University of Toronto, with the Universal Access projects (see <http://www.fis.utoronto.ca/research/iprp/ua/>). She has also written widely on the social and policy issues in a variety of publications. She has an M.L.S. from UCLA and a B.A. in Communications/Visual Arts from UCSD. Previous work experience includes free-lance researching through Shade Investigations, law and advertising agency librarian, and administrative work at the Office for Civil Rights of the Dept. of Education in San Francisco.

A gendered perspective on access issues

This talk will provide a gendered perspective on access to the emerging information infrastructure. It reviews recent studies on the gender demographics of the Internet; examines access issues as they affect women; discusses international public policy work on gender equity to national information infrastructure.



MIRIAM TICOLL
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For the past twenty years, Miriam Ticoll has been involved with information and new technologies both professionally and in her capacity as a city dweller in the late twentieth century. As an information professional, over the past several years she has been working to develop informal and formal information networks in the area of disability and human rights, and to strengthen the capacity for community-based information. She is particularly interested in the potential for new technologies to facilitate community building and learning opportunities both for women and for people with disabilities. Miriam currently is Manager of Information Services at The Roeher Institute, Canada's national institute for the study of public policy affecting persons with an intellectual impairment and other disabilities. She is also a part-time doctoral student at the Ontario Institute for Studies in Education. Neither a computer nerd nor a techno-luddite, Miriam admits publicly to having a love/hate relationship with her computer.

Quality of the Educational Experience: A Learner's Perspective

This presentation will look at some of the issues for learners using new technologies. It will focus on the promise of the technology and what it delivers in terms of the educational experience. A number of questions are raised with respect to how to think about learning technologies and what approaches might ensure that these technologies respond to the very broad range of learning needs of women in a variety of situations.



MAVIS BIRD

Education Specialist, (Technical and Vocational Education and Training)
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Ms. Bird is responsible for developing plans for the Commonwealth of Learning's (COL) Technical and Vocational Education and Training (TVET) initiatives, coordinating, managing and monitoring their implementation and providing leadership and guidance in the development of flexible delivery systems to meet the particular needs of TVET projects within the identified goals and priorities of COL. Ms. Bird's experience in this field was obtained in Australia where she worked for seventeen years in technical and trade areas as an instructional designer and as head of an instructional design department within a Technical and Further Education (TAPE) College. While in this capacity, she was a prime force in the design, development and implementation of the first competency-based, self-paced apprenticeship program in Australia. This concept became very viable for industry and led to Ms. Bird acting as a consultant to industry to develop training systems in technical fields. Prior to her appointment to COL, she was Manager, Educational Services, TAPE Off-Campus, the distance education organization of the college system in Victoria state.

Educator's Perspective on the Quality of the Educational Experience

The statement "Technology is a solution looking for a problem" is perhaps more true in the educational sense than in other spheres of technology usage. The implications of this have a marked impact on the quality of the educational experience from the viewpoint of the teacher or instructor. Effective educational use of technologies has traditionally lagged well behind the availability, primarily because educators have not immediately been able to determine their applicability. This phenomenon has been repeated with remarkable predictability over the years as the technologies have emerged. But once a "problem" has been found that the technologies may satisfactorily address, it moves swiftly to become the panacea of all instructional dilemmas. The struggles that are evident in the education sector now as the World Wide Web and its implications for education become evident, are colored by some of the same perceptions as when video tape entered our schools. But the new dimension today is the increased commercialization and the resulting quality this competitiveness can bring to our educational offerings.



VASSO VAHLAS
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Born and educated in Greece, Vasso immigrated to Canada in 1964. She is currently the Treasurer of the Canadian Research Institute for the Advancement of Women (CRIA-W), a member of the Provincial Executive of Immigrant and Visible Minority Women/B.C. (IVMW/B.C.) and Vice President for the North Region, is a Director for the Insurance Corporation of British Columbia (ICBC) and Chair of its Human Resource Committee. In the past, Vasso held positions as elected IVMW/B.C. National Representative; National Board Treasurer and Representative on the Visible Minority Labor Force Council. In 1994, she was the elected B.C. representative to the Canadian Beijing Facilitating Committee and participated in the preparatory meetings in New York. Since 1990, she has been an Associate with Anne Jeffrey and Associates and is currently administering language assessments for Canada Immigration in its Northern Region.

Quality of the Education Experience: A Workplace Perspective

Corporate change initiatives are no longer isolated projects that occur in orderly sequence. ICBC, a Crown Corporation is in a period of continuous change and this change will continue into the foreseeable future. To effectively support current and ongoing business drivers we have invested in the architecture of new software and the replacement of old hardware. Transfer of knowledge to our staff is a major component of the agreement with the contractor hired for the project, but we are not in position to project the impact of the new technology on the staff, and staffing levels. 67% of the employees of the Corporation are women.



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Section 2: Access: A key issue for women's learning

Access to learning can be understood in two ways: physical access is the availability of learning at times and places suitable for the learner; social access involves appropriate content and a supportive environment. This chapter concentrates on physical access.

Factors that determine whether learning is accessible are related to geography, communications and transportation systems, social and economic situations, gender and language. Women's access to education has been significantly curtailed by traditional notions of women's roles. Because of domestic responsibilities, and the limitations of time and money, women have tended to make more use of part-time, flexible, open and distance education, areas where new technology has frequently been introduced.

Removal of barriers to access can be viewed from two sides: as the responsibility of the educational provider or of the learner. For example, requiring students to have internet access to contact an instructor when they previously made use of a 1-800 number shifts responsibility from the provider to the learner.

There are four components of what is termed the "access chain," all of which must be functioning well in order to provide access. These components are:

the national infrastructure: transportation and communications systems such as roads, public transportation, postal service, telephone lines, electricity, and satellite connections. New technologies require more national infrastructure, such as additional telephone lines or more bandwidth on a telephone transmission system. 95% of Canadians have telephone service but nearly 300,000 households have only party line service. Stentor, the alliance of Canadian telephone companies, plans to provide broadband access to 80-90% of businesses and homes by the year 2005 but this service will likely be available in urban areas first at a cheaper rate than in remote or rural areas.

educational providers: provisions of materials and programs, program location, access to teaching, registration and counseling staff. Educational institutions have historically accepted significant responsibility for making programs available to the community and have, in recent years, taken steps to remove barriers for specific groups of learners, ie. students with disabilities. But budget reductions are affecting institutional readiness to provide access and the costs of new technologies may mean reductions in other kinds of access.

the community: local provision of communications and transportation systems, and of local facilities for institutional programs. The level of provision depends on the community, and learners in some communities may travel to other communities to access programs or pay long distance charges to reach an Internet Service Provider. SchoolNet is a federally initiated program to link all schools and libraries to the internet by 1998 and funding is available under the Community Access Program to create greater access to the

internet though primarily for business, rather than educational, purposes.

the individual: receipt and appropriateness of transportation and communications systems. Access to single telephone lines and reliable electrical power is not a given for all Canadians; communications software does not readily accommodate languages other than English; computer equipment is expensive. Individuals can lose access to programs if what was delivered previously through correspondence and print is now available only through video conferencing or internet access.

Women's access to new technologies is constrained by social forces. Computer ownership in homes increases with higher incomes; in 1995, only 22% of single parent households owned a computer. Computer use increases with higher educational levels, though more women than men use computers at work reflecting their occupational segregation. Computer use is high among educators though less women than men use computers in teaching. Access to other technology such as fax machines and satellite connection is limited, though 75% of Canadian households have cable service.

Questions:

What is considered good access how does that compare to what is available in a community?

How well are community access learning centers serving women?

Who has access to the Internet? Are there age and gender statistics?

What training is available locally and how accessible or friendly is it for women learners?

How does access to new technologies compare with learning opportunities available previously?

What do learners need to invest personally, in time and money, to obtain access to learning that meets their needs? Is this investment in old or new technologies?

What plans are in place to provide broadband access to communities and what will it cost the user once in place?

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Janus Project Discussion Paper Summary

Section 3: Costs and Use of Resources

Costs for learning opportunities involving new technologies are considered in light of the values underlying spending decisions and of who picks up the tab. The rapidly changing environment of funding for education and training in Canada affects provision of services. An important consideration is how costs and services for new technology compare with that for "old" technology. A useful way to consider costs is by comparative value: what other kinds of equipment or services could be purchased for the same amount, or what costs are associated with other ways of reaching the same goal?

There are a range of prevailing beliefs about who should pay for education and training beyond the traditional "school age" or how these costs should be shared among the individual and the government, and/or the private sector where training is related to employment.

While basic funding for continuing education, adult education and training has been reduced, there is an increasing emphasis on financial support for new learning technologies. Often this is without regard to the advantages or disadvantages or to what programs are offered and to whom. For women, this can mean that the previously accessible part-time, flexible or distance programs, on which they have relied, get replaced by programs dependent on new technologies.

New technologies create categories of educational costs in addition to maintaining an educational institution, material costs, fees, personnel and time. Some of these additional costs are: investment in electronic communications and transmission systems, equipment, software, staff training, course development and line charges. As yet, there is very little evidence that new technologies are any more cost effective than methods that have been used for decades such as print, audio and video tape, local tutorial sessions or telephone tutoring.

Infrastructure costs: Costs for communications technology have historically been averaged throughout the system so that remote and rural areas do not bear the full cost of service to their communities. However, new CRTC policy stipulates that services be provided on a cost recovery basis. This means that enhanced technology and service will be provided first to those populations that can cover the cost, ie. more densely populated urban centers. In most cases, the public will pay for the development of advanced communications systems, through phone bills, cable bills and taxes, but there is little public debate about such development.

Institutional costs: Equipment costs to support new technology tend to be higher

than for distance, open or flexible programs. Costs to maintain long distance lines are high, especially for broadband lines or satellite communications. Costs for non "real time" transmissions, such as internet communications, can be lower in the long run than "real time" transmissions involving multiple or broadband lines, cable or satellite systems. Investment is also necessary in staff time and training, and in staff support to learners and for coordination of programs.

Technology costs can affect the viability of agencies that don't have technology and increase cost recovery pressure for those that do. Higher enrolments or the sale of developed programs to other institutions (for whose population they were not intended) to recover costs of technological investment reduce program effectiveness. Also, the high cost of equipment, software and infrastructure can overshadow the human interaction in tutoring and advising which is then in danger of being deemed expendable.

Community Costs: In many regions of Canada, governments and agencies external to the community have provided funding for community facilities but, currently, community access is depending to a greater extent on community initiative and funding. This may mean that the equipment available at a community site may not match that required to receive programs. Communities can access up to \$30,000 under CAP to develop internet access but this is primarily for business, rather than educational, needs.

Individual Costs: Costs to learners include travel costs to a technically equipped site, equipment and software costs, phone lines, electricity, and time investment particularly where new technologies allow for less flexibility. Costs for equipment are increased by the need for a modem, internet hook-up, a dedicated line, and hardware with sufficient memory for Web access and to download course materials.

Where responsibility for access to so much equipment and software lies with the learner, educational costs are significantly shifted to the learner which may prohibit participation in programs. In this case, achieving goals such as increased interactivity may be better served by older technologies.

Questions:

What does the new technology cost and who is paying for it?

What is the purpose of this investment: to provide better access, more successful learning outcomes, or to achieve some other goal?

What value is returned for the expenditure and how is this value measured?

How can it be demonstrated that new technologies perform more effectively than the alternatives?

Are the costs of new technologies justified in the case of specific populations who have previously been under served?

Is the investment in new technologies the "best use" of funds rather than, for example, subsidizing childcare so more women can participate in education and training?

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Janus Project Discussion Paper Summary

Section 4: Quality and Equality of Learning

This chapter explores how new technologies affect the nature of the teaching and learning process and how appropriate they are for different types of learning.

Feminist research has suggested that women learn in more social, holistic ways than is usually offered by a production model of education with discrete, controllable processes and measurable outcomes. There is diversity in learning modes also across cultures that do not conform to the institutional model.

Three distinct components of learning can be identified and discussed in order to evaluate the effectiveness of new technologies for learning. These components are: **finding information, integrating knowledge and developing skills.**

Finding information: Vast amounts of information, available through the internet and the world wide web, can be downloaded and printed out by users. Such information and materials can be shared more easily between users at a distance than was previously possible. However, it can also take considerable time to capture and download information, and the information provided, though plentiful, may not be as thorough and comprehensive as is available in a printed text.

Integrating knowledge: The ability to share information and discuss ideas in order to integrate knowledge is not necessarily enhanced by new technologies. Sharing and exchanging ideas is straightforward in on-site learning with other learners and can be easily accomplished through mail, telephone or face to face meetings by distance learners. In video or audio conferencing, the safety of the environment in which to share ideas and experiences can be disrupted by the presence of other, unseen observers who can "drop in" to listen. However, some technologies allow learners to suspend their inhibitions about speaking up or contributing to a group discussion.

Developing skills: Though technologies can "teach," demonstrate or provide information about skills, it is the exceptional learner who learns wholly from technology. Interaction with others, learning by doing and feedback from peers and/or instructors are also essential.

Implications for instructors In order to learn about any new technology, how to use it creatively and effectively, and decide whether and how it is used, instructors need a supportive environment. Instructors pushed towards using a technology and introducing it into their teaching will be less comfortable and confident, and less likely to provide a quality learning experience, than those who are allowed to explore it willingly and be creative about its use.

Where new technologies are introduced, especially in a production model of learning, educators warn of depersonalization and an overemphasis on delivery of content as opposed to facilitation of learning. It is important to maintain a learner-centered approach and substantial learner support in the face of enthusiasm for "high tech" methods. Little evaluation is taking place of how new technologies are affecting the quality of the learning experience.

New technologies are also often seen as a way of cutting the cost of education through the rationale of "replacing the teacher." Such rationale is based on the perspective that costs for education are a burden rather than an investment in social development and well-being. Replacing the teacher with technology adversely affects the quality of the learning experience, as does a mass market approach (delivery of information to a large audience, delivery of the same program to diverse groups of learners) that does not take into consideration learners' contexts and experiences.

Questions:

How appropriate is the technology for learning the task at hand?

To what extent does the technology broaden, rather than narrow, the learning and

teaching approaches that can be used?

Does the technology support individual learning by permitting self-pacing, ready access, learner control?

Does the technology support social learning by enabling consultation among learners, peer learning and mentoring?

Is the technology transferable, and applicable in other learning contexts, at work and at home?

What advantages does the technology offer over other technologies or methods such as classroom learning?

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Janus Project Discussion Paper Summary

Section 5: Opportunities for Learning

This chapter looks at examples where technologies have great potential and have been used effectively. Criteria for evaluating how new technologies enhance learning are:

- that the learning experience is improved compared to what was previously available and that this improvement is related to the learning itself, such as an enriched experience, greater depth of learning, increased cooperative or collaborative learning
- that new learning processes or outcomes are accomplished, such as accommodating learners previously excluded or providing access to learning experiences previously unavailable
- that factors relevant to women's learning are improved, such as appropriateness of content or process, interaction, connection with others,

inclusion of life experiences

- that practical factors are improved, such as increased access, lower cost, more compatibility with learners' other commitments

Non formal learning

There are many examples of women using the internet and the world wide web for informal learning and a kind of "**network activism**": raising awareness of issues locally or globally and coordinating reaction and resistance. Women who have access to technology often share information in other formats with those who don't. The focus is on the end product and what can be accomplished rather than on the technology itself. Women also are using the technology and access to information to tailor learning to their specific needs and life experiences, and are developing mentoring programs in the use of technology for other women and women's groups.

Formal learning

Some ABE and literacy programs are incorporating mastery of technology, including an understanding of hardware and how it functions, into what they teach, increasing students' sense of knowledge and ability, and their pride in the enhanced finished products possible through computer technology. Cooperative and collaborative learning is enhanced through the creation of interactive databases where learners can access information and also contribute their own findings and research. Documentation of women's lives, experiences and her story is also enhanced by women's ability to contribute to the creation of knowledge.

Questions

What new opportunity does the new technology provide and to whom?

Is the learning opportunity enhanced?

What systems, support and staffing are necessary to provide the new opportunity?

What are the prospects for sustainability?

How durable or stable is the technology, and if it changes, will it displace the learning opportunity?

What are the opportunity costs: trade-offs, reduced funding for other programs, limited access, etc.?

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Section 6: Tools and Strategies

This chapter looks at ways of influencing decisions about new technology and shaping its uses. All introductions or development of new technologies are a result of people making decisions and it is possible to follow the thread of these decisions to a level of public accountability.

Finding and sharing information

Keep track of events, policy announcements, funding allocations, etc. especially in the local community. Use this local information to contribute to a global, or larger, picture about the uses of technology. Keep track of what the costs are, including what programs have been lost or displaced by the new technology and the learners that are unable to participate.

Observe and keep track of developments

Keep a history of developments, and make comparisons not only with other ways of reaching the same goals but also with how other technologies have been introduced and used in the past. Important questions for decision makers to consider in having new technologies introduced include: What is it for? Do we need it? Can we afford it? Who will clean up afterwards?

Find out the real information underlying statistical claims and statements about the performance of new technologies. Document and promote the success of good programs as well as those that fail and insist that input from learners and instructors, as well as from those excluded from participation, be included in the evaluation and development of new technologies.

Identify decision points

A useful strategy for tracking decisions and how they are made is called the Ah-Hah! seminar which prompts people to map out the connections between their daily lives and the decisions that affect them. Another strategy is to "follow the gold"-- find out where the financial interests are. Once decision points are identified, it is useful to ask whether options are being unnecessarily limited by business or regulatory interests. Also consider whether those making the decisions and the interests they promote are in tune with individual or institutional educational goals, and not "jumping on the technology boat" just because it's leaving the port.

Explore underlying values

Question the values that underlie the introduction of new technologies: is "increasing competition" (among individuals or nations) and the creation of

"winners and losers" in sync with educational goals? is the technology being introduced in order to enhance learning or to cut costs? Also question the use of terminology, and what is meant by phrases such as "information economy" or "two way communication."

Relate developments to Canadian equity standards and laws

Provisions for equal opportunity and access for women, minorities, people with disabilities and other marginalized groups, required under law for many aspects of education, employment, housing and so on, are not necessarily part of public policy initiatives for new technologies (eg. the Community Access Program). Some examples do exist; the Commonwealth of Learning (an organization to support the sharing of open and distance learning resources and technologies among member countries) has established a requirement that all projects it supports demonstrate equality of access for women. Such policies can be used to support equality of opportunity and access.

Equality of opportunity and access must be defined broadly to incorporate the access needs of people with disabilities and, especially in the use of the internet, those whose language is not English.

Identify action steps

Form alliances and develop connections with others involved in the same issues and with cross sections of groups. Convey concerns and information to politicians and decision makers, preferably through letters, and to the media. Also convey support for programs that work well, to demonstrate their usefulness and value and to establish political support before the programs are threatened with cuts.

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